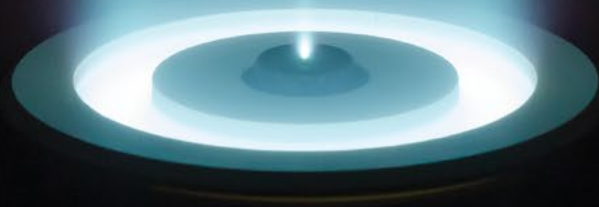


 ASTRA

2022 ANNUAL REPORT







Dear shareholders,

As we embark on our second full year as a public company at Astra, we remain steadfastly committed to our mission of improving life on Earth from space. Our vision is centered around the belief that our success will lead to a healthier, more connected, and sustainable planet. Astra aspires to become a business of great consequence, and we are grateful for your trust and support as we pursue our ambitious goals.

We believe that space has the potential to radically transform our world for the better. While we commend efforts to expand humanity's reach into the solar system, we have chosen to keep Astra's focus on Earth, dedicating our resources to solving pressing challenges and unlocking new opportunities right here at home. Our emphasis on long-term value creation and a development philosophy that is different from many of our peers sets us apart in the rapidly evolving spacetechnology industry.

In this annual letter, we aim to share our approach with you, our shareholders, to ensure that our mission, values, strategy, and principles are aligned with your expectations.

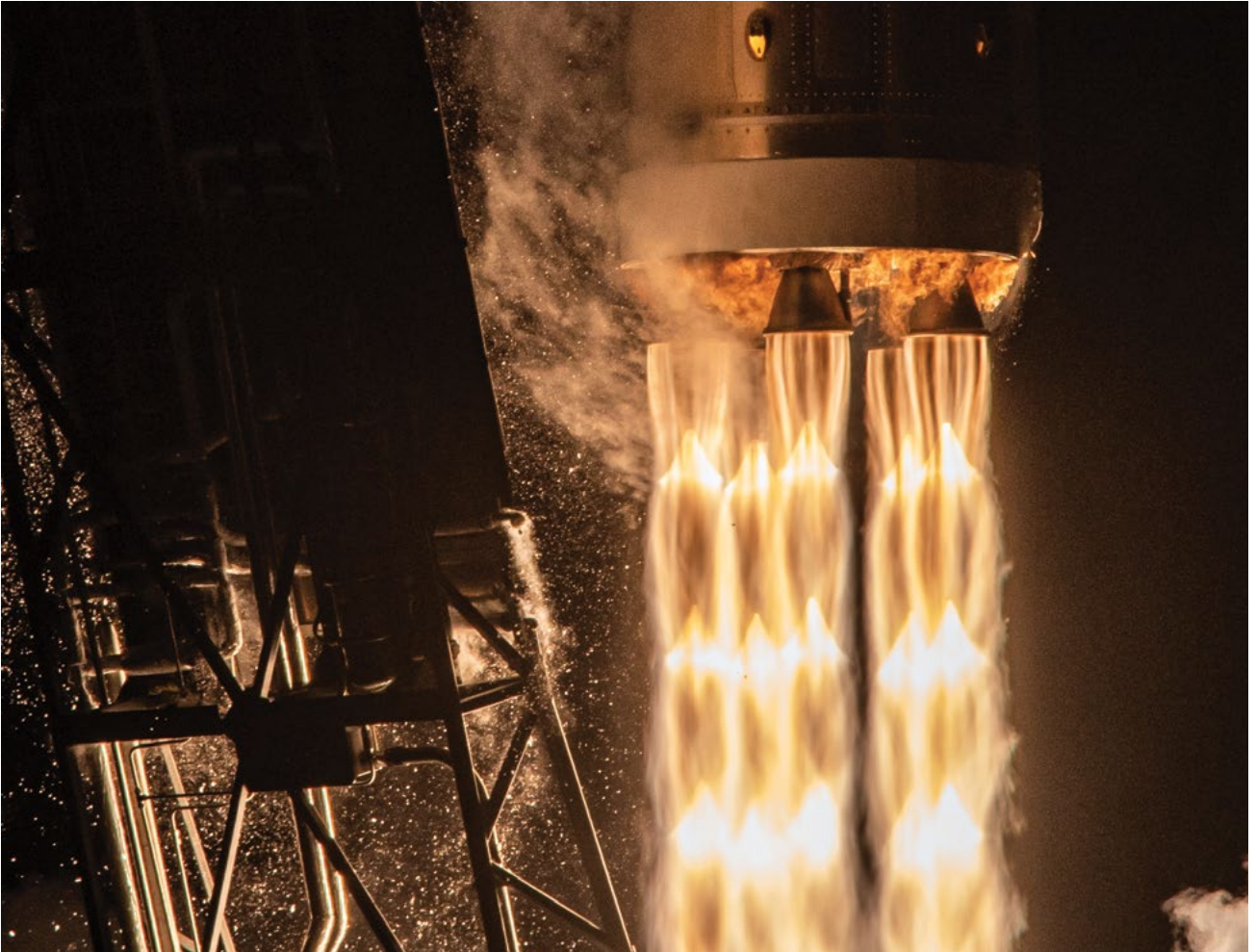
As a publicly traded company, we understand that our primary goal is to create lasting value for our shareholders, and we are committed to transparent communication about our progress and challenges. We appreciate the trust and confidence you have placed in us as we navigate these challenges and boldly pursue opportunities to serve our customers, our country, and our vision for a healthier and more connected planet in the rapidly evolving spacetechnology industry.

Astra entered 2022 executing on a strategy that we outlined to you as we became a public company and articulated in last year's shareholder letter. The three pillars of this strategy were to develop frequent and affordable space access through scaled launch services, enable more capable space systems by developing and producing critical core space products at scale, and ultimately become the leading provider of space services.

This strategy required significant long-term investments in our rocket and space product production lines throughout 2022. We knew that to achieve our ambitious goals, we needed to invest heavily in the people, equipment, and infrastructure necessary to ensure the quality and reliability of our products and services. Despite facing numerous challenges



Team members with Rocket 4 at Astra's Skyhawk factory in Alameda, California



Top: View from the upper stage of LV0009 / Spaceflight-1 as Astra successfully deploys 22 satellites into Earth orbit; Bottom: LV0009 / Spaceflight-1 launch (Photo: Brady Kenniston)



in 2022, we persevered and made the critical investments in the buildout of our new Rocket Production Line and Spacecraft Engine Production Line, and the supporting precision machine center, quality inspection lab, and new simulation and test capabilities.

We understand deeply that the performance of our Launch System 1 did not meet the expectations of our customers and our shareholders and fell short of the ambitious goals we set forth for ourselves.

Despite these challenges, Astra is today one of only four privately funded US companies to have conducted orbital launches and successfully delivered satellites into Earth orbit. Our launch services program is focused on delivering a reliable and scalable launch capability, and our goal is to lead the market in the lowest cost launch by investing in mass-produced rockets and automating key manufacturing and launch operations processes. The data and experience gathered from our missions in 2022 support our focus on reliability and scale. We also increased the design payload capability of Launch System 2 so that it would be able to launch an even larger fraction of the satellites projected to be put into service over the next decade.

Astra's mission of improving life on Earth from space has never been more relevant than it is today. We firmly believe that frequent, reliable, dedicated launches and scaled production of space products are the keys to accelerating the growth of the space economy. As we look back on our achievements, we are encouraged by our progress and remain committed to our mission.

Some of the key accomplishments from the past year include:

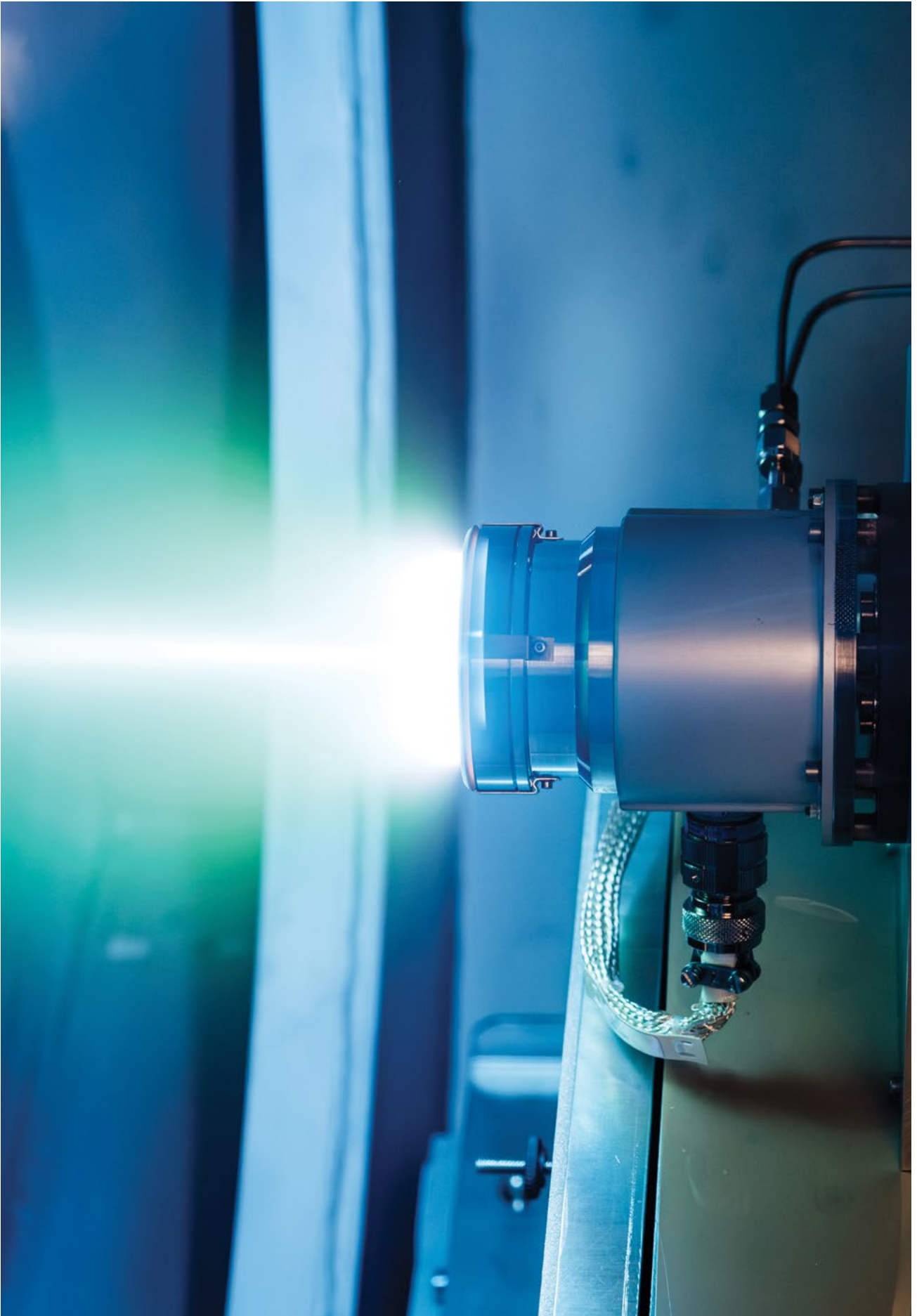
1. Astra successfully deployed 22 satellites into Earth orbit in March of 2022 for three different customers, following becoming the fastest privately funded US company to place a satellite into orbit in November 2021, just five years after our founding in 2016.
2. Astra achieved a Rocket 3 production rate of approximately one rocket per month from January to July of 2022, conducted two Rocket 3 launches within 33 days, and became the first company to launch under the Part 450 FAA license framework.
3. Astra secured 278 orders for new Astra Spacecraft Engines™, with contracts from customers like Airbus OneWeb Satellites, Maxar Technologies, Astroscale, and LeoStella. These contracts represent approximately \$77 million in contracted revenue, with the majority of deliveries expected in 2023 and 2024.

In addition to these achievements, we made significant strides in scaling the production of Astra Spacecraft Engines™. We built out a new dedicated production facility in Silicon Valley that is designed to eventually support the production of up to 500 units per year. Our production ramp is slated to begin in Q2 of 2023.

Despite these successes, we faced our share of challenges during 2022. We launched but did not successfully deliver NASA satellites to orbit. In response to this setback, we halted the production and launch of our Rocket 3 product line and focused on accelerating the introduction of a more reliable and



Control room at Astra's engine testing facility



Astra Spacecraft Engine™ firing in vacuum chamber



higher capacity 600-kilogram version of Rocket 4. We intend to mass-produce this new rocket on our new Rocket Production Line, which we expect will ultimately be capable of producing up to one rocket per day.

NASA subsequently agreed to modify its contract with Astra, allowing us to launch future payloads on our new Rocket 4 vehicle. We currently anticipate commencing test flights for Rocket 4 later this year.

Astra was forced to make considerable adjustments to its operating plan after two out of four commercial flights carrying payloads failed. We made the difficult decision to scale back our workforce and focus all our resources on the rigorous engineering required to deliver a repeatably reliable launch system and scale our spacecraft engine manufacturing business to deliver for our customers.

Looking ahead, we are excited about the opportunities that lie before us. We plan to leverage the investments we have made in our production facilities and refinements to our manufacturing processes to further improve the quality and reliability of our products, and the scale and value that we can provide to our customers.

As the space economy continues to grow, we are confident that our commitment to frequent, reliable, dedicated launches and scaled production of space products will position Astra as a leader in the industry.

We are grateful for the support of our shareholders as we navigate the challenges and celebrate the achievements of the past year. Your belief in our mission and vision has been instrumental in our success, and we are committed to delivering value for our shareholders in the years to come. Finally, we want to express our appreciation for the hard work and dedication of our team. Their passion, expertise, and unwavering commitment to our mission have been the driving force behind our accomplishments. As we continue to face challenges and pursue new opportunities, we are confident that our talented team will lead us to even greater heights.

Thank you for your continued support and belief in Astra. We are excited to embark on this journey together, pushing the boundaries of what is possible in the space industry and working tirelessly to improve life on Earth from space.

Sincerely,

Dr. Adam London
Founder and CTO
Astra

Chris Kemp
Founder, Chairman and CEO
Astra





Above: Astra's Skyhawk factory; Opposite page: Team members in the new Astra Spacecraft Engine™ facility; assembling the first flight set from that facility



SAFE HARBOR STATEMENT

This Annual Report contains forward-looking statements within the meaning of the federal securities laws. These statements are indicated by words or phrases such as “anticipate,” “expect,” “estimate,” “seek,” “plan,” “project,” “aim,” “believe,” “could,” “should,” “intend,” “will,” and similar words or phrases. These forward-looking statements may include projections of financial information; statements about historical results that may suggest trends for our business; statements of the plans, strategies, and objectives of management for future operations; statements of expectation or belief regarding future events (including any acquisitions we may make), technology developments, our products, product sales, expenses, liquidity, cash flow and growth rates. Such statements are based on current expectations, estimates, forecasts and projections of our performance, our industry’s performance and macro-economic conditions, based on management’s judgment, beliefs, current trends and market conditions, and involve risks and uncertainties that may

cause actual results to differ materially from those contained in the forward-looking statements. We derive most of our forward-looking statements from our operating budgets and forecasts, which are based upon many detailed assumptions. While we believe that our assumptions are reasonable, we caution that it is very difficult to predict the impact of known factors, and it is impossible for us to anticipate all factors that could affect our actual results and undertake no obligation to update or revise publicly any forward-looking statements, whether because of new information, future events, or otherwise. Accordingly, we caution readers not to place undue reliance on these statements. Material factors that could cause actual results to differ materially from our expectations are summarized and disclosed under “Risk Factors” in Part I, Item 1A of our Form 10-K included within this Annual Report and also on file with the Securities and Exchange Commission.

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549**

FORM 10-K

(Mark One)

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

For the fiscal year ended December 31, 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: 001-39426

ASTRA SPACE, INC.

(Exact Name of Registrant as Specified in its Charter)

Delaware

(State or other jurisdiction of
incorporation or organization)

1900 Skyhawk Street

Alameda, CA

(Address of principal executive offices)

85-1270303

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

94501

(Zip Code)

Registrant's telephone number, including area code: (866) 278-7217

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

<u>Title of each class</u>	<u>Trading Symbol(s)</u>	<u>Name of each exchange on which registered</u>
Class A Common Stock, par value \$0.0001 per share	ASTR	NASDAQ Global Select Market

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

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

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

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

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

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

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

Indicate by check mark whether the registrant 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 the last business day of the most recently completed second fiscal quarter, which was June 30, 2022, the aggregate market value of Class A common stock of the Registrant held by non-affiliates was approximately \$232.7 million based on the closing sale price of \$1.30 as reported on the NASDAQ Global Select Market.

As of March 24, 2023, the registrant had 215,232,209 shares of Class A common stock, \$0.0001 par value per share, outstanding and 55,539,188 shares of Class B common stock, \$0.0001 par value per share, outstanding.

Documents Incorporated by Reference

Portions of the registrant's Proxy Statement for the 2023 Annual Meeting of Stockholders are incorporated herein by reference in Part III of this Annual Report on Form 10-K to the extent stated herein. Such proxy statement will be filed with the Securities and Exchange Commission within 120 days of the registrant's fiscal year ended December 31, 2022.

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FORWARD LOOKING STATEMENTS

This Annual Report on Form 10-K (the “Annual Report”) contains forward-looking statements within the meaning of the federal securities laws and particularly in the following sections of this Annual Report: Item 1: “Business,” Item 1A: “Risk Factors,” Item 3: “Legal Proceedings” and Item 7: “Management’s Discussion and Analysis of Financial Condition and Results of Operations”. These statements are indicated by words or phrases such as “anticipate,” “expect,” “estimate,” “seek,” “plan,” “project,” “aim,” “believe,” “could,” “should,” “intend,” “will,” and similar words or phrases. These forward-looking statements may include projections of financial information; statements about historical results that may suggest trends for our business; statements of the plans, strategies, and objectives of management for future operations; statements of expectation or belief regarding future events (including any acquisitions we may make), technology developments, our products, product sales, expenses, liquidity, cash flow and growth rates. Such statements are based on current expectations, estimates, forecasts and projections of our performance, our industry’s performance and macroeconomic conditions, based on management’s judgment, beliefs, current trends and market conditions, and involve risks and uncertainties that may cause actual results to differ materially from those contained in the forward-looking statements. We derive most of our forward-looking statements from our operating budgets and forecasts, which are based upon many detailed assumptions. While we believe that our assumptions are reasonable, we caution that it is very difficult to predict the impact of known factors, and it is impossible for us to anticipate all factors that could affect our actual results and undertake no obligation to update or revise publicly any forward-looking statements, whether because of new information, future events, or otherwise. Accordingly, we caution readers not to place undue reliance on these statements. Material factors that could cause actual results to differ materially from our expectations are summarized and disclosed under Part I, Item 1A. “Risk Factors” in this Annual Report.

Unless the context otherwise requires, all references in this Annual Report to “Astra,” “the Company,” “we,” “us,” and “our” refer to the business of Astra Space Operations, Inc. prior to the consummation of the Business Combination (as defined below in Note 1 to the consolidated financial statements included elsewhere in this Annual Report) with Holicity Inc. and Astra Space, Inc. and its subsidiaries following the consummation of the Business Combination with Holicity Inc.

PART I

ITEM 1. BUSINESS.

Company Overview

Astra's mission is to improve life on Earth from space by launching a new generation of space products and services. These products and services are enabled by new constellations of small satellites in Low Earth Orbit ("LEO"), which have rapidly become smaller, cheaper, and many times more numerous than traditional satellites. We believe that frequent, reliable, dedicated launches and space products enabled by scaled manufacturing are the keys to accelerating the growth of the space economy.

Astra aims to develop and operate a mass-producible dedicated mobile orbital launch system. Our system consists of a small launch vehicle that can be transported inside standard shipping containers and mobile ground launch infrastructure that we designed to be rapidly deployed anywhere in the world we are licensed to operate and where our spaceports are located. This system is designed by Astra and manufactured in Astra's vertically-integrated rocket factory in Alameda, California, which we have designed to manufacture and integrate the majority of the components. Our launch system requires a launch site with little more than a concrete pad and only six Astra employees on-site. Our system is designed to meet the needs of modern LEO satellite constellations, allowing precise and rapid placement of individual satellites into their required orbits. We believe this makes Astra's system more responsive and affordable than other launch alternatives for the thousands of LEO satellites which commercial companies and governments plan to launch in the coming decade.

We have made significant progress in the development of our launch capabilities to date. On November 20, 2021, we successfully launched launch vehicle LV0007 into orbit at an inclination of 86.0 degrees, an altitude of 500 km and velocity of 7.61 km/s, making Astra one of the fastest U.S. companies to have successfully demonstrated the orbital placement of a test payload. We commenced paid commercial launch services in 2022. To date, we have had three commercial launches and have delivered 23 satellites into low earth orbit.

During the third quarter of 2022, we decided to focus on the development and production of the next version of our launch system, which we unveiled at our inaugural Spacetechnology Day on May 12, 2022. As a result, we have discontinued the production of launch vehicles supported by our previous launch system, Launch System 1, and commenced development of our new launch system, Launch System 2. We anticipate conducting our first test launch of Launch System 2 by the end of 2023 and commencing commercial launches beginning in 2024.

In addition to Launch Services, we also offer Space Products to LEO operators. Currently, under our Space Products segment, we offer an industry leading spacecraft engine platform consisting of two in-space electric propulsion systems. In 2022, we began delivery of our Astra Spacecraft Engines™ to our customers. Currently, our spacecraft engines have more than 600 on-orbit burns making it one of the most proven spacecraft engine products in the market.

We believe that these two operating segments will create an integrated space services platform that will allow our customers to focus on innovative applications rather than investing in bespoke satellite development and separately contracting Launch Services. Further details of our current and expected future service offerings are provided below.

- **Launch Services** — To provide rapid, global, and affordable Launch Services to satellite operators and governments. We have conducted launch operations from Pacific Spaceport Complex in Kodiak, Alaska and Cape Canaveral Space Force Station in Cape Canaveral, Florida. We plan to add additional launch sites in diverse locations based on our customers' inclination requirements and as we increase the frequency of launches.
- **Space Products** — To design and provide space products based on the customers' needs for a successful satellite launch. Currently we offer two in space electric propulsion systems. Our offering consists of the design and delivery of a propulsion module comprised of a thruster, a power processing unit, a tank and a feed system.

2022 Highlights and Recent Developments

On February 10, 2022, we conducted a commercial orbital launch for National Aeronautics and Space Administration ("NASA") pursuant to which we were to deliver four CubeSats to low-earth orbit on our launch vehicle LV0008. After a nominal first stage flight, there were electrical and software issues prior to the upper stage launch which resulted in a failure of deployment, ending the mission. Through our investigation process, we identified and corrected the electrical and software issues which caused the failure. This was our first launch from Cape Canaveral Space Force Station as well as the first launch under the Federal Aviation Administration FAA new Part 450 launch license. Part 450 consolidates Parts 415, 417, 431 and 435 under a single licensing regime and is expected to make it easier for us to obtain regulatory approval from the FAA for future launches.

On March 15, 2022, we conducted an orbital launch for three customers of Spaceflight, Inc. and confirmed our first delivery of customer payloads into lower Earth orbit. Launch vehicle LV0009 (aka Rocket 3) took flight from the Pacific Spaceport Complex in Kodiak, Alaska.

On May 12, 2022, we announced Launch System 2, which would enable an upgraded launch vehicle, termed Rocket 4, capable of delivering 600 kg to mid-inclination orbits over its product lifecycle.

On June 12, 2022, we conducted a commercial orbital launch for the NASA from Cape Canaveral Space Force Station, in which we were to deliver two cubesats to low-earth orbit on our launch vehicle LV0010 in the first of what was to be a series of three launches to deploy the TROPICS constellation. After a nominal first stage flight, there was an upper stage engine anomaly which led to early depletion of fuel and engine shutdown prior to reaching its intended orbit. We began a mishap investigation in partnership with the FAA to understand the causes of the mishap and determine corrective actions.

On August 4, 2022, we announced that we had decided to discontinue Launch System 1, including the second and third planned TROPICS launches, and focus our Launch Services business on completing the development of Launch System 2, with an additional focus on reliability and scale.

On November 8, 2022, we announced 237 cumulative committed orders of the Astra Spacecraft Engine™. We also announced that our spacecraft engine business had completed its second customer program.

On December 6, 2022, we executed a long-term lease on our 179,070 sq-ft manufacturing rocket facility in Alameda.

On December 20, 2022, we announced that our Space Products business shipped our first multi-string Astra Spacecraft Engine™ integrated propulsion system.

On March 1, 2023, the FAA certified the mishap investigation into the LV0010 flight closed, and we released a summary of our findings. In particular, we found that the anomalous fuel consumption during the upper stage flight was due to a combustion chamber wall burn-through that occurred 18 seconds into upper stage flight. Flight data showed that the burn-through was precipitated by a substantial blockage of the fuel injector. The mechanics of combustion and regenerative cooling are complex and this failure did not have an immediately apparent root cause, so extensive testing and analysis was required to recreate the failure mode and to understand both how the injector blockage was created and how it led to a burn-through.

Strategy Overview

Since its inception, Astra has taken a long-term view on the growth of the commercial space industry. In 2022, we saw global launch rate increase by 27%, the number of satellites launched increased by 31%, and the overall space economy grew by 8% to \$464 billion. This long-term focus has guided our strategy, product roadmaps and investments. Our strategy to be the leading provider of launch services and space products required long-term investments in our rocket and space products production facilities in 2022, which guided our decision to raise capital through our business combination in 2021. In 2022, we completed the build out of our new Rocket 4 and Astra Spacecraft Engine™ production lines, and invested in the people and equipment needed to increase the quality and reliability of our products and services.

- **Increase launch capability.** Astra is one of five privately funded companies that has conducted successful orbital launches and successfully delivered satellites into Earth orbit, and we have accomplished this faster than any other privately funded US company. Based on the data and experience gathered from our successful and unsuccessful missions in 2022, by investing in mass-produced rockets, and automation of key manufacturing and launch operations processes, we plan to lead the market in lowest cost launch. We have designed our Launch System 2, with the expectation that it could service 80% of the addressable satellite market.
- **Scale Space Products production.** We moved into our new 60,000 square feet Astra Spacecraft Engine™ production facility in Sunnyvale, California at the end of the first quarter of fiscal year 2023. With an expected annual capacity of almost 500 units, this facility is designed to service our customers' current needs as well as future demand.

Our ability to achieve these goals and objectives by our planned timelines are conditional upon a number of factors, including our ability to successfully and timely develop our Launch System 2, manufacture launch vehicles and effectively market and sell our space products and services. Please see Item 1A. "Risk Factors," in this Annual Report on Form 10-K for additional factors that could affect our ability to achieve these goals and our results of operations.

Customer Overview

As of December 31, 2022, we have signed contracts for Launch Services. Our customers primarily include satellite operators, satellite manufacturers and government agencies. We expect to commence commercial launches with our new launch system in 2024.

On March 30, 2023, we announced that we had 278 cumulative orders for the Astra Spacecraft Engine™ including new orders for 264 units since the closing of our acquisition of Apollo Fusion on July 1, 2021. We began fulfilling those orders in 2022. By the end of 2022, we had delivered on three customer programs.

We expect a portion of our pipeline to continue to convert into new contracts for Launch Services and Space Products throughout 2023. We believe that our traction to date is driven by our value proposition and direct marketing to potential customers. We note that a portion of this pipeline may not convert if we do not achieve certain milestones or if we are unable to keep up with the demand for our products and services from a production and delivery perspective.

Sales and Marketing

We plan to grow our customer base for both Launch Services and Space Products. Additionally, as we execute on Space Product deliveries and the first launch of Rocket 4, we expect existing customers to expand their contracts with us for Launch Services and Space Products.

Unit Economics of Our Business Models

- **Launch Services.** Launch Services are fixed priced either on a dedicated or ride-share basis. We may offer certain customers bulk discounts, and other customers may elect to purchase add-on services which are priced separately. Costs for Launch Services are largely fixed in nature and include the cost to manufacture the launch vehicle, testing, logistics, and launch operations. The difference represents our unit margins.
- **Space Products.** Space Products include design and delivery of a propulsion module which consists of a thruster, a power processing unit, tank and a feed system. Space products are priced considering the design and engineering requirements of the propulsion module. The propulsion module pricing is fixed, and we typically charge separately for engineering services related to customizing the propulsion module. Costs for space products are generally fixed for the manufacturing and testing of the propulsion module and variable to include the time spent on design and engineering requirements. The difference represents our unit margins.

Research and Development

Research and development (“R&D”) is and will continue to be an important part of our business as we invest in improving our existing products and services, as well as potentially in developing new products or services. We make choices on where to invest resources into R&D based on our view of the market and how it will evolve, and by identifying those opportunities for new or improved products and services where we believe Astra is well positioned to be successful. We apply an iterative approach to product development, emphasizing testing and learning as quickly as possible through rapid iteration, co-located design, build, and test facilities, and frequent launches, which we believe is unique.

Currently, our Launch Services business is investing in the R&D activities necessary to complete the design, build, and qualification of Launch System 2, which we expect will bring significantly more capability to the market as compared to the prior version of our Launch System.

Our space products business is more focused on scaling up of our new production facility, though some R&D activities will continue, to further improve the current products, develop and potentially introduce other versions of the Astra Spacecraft Engine™, and potentially develop and introduce other space products to the marketplace.

We have historically invested some resources in Research and Development activities to support a future Space Services business, and we may do so again in the future.

General and Administrative

We manufacture and assemble nearly all of our products in house, and as a result rely on a number of supplier partnerships for components and raw materials for the launch system and spacecraft engine. We obtain these components in accordance with internal quality and traceability policies to ensure that our products can meet our and our customers' rigorous reliability requirements. Our design team goes to great effort to ensure that our components and assemblies are designed with simple, short lead time and commodity-based supply chains whenever possible. We engage into long-term supplier contracts for those components that are critical to function or have a limited supply base in order to protect our ability to scale production. Astra has two manufacturing facilities and two test facilities, totaling over 300,000 square feet where engineering and manufacturing are co-located with their respective products. Each facility is maintained under a long-term lease and is designed with scaled operations in mind. Please refer to Item 2. Properties below for more details.

Our headquarters is located in Alameda, CA and is where we conduct rocket and launcher assembly and tests, as well as machining and metal forming operations for all products. In 2022, Astra began work on its second factory in Sunnyvale, CA for spacecraft components that will first be utilized to produce Astra Spacecraft Engines™ in 2023. Additionally, we maintain two primary launch spaceports with the unique ability to expand and bring up new spaceports with little infrastructure required.

Human Capital

Our employees are the cornerstone to our success. As of December 31, 2022, we had 359 employees, all of whom were full-time. Our workforce is primarily based in the San Francisco Bay Area. Prior to joining our company, many of our employees had prior experience working for a wide variety of highly reputed commercial aviation, aerospace, high-technology and world-recognized organizations.

Our human capital management strategy includes identifying, recruiting, retaining, incentivizing and integrating our existing and new employees, advisors and consultants. The principal purposes of our cash and equity incentive plans are to attract, retain and reward personnel through the granting of cash-based and stock-based compensation awards, in order to increase stockholder value and the success of our company by motivating such individuals to perform to the best of their abilities and achieve our objectives.

Our management team is comprised of our chief executive officer and nine direct reports who, collectively, have management responsibility for our business. Our management team places significant focus and attention on matters concerning our human capital assets, particularly our diversity, capability development and succession planning. Accordingly, we regularly review employee development and succession plans for each of our functions to identify and develop our pipeline of talent. Across our broader population, approximately 22% of full-time employees are women and 34% belong to historically underrepresented groups. As we build out the team, we are also investing in the infrastructure needed for continuous professional development, feedback, performance management, and other aspects of a healthy, growth-oriented and high-performing work culture.

Below represents summary information regarding some of our executive officers as of March 30, 2023.

Chris **Kemp**
Age 45
Chief Executive Officer

Mr. Kemp is our co-founder, Chairman and Chief Executive Officer. Mr. Kemp leads the overall company strategy and direction. Mr. Kemp founded Astra in October 2016. Mr. Kemp previously served as the Chief Technology Officer of NASA IT. During his time at NASA from November 2005 until March 2011, Mr. Kemp developed cloud computing strategy for the United States Federal Government with the White House and founded OpenStack, an open infrastructure software platform, which is the largest and fastest growing open source project in history. Mr. Kemp currently serves on the Board of Directors at Scalr, an information technology and services company, and has served in that role since April 2015. Mr. Kemp has also served as an advisor to Planet Labs, a spacetech company, since January 2013, and Ripcord, a computer software company, since October 2015. Mr. Kemp previously founded and served as the CEO of three venture-backed start-ups, all of which are now owned by public companies. Mr. Kemp studied Computer Engineering at the University of Alabama in Huntsville and currently teaches at Stanford University.

Mr. Kemp is qualified to serve as our Chief Executive Officer and as a director due to his experience running software, information technology and aerospace companies and his expertise with new technologies, specifically in the aerospace industry, as well as his long standing service to the Company.

Adam **London**
Age 49
Chief Technology Officer

Dr. London is our co-founder, Chief Technology Officer and serves as one of our directors. Dr. London helped to found Astra in October 2016 and has served as the Chief Technology Officer and director since then. Dr. London leads our technology strategy and long-term product roadmap. Dr. London co-founded and served as a managing partner for Ventions, LLC, which was our predecessor company, from January 2005 until September 2016. While at Ventions, LLC, Dr. London spent 10+ years leading initiatives to miniaturize high-performance rocket technologies, supported by funding from the Defense Advanced Research Projects Agency, NASA, and other government agencies. Prior to founding Ventions, LLC and Astra, Dr. London served as an engagement manager at McKinsey & Company, where he focused on the automotive and manufacturing sectors. Dr. London holds a B.S., M.S. and Ph.D. in Aerospace Engineering from Massachusetts Institute of Technology, where his research culminated in the creation of a liquid-cooled chemical rocket engine smaller than a postage stamp.

Dr. London is qualified to serve as our Chief Technology Officer and as a director due to his extensive experience leading technology strategy in different capacities and his expertise with rocket design, and his long standing service to the Company.

Axel **Martinez**
Age 51
Chief Financial Officer

Mr. Martinez joined Astra in October 2022 and has served as Astra's Chief Financial Officer since November 2022. Mr. Martinez has more than 25 years of experience in finance roles, including deep knowledge in the technology industry, experience with scaling high-growth companies and participating in capital markets. From April 2019 through November 2021, Mr. Martinez served as the chief financial officer of Veev Group, Inc., a construction technology company headquartered in San Mateo, CA. Prior to that, he served as senior vice president and Chief Financial Officer at Virgin Hyperloop One, a transportation technology company headquartered in Los Angeles, CA, from June 2017 through November 2018. Mr. Martinez left Veev Group Inc. in 2021 so that he could focus on his family. Mr. Martinez holds a B.A. in Economics and Political Science from Columbia University and an M.B.A. from Harvard Business School.

Martin **Attiq**
Age 39
Chief Business Officer

Mr. Attiq serves as our Chief Business Officer and has been with Astra since January 2020. Mr. Attiq leads our business development, partnerships, spaceport services, real estate strategy, communications and policy functions. From January 2016 until January 2020, Mr. Attiq served as the Vice President and Head of Strategic Partnerships for SigFig, a digital innovation company for retail banking and wealth management. Prior to that, from July 2005 to July 2015, Mr. Attiq was a Director at BlackRock, where he co-founded and helped

scale the Financial Markets Advisory group. Mr. Attiq holds a B.S.E. in Industrial and Operations Engineering from the University of Michigan as well as an M.S. in Management from Stanford University Graduate School of Business where he was a Sloan Fellow.

Regulatory

Federal Aviation Administration (“FAA”)

In order to conduct a launch, we must obtain a commercial space transportation license from the FAA. On August 18, 2021, the FAA granted a commercial space transportation license to us, allowing us to conduct flights of our launch vehicle (Rocket v3.0) from Pacific Spaceport Complex in Kodiak, Alaska to deliver customer payloads to LEO. This license is effective for launches on Rocket v3.0 through March 9, 2026. In addition, on February 4, 2022, the FAA granted us the first commercial space transportation license under Part 450, allowing for flights of our launch vehicle (Rocket v3.3) from Cape Canaveral Space Force Station in Cape Canaveral, Florida, to deliver customer payloads into LEO. The Company plans to seek similar licenses prior to the launch of Rocket 4.

If there is a mishap during a launch, the FAA will require us to open an investigation into the mishap and we will not be able to launch until the investigation is closed, or the FAA has made a favorable public safety determination. For example, the FAA has recently concluded its mishap investigation into our LV0010 flight.

Federal Communications Commission (“FCC”)

The regulations, policies, and guidance issued by the FCC apply to the radio frequencies utilized during operation of our launch vehicles. When we communicate with our launch vehicles using any part of the electromagnetic spectrum, we are operating a space station to which FCC regulations apply. Operators of regulated space stations are required to hold and maintain compliance with proper licenses throughout the duration of any given mission.

The FCC recently enacted a new set of licensing guidelines for small satellites and related systems that may apply to future Astra launch vehicles or satellites manufactured by Astra. As a result, we may face a transition in license types from Special Temporary Authorization (“STA”) to the small satellite licensing guidelines. Additionally, the FCC is currently considering additional rules which could change the operational, technical and financial requirements for commercial space operators subject to U.S. jurisdiction. If these, proposed rules become final, they could change system design, and we may incur additional financial costs in order to comply with or secure new Astra spectrum licensure.

As a U.S. licensee, the regulations, policies, and guidance issued by the FCC apply to the operation of Astra’s future satellite constellation and satellite services. Radio frequency communications between Astra satellites, gateways and user terminals for operations within the U.S. market are regulated by the FCC, including both space stations (satellites) and earth stations (gateways and user terminals). Operators of regulated space stations and earth stations are required to hold and maintain compliance with proper licenses throughout the duration of operations. Additionally, the International Telecommunications Union (ITU) defines international radio regulations, recommendations, and technical standards which all apply to Astra’s constellation and satellite services globally.

International Traffic in Arms Regulations (“ITAR”) and Export Controls

Our business is subject to, and we must comply with, stringent U.S. import and export control laws, including the ITAR and Export Administration Regulations (“EAR”) of the Bureau of Industry and Security of the U.S. Department of Commerce. 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 U.S.

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 concerning the spaceflight business.

Many different types of internal controls and measures are required to ensure compliance with such export control rules. In particular, we are required to maintain 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 activities, including the performance by foreign persons, related to and who support our spaceflight business. Under the ITAR, we must receive permission from the Directorate of Defense Trade Controls to release controlled technology to foreign person employees and other foreign persons. Please see Item 1A. "Risk Factors" — "We are subject to stringent U.S. export and import control laws and regulations."

The inability to secure and maintain other necessary export authorizations could negatively impact our ability to compete successfully or to operate our spaceflight business as planned. For example, if we were unable to obtain or maintain our licenses to export certain spacecraft hardware, we would be effectively prohibited from launching our vehicles from certain non-U.S. locations, which would limit the number of launch providers we could use. In addition, if we were unable to obtain a Department of State Technical Assistance Agreement to export certain launch provider related services, we would experience difficulties or even be unable to perform integration activities necessary to safely our transfer vehicles to non-U.S. launch vehicles. In both cases, these restrictions could lead to higher

launch costs which may have a material adverse impact on our results of operations. Similarly, if we were unable to secure effective export licensure to authorize the full scope of activity with a foreign partner or supplier, we may need to implement design changes to spacecraft or updates to our supplier chain, which may increase costs or result in delays in vehicle launch schedules.

Failure to comply with export control laws and regulations could expose us to civil or criminal penalties, fines, investigations, 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. In addition, any changes in 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.

Environmental Law Compliance

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 which could result in operational disruptions. 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.

Available Information

Astra's annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act are available free of charge through the website of the U.S. Securities and Exchange Commission (the "SEC"), www.sec.gov, and through the Company's website, <https://www.astra.com>, as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC. Astra also routinely posts press releases, presentations, webcasts, sustainability reports and other information regarding the Company on its website. The information posted on the Company's website is not a part of this report.

ITEM 1A. RISK FACTORS.

Our business, operations and financial results are subject to various risks and uncertainties, including those described below, that could adversely affect our business, financial condition, results of operations, cash flows, and the trading price of our Class A common stock. Many of the following risks and uncertainties are affected by instability in the banking industry, the geographical conflict in the Ukraine with Russia, and any worsening of the global business and economic environment as a result. The following material factors, among others, could cause our actual results to differ materially from historical results and those expressed in forward-looking statements made by us or on our behalf in filings with the SEC, press releases, communications with investors and oral statements. These risk factors are not exhaustive, and investors are encouraged to perform their own investigation with respect to the business, financial condition and prospects of the Company. Readers should carefully consider the following risk factors in addition to the other information included in this filing and our other filings with the SEC. We may face additional risks and uncertainties that are not presently known to it, or that it currently deems immaterial, which may also impair our business or financial condition. The following discussion should be read in conjunction with our consolidated financial statements and notes to our consolidated financial statements in this Annual Report.

Summary of Risk Factors

A summary of the material risks affecting our business, operations and financial results include the following:

- Our losses from operations and liquidity condition raise substantial doubt about our ability to continue as a going concern. As a result, there is significant risk in the investment in shares of our Class A common stock and you may lose all or part of your investment.
- Our failure to meet the continued listing requirements of NASDAQ Global Select Market could result in a delisting of our Class A common stock.
- We are highly dependent on our senior management team and other highly skilled personnel, who are necessary for us to successfully implement our business strategy.
- We use social media to provide information to our investors and the general public about our products and services. If we do not appropriately manage the content, timing and delivery of our communications through these social media channels, our reputation could be damaged or we could be subject to regulatory or other violations.
- We have only conducted two launches that successfully reached orbit, including one launch which deployed 22 customer satellites into orbit and are currently only delivering one Space Product, the Astra Spacecraft Engine™ propulsion system. Any setbacks occurring during our launches, or in the performance of Astra Spacecraft Engines™ in orbit could have a material adverse effect on our business, financial condition, and operations.
- We have incurred significant losses since inception 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 develop our launch vehicles, Space Products and related technology and to market and sell our Launch Services and our Space Products and Services and to convert contracted revenues into actual revenues.
- We routinely conduct hazardous operations in manufacturing, test, and launch of our vehicles, Space Products and vehicle subsystems, which could result in damage to property or persons.
- We have limited data and history to test our launch vehicles for the successful deployment of a LEO satellite.
- We expect to face intense competition in the commercial space market and other industries in which we may operate.
- If we are unable to manufacture our launch vehicles or Space Products at a quantity and quality that our customers demand, our ability to grow our business may suffer.
- We may be unable to manage our future growth effectively, which could make it difficult to execute our business strategy.
- Adverse publicity stemming from any incident involving us, our competitors, or our customers could have a material adverse effect on our business, financial condition and results of operations.
- Regulatory, availability, and other challenges may delay our progress in establishing the number of launch sites we require for our targeted annual launch rate, which could have an adverse effect on our ability to grow our business.
- 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.
- We have identified material weaknesses in our internal controls over financial reporting and may identify additional material weaknesses in the future or otherwise fail to maintain an effective system of internal controls, which may result in material misstatements of our financial statements or cause us to fail to meet our periodic reporting obligations.
- We may face litigation and other risks as a result of the material weaknesses in our internal controls.
- Failure to timely access the Company's cash on deposit with Silicon Valley Bank ("SVB") and ability to access its cash equivalents and marketable securities may result in a material adverse effect on the Company.
- We are subject to environmental regulation and may incur substantial costs or have operational disruptions.
- A failure of our information technology systems, physical or electronic security protections, or an interruption in their operation, could have a material adverse effect on our business, financial condition or results of operations.
- Certain future operational facilities will require significant expenditures in capital improvements and operating expenses, and the ongoing need to maintain existing operational facilities requires us to expend capital.
- Failure of third-party contractors and suppliers could adversely affect our business.
- 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.
- 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 stringent U.S. export and import control laws and regulations.
- Natural disasters, unusual weather conditions, epidemic outbreaks, global health crises, terrorist acts and political events could disrupt our business and flight schedule.
- Our prospects and operations may be adversely affected by changes in consumer preferences and economic conditions that affect demand for launch or space services.
- We may in the future invest significant resources in developing new service offerings and exploring the application of our proprietary technologies for other uses and those opportunities may never materialize.
- 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.
- Failures in our technology infrastructure could damage our business, reputation and brand and substantially harm our business and results of operations.
- We may experience difficulties in integrating the operations of acquired companies into our business and in realizing the expected benefits of these acquisitions.
- We are subject to many hazards and operational risks that can disrupt our business, including interruptions or disruptions in service at our primary facilities.
- 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.

- The majority of our customer contracts may be terminated by the customer at any time for convenience as well as other provisions permitting the customer to discontinue contract performance for cause.
- Failure to comply with federal, state and foreign laws and regulations relating to privacy, data protection and consumer protection, could adversely affect our business and our financial condition.
- 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.
- We have been focused on developing launch capabilities and services since 2017. This limited operating history makes it difficult to evaluate Astra's future prospects and the risks and challenges it may encounter.
- Astra needs to meet multiple security requirements in order to meet ongoing requirements for participation in government contracts. The inability to meet regulatory requirements or security standards may mean a failure to win contracts, receive security clearance certifications, and loss of current and future business.
- Our ability to use our net operating losses to offset future taxable income could be subject to certain limitations.
- The dual class structure of our common stock has the effect of concentrating voting power with our Chief Executive Officer and Chief Technology Officer, which limits an investor's ability to influence the outcome of important transactions, including a change in control.
- Our stock price has been, and likely will continue to be, volatile.
- Delaware law and provisions in our certificate of incorporation and bylaws could make a takeover proposal more difficult.

The summary above is qualified in its entirety by the full risk factors below, and you are encouraged to read each of them carefully to gain a full understanding of the risks and uncertainties that may affect our financial performance and ability to achieve our business and strategic goals.

Detailed Description of Risk Factors

Risk Factors Relating to Our Operations and Business

Our losses from operations and liquidity condition raise substantial doubt about our ability to continue as a going concern. As a result, there is significant risk in the investment in shares of our Class A common stock and you may lose all or part of your investment.

As of December 31, 2022, we had cash and cash equivalents of \$33.6 million and marketable securities of \$69.2 million, and have not generated sufficient revenues to enable us to finance our business operations internally. We have incurred significant losses since our inception and had an accumulated deficit of \$1,819.8 million as of December 31, 2022, and we expect to continue to incur net losses into the future. These conditions raise substantial doubt about our ability to continue as a going concern during the next twelve months. Our ability to continue as a going concern is dependent on our ability to generate cash flows from operations and find additional sources of funding through either equity offerings, debt financings, or a combination of any such transactions.

To extend our financial runway, we continue to seek and evaluate opportunities to raise additional capital through the issuance of equity or debt securities. As an example, on August 2, 2022, we entered into a Common Stock Purchase Agreement with B. Riley Principal Capital II LLC ("B. Riley"), which would allow us to sell newly issued shares of its Class A Common Stock to B. Riley in aggregate amount not to exceed \$100.0 million or 19.99% of the aggregate outstanding Class A and Class B Common Stock of the Company as of August 2, 2022. In addition, on November 8, 2022, we announced a reduction of workforce of approximately 16% of our existing headcount. We continue to explore other plans to mitigate an expected shortfall of capital to support future operations including raising additional funds through borrowings or additional sales of securities or other sources, and managing our working capital. However, there is no assurance that savings we expect as a result of our headcount reduction will be realized or additional financing will be available when needed or that we will be able to obtain financing on terms acceptable to us or whether or when we will become profitable and generate positive operating cash flow. If we are unable to raise substantial additional capital, our operations and production plans may be scaled back or curtailed. If we are unable to raise additional capital in sufficient amounts or on terms acceptable to us, there is substantial doubt that we will be able to continue as a going concern. If the foregoing plans are unsuccessful and we are unable to continue as a going concern, you could lose all or part of your investment in us.

We currently fail to satisfy certain continued listing requirements of the National Association of Securities Dealers Automated Quotations ("NASDAQ") Global Select Market, have failed to satisfy certain of these requirements in the past and could fail to satisfy those requirements again in the future, which could negatively affect the market price of our Class A common stock, our liquidity and our ability to raise capital. Our failure to meet the continued listing requirements of NASDAQ Global Select Market could result in a delisting of our Class A common stock.

Currently, our Class A common stock trades on the NASDAQ Global Select Market. On October 6, 2022, we received a deficiency notice from NASDAQ that we were not in compliance with Rule 5450(a)(1) of the listing requirements (the "Minimum Bid Price

Requirement”) because our per share closing bid price has been below \$1.00 for thirty consecutive business days. As of the date of this annual report, our per share closing bid price remains below \$1.00. While this notice had no immediate effect on the listing of the Company’s Class A common stock, if we are unable to regain compliance with the Minimum Bid Price Requirement or otherwise maintain compliance with the other listing standards for NASDAQ, it could result in the delisting of our Class A common stock from NASDAQ, which could have a material impact on your ability to sell shares of our Class A common stock.

Pursuant to Rule 5810(c)(3)(A), we have 180 calendar days, or until April 4, 2023, to regain compliance with the Minimum Bid Price Requirement. NASDAQ’s notice stated that if, at any time before April 4, 2023, the per share closing bid price of Astra’s Class A common stock is at least \$1.00 for a minimum of ten consecutive business days, NASDAQ’s staff will provide us written notice that it complies with the Minimum Bid Price Requirement.

On March 13, 2023, we submitted an application to NASDAQ for an additional 180-day period (the “Extended Compliance Period”) to comply with the minimum bid price requirement. Based on our discussions with representatives of NASDAQ, we expect to hear back from NASDAQ regarding the status of our application on or around April 5, 2023. If our extension is approved, our Class A stock will be traded under NASDAQ Capital Market instead of NASDAQ Global Select Market commencing in April 2023.

While we intend to monitor the per share closing bid price of our Class A common stock and consider available options, including a reverse stock split, if our Class A common stock does not trade at a level likely to result in us regaining compliance with the Minimum Bid Price Requirement by April 4, 2023 or the end of the Extended Compliance Period, as applicable, we cannot be certain that those available options, including a reverse stock split, would be sufficient to increase the closing per share price of our Class A common stock to more than \$1.00 or prevent it from dropping below \$1.00 at some point in the future.

There is no guarantee that we will regain compliance with the Minimum Bid Price Requirement, that we will maintain compliance with other NASDAQ listing standards, or that we will be granted the Extended Compliance Period. We have previously failed to comply with listing standards as a result of our late filing of our Annual Report on Form 10-K for the year ended December 31, 2021, and there can be no assurance that we will not violate other NASDAQ listing standards in the future.

If NASDAQ concludes that we will not be able to cure the deficiency during the Extended Compliance Period or does not grant us the Extended Compliance Period, then NASDAQ will give notice that our Class A common stock is subject to delisting and we will be able to appeal that delisting before a NASDAQ hearings panel. Such a delisting would likely have a negative effect on the price of our Class A common stock and would impair your ability to sell or purchase our Class A common stock when you wish to do so. In the event of a delisting, we would expect to take actions to restore our compliance with NASDAQ’s listing requirements, but we can provide no assurance that any such action taken by us would allow our Class A common stock to become listed again or improve the liquidity of our Class A common stock.

If we are delisted from NASDAQ but obtain a substitute listing for our Class A common stock, it will likely be on a market with less liquidity, and therefore experience potentially more price volatility than experienced on NASDAQ. You may not be able to sell your shares of Class A common stock on any such substitute market in the quantities, at the times, or at the prices that could potentially be available on a more liquid trading market. As a result of these factors, if our Class A common stock is delisted from NASDAQ, the value and liquidity of our Class A common stock would likely be significantly adversely affected. A delisting of our common stock from NASDAQ could also adversely affect our ability to obtain financing for our operations and/or result in a loss of confidence by investors, employees and/or business partners.

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 or are unable to find and integrate appropriate replacements for employees who choose to leave the Company, we may not be able to successfully implement our business strategy and our results of operations and ability to execute on our growth strategy will be affected.

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 engineers, manufacturing and quality assurance, 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. 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. 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.

Further, we have experienced turnover in our finance, engineering and operations functions. If we are unable to retain and successfully integrate their replacements, it could have a material adverse impact on our business, the reliability of our financial consolidated

statements, our ability to execute on our growth strategy and develop Launch System 2, and the production and delivery of our Space Products.

We use social media as part of our marketing strategy and to provide information to our investors and the general public about our products and services, including the stages of development of our rocket and launch system. If we do not appropriately manage the content, timing and delivery of our communications through these social media channels and the content that others, including our employees, post regarding our business, products and services, our reputation could be damaged or we could be subject to regulatory or other violations, all of which could have a material adverse effect on our business operations.

Despite our efforts to monitor evolving social media communication guidelines and comply with applicable rules, there is risk that the use of social media by us, our employees or our customers to communicate about our products, services or business may cause us to be found in violation of applicable requirements. For example, due to text restrictions on certain social media platforms, information that we share on social media may not be qualified as forward-looking statements or could be viewed as not providing full and complete information about our business. Further, images we share through social media may not meet certain requirements under export regulations such as ITAR and EAR, despite our best efforts to review such material before it is submitted. As a result, we may be subject to enforcement actions from regulatory bodies related to our social media activities. Efforts we take to correct disclosures may be viewed negatively by our investors. In addition, adverse events with respect to our company, including launch failures, unapproved marketing or other unintended messages posted on social media could require an active response from us, which may not be completed in a timely manner and could result in reputational damage. Further, our employees may knowingly or inadvertently make use of social media in ways that may not comply with our corporate policies or other legal or contractual requirements. This may give rise to liability or lead to the loss of trade secrets or other intellectual property or disclosure of material non-public information. Furthermore, negative posts or comments about us or our products and services in social media could seriously damage our reputation, brand image and goodwill, which would have a material adverse effect on our business, financial condition, and results of operations.

We have only conducted two launches that successfully reached orbit, including one launch which deployed 22 customer satellites into orbit and are currently only delivering one Space Product, the Astra Spacecraft Engine™ propulsion system. Any setbacks occurring during our launches, or in the performance of our Spacecraft Engines™ in orbit and subsequent upgrades to our launch systems or Space Products could have a material adverse effect on our business, financial condition, and operations, and could harm our reputation.

The success of our launch and space services offerings will depend on our ability to successfully and regularly deliver customer satellites into orbit. In November 2021, we successfully launched launch vehicle LV0007 to an inclination of 86.0 degrees at an altitude of 500 km and demonstrated orbital placement of test payload. Our data from this launch suggest that we achieve sufficient orbital velocity to successfully inject a satellite into orbit and serve as an opportunity to learn from the experience and to make further refinements to the design and manufacturing processes used to construct our launch vehicles and rockets. On February 10, 2022, we launched launch vehicle LV0008. After a nominal first stage flight, the payload fairing did not fully deploy prior to the upper stage ignition due to an electrical issue which, together with a software issue, resulted in the upper stage not reaching orbit and the end of the mission. On March 15, 2022, we successfully launched launch vehicle LV0009 and confirmed our first delivery of customer payloads into Earth orbit. On June 12, 2022, we had a nominal first stage flight of LV0010, however our upper stage shut down early and we did not deliver the payloads into low Earth orbit.

The success of our strategy depends on our ability to successfully upgrade our rockets, launch vehicles, Space Products, and related technology which may require significant adjustments to the design, manufacturing process and performance to achieve intended technological and performance goals. There is no guarantee that any subsequent commercial launches will be successful. While we have built operational processes to ensure that the design, manufacture, performance and servicing of our launch vehicles and rockets meet rigorous performance goals, there can be no assurance that we will not experience operational or process failures and other problems during our planned launches. Any failures or setbacks could harm our reputation and have a material adverse effect on our business, financial condition and results of operations.

We have incurred significant losses since inception and we may not be able to achieve or maintain profitability.

We have incurred significant losses since our inception. We incurred net losses of \$411.4 million and \$257.8 million for the years ended December 31, 2022 and 2021, respectively. While we have generated limited income to date, we have only begun our commercial launch activities and space product sales in 2022, and it is difficult for us to predict our future operating results. Further, we have suspended our commercial launch activities in 2023 while we work to develop our Launch System 2. 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 continue delivery of our Astra Spacecraft Engines™, look to restart commercial launch activities in 2024, continue to refine and streamline our design and manufacturing processes for our launch vehicles, increase the payload of our rockets, make technical improvements, increase our flight cadence, hire additional employees and continue research and development efforts relating to new products and technologies, including our space services. 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 customers 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 our Launch Services and our Space Products and Services and to convert contracted revenues and our pipeline of potential contracts into actual revenues.

We expect that our success will be highly dependent, especially in the foreseeable future, on our ability to effectively forecast, market and sell our Launch Services for small LEO satellites and Space Products. We have limited experience in forecasting, marketing and selling these services and products, and if we are unable to use our current or future sales organization effectively in order to adequately target and engage our potential customers, our business may be adversely affected.

We also expect that our success will be highly dependent on our ability to convert contracted revenues and our pipeline of potential contracts into actual revenues. We have received interest from a wide range of customers across various satellite applications or use cases. Our contracted revenues and our estimated pipeline may not fully convert into actual revenues because certain of our customers have the right to terminate their contracts if we do not achieve certain milestones. We may not meet these milestones, in which case the value of our contracted revenues may be significantly lower than our current estimates. Additionally, if we are unable to keep up with the demand for our Launch Services from a production and delivery perspective, we may not be in a position to deliver on our contracted revenues or our pipeline of potential contracts.

We remain in active discussions with potential customers and anticipate an increase in contracted revenue as the small satellite and satellite constellation markets continue to develop. Our success depends, in part, on our ability to attract new customers in a cost-effective manner. Notwithstanding our estimated contracted revenue, we expect that we will need to make significant investments in order to attract new customers. Our sales growth is dependent upon 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 customers 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 customers at the same rate as past campaigns or brand content. If we are unable to attract new customers, our business, financial condition and results of operations will be harmed.

The market for commercial Launch Services for small LEO satellites is still emerging, multiple mergers and acquisitions are shifting the market, and the market may not achieve the growth potential we expect.

The market for in-space infrastructure services, in particular, commercial Launch Services for small LEO satellites, has not been well established and is still emerging, merging and shifting, with many players acting as customers, prime contractors, or acquirers, or target of acquisitions. Our estimates for the total addressable launch market and satellite market are based on a number of internal and third-party estimates, including our contracted revenue, the number of potential customers who have expressed interest in our Launch Services, assumed prices and production costs for our launch vehicles, 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 at this date and time, these assumptions and estimates may not be correct and 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 potential customers, annual total addressable market for our services, as well as the expected growth rate for the total addressable market for our services, may prove to be incorrect. Further should any of our customers be acquired by one of our competitors that could impact our future revenue and prospects as those customers may decide not to continue to purchase our Launch Services.

Our ability to grow our business depends on the successful development of our launch vehicles, spacecraft 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 launch vehicles, launch facilities and capabilities, spacecraft 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 launch and spacecraft capabilities and related technology involves many uncertainties, some of which are beyond our control, including, but not limited to:

- timing in making further enhancements to our launch vehicle and spacecraft design and specifications;
- successful completion of our planned commercial launches;
- our ability to obtain additional applicable approvals, licenses or certifications from regulatory agencies, if required, and maintaining current approvals, licenses or certifications;
- our ability to schedule and receive access to launch sites, receive related government approvals, launch windows, licenses, mandated insurance coverages, and aligned logistics of moving a rocket to, and launching from, rocket launch facilities;
- our ability to respond quickly enough to decisions of third-parties outside our control that can impact our launch schedules or launch operations;

- 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;
- 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, particularly the development of various enhancements that increase the payload of our rocket; and
- the impact of the geopolitical crisis between Russia and Ukraine, the instability in the banking industry and of future geopolitical, economic, environmental, social or health crises, on us, our customers, suppliers and distributors, and the global economy.

We routinely conduct hazardous operations in manufacturing, test, and launch of our vehicles, Space Products and vehicle subsystems, which could result in damage to property or persons. Unsatisfactory performance or failure of our manufacturing process, launch vehicles, Space Products, spacecraft and related technology at launch or during operation could have a material adverse effect on our business, financial condition and results of operations.

We manufacture and operate highly sophisticated launch vehicles, Space Products and conduct launch activities that depend on complex technology. Although there have been and will continue to be technological advances in spaceflight, our operations remain an inherently hazardous and risky activity. Launch failures, explosions and other accidents during manufacturing, on launch or during flight have occurred and will likely occur in the future.

While we have built operational processes to ensure that the design, manufacture, performance and servicing of our launch vehicles, Space Products and related technologies meet rigorous quality standards, there can be no assurance that we will not experience operational or process failures and other problems, including through manufacturing or design defects, cyber-attacks or other intentional acts, that could result in potential safety risks. We may experience a total loss of our launch vehicle and our customers' payloads if there is an accident or failure at launch or during the journey into space, which could have a material adverse effect on our results of operations and financial condition or reputation. For some missions, we or our customers can elect to buy launch insurance, which can reduce our monetary losses from any launch failure, but even in this case we will have losses associated with our inability to test our technology in space and delays with further technology development. Any insurance we or our customers have may not be adequate to cover our or their loss, respectively.

Any actual or perceived safety or reliability 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 could result in delaying or cancelling planned launches, 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 operations.

We may not be able to convert our estimated contracted revenue or potential contracts into actual revenue.

We expect that our success will be highly dependent on our ability to convert contracted revenues and our pipeline of potential contracts into actual revenues. Our contracted revenues and our estimated pipeline may not fully convert into actual revenues because certain of our customers have the right to terminate their contracts if we do not achieve certain milestones, or other termination rights.

We may not meet these milestones, in which case the value of our contracted revenues may be significantly lower than our current estimates.

Some of our existing customer contracts include provisions allowing the customers to terminate the contracts for convenience, some with a termination penalty for at least the amounts already paid, or to terminate the contracts for cause (for example, if we do not achieve certain milestones on a timely basis). If any of our significant customer contracts are terminated and not replaced, our results of operations may differ materially and adversely from those anticipated. In addition, our contracts with government customers often contain provisions with additional rights and remedies favorable to such customers that are not typically found in commercial contracts. As a result, we may not receive revenue from these orders, and any contracted revenue we report may not be indicative of our future actual revenue.

Many events may cause a delay in our ability to fulfill our existing or future orders, or cause planned launches or deliveries to not be completed at all, some of which may be out of our control, including unexpected weather patterns, maintenance issues, natural disasters, changes in governmental regulations or in the status of our regulatory approvals or applications or other events that force us to cancel or reschedule launches, which could have an adverse impact on our business, financial condition and results of operations.

We have limited data and history to test our launch vehicles for the successful deployment of a LEO satellite.

In November 2021, we successfully launched launch vehicle LV0007 to an inclination of 86.0 degrees at an altitude of 500 km and demonstrated orbital placement of test payload. Our data from this launch suggest that we achieve sufficient orbital velocity to

successfully inject a satellite into orbit and serve as an opportunity to learn from the experience and to make further refinements to the design and manufacturing processes used to construct our launch vehicles and rockets. Although our November 2021 launch was a success, we may not be successful in reaching space and achieving sufficient orbital velocity during our subsequent launches planned. For example, on February 10, 2022, we launched launch vehicle LV0008. After a nominal first stage flight, the payload fairing did not fully deploy prior to the upper stage ignition due to an electrical issue which, together with a software issue, resulted in the upper stage not reaching orbit and the end of the mission. On March 15, 2022, we successfully launched launch vehicle LV0009 and confirmed our first delivery of customer payloads into Earth orbit. On June 12, 2022, after a nominal first stage flight, the upper stage shutdown on LV0010 and we did not deliver the customer's payloads into low Earth orbit. If we fail to continue to successfully inject payloads into orbit, our business, financial condition and results of operations could be materially and adversely impacted.

As part of our strategy, we plan to increase the maximum payload capacity of our launch vehicle to meet the customer needs and demands, which would make us a more compelling alternative for LEO constellation deployment and satellite replenishment. This payload capacity improvement will come from numerous improvements, enhancements and modifications to our rocket. We may not be successful in our efforts to make improvements to our rocket to achieve the full increase in payload capacity, and if we are unable to demonstrate our ability launch heavier satellites to LEO, our business, financial condition and results of operations could be materially and adversely impacted.

Any delays in the development and manufacture of additional launch vehicles, spacecraft, 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 launch vehicles, spacecraft and related technology. 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 our launch vehicles, spacecraft and related 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.

We expect to face intense competition in the commercial space market and other industries in which we may operate.

We face intense competition in the commercial space market and amongst our competitors. Currently, our primary competitors in the commercial launch market are SpaceX, RocketLab, United Launch Alliance, and Arianespace. In addition, we are aware of a significant number of entities actively engaged in developing commercial launch capabilities for small and medium sized payloads, including Virgin Orbit, Relativity, ABL Space Systems, and Firefly, among others. Many of our current and potential competitors are larger and have substantially greater financial or other resources than we currently have or expect to have in the future, and thus may be better positioned to exploit the market need for small payloads and targeted orbital delivery, which is the focus of our business. They may also be able to devote greater resources to the development of their current and future technologies, which could overlap with our technologies, or the promotion and sale of their products and services. Our competitors could offer small launch vehicles at lower prices, which could undercut our business strategy and potential competitive edge. 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 relative to ours. 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 launch and space services does and will depend on number of factors, which may change in the future due to increased competition, including the price of our products and services, consumer satisfaction for the experiences we offer, and the frequency and availability of our products and services. If we are unable to compete successfully, our business, financial condition and results of operations could be adversely affected.

If we are unable to adapt to and satisfy customer demands in a timely and cost-effective manner, or if we are unable to manufacture our launch vehicles or Space Products at a quantity and quality that our customers demand, our ability to grow our business may suffer.

The success of our business depends in part on effectively managing and maintaining our commercial Launch Services, Space Products, manufacturing additional launch vehicles and Space Products, conducting a sufficient number of launches to meet customer demand and providing customers with an experience that meets or exceeds their expectations. Even if we succeed in developing launch vehicles or producing Space Products consistent with our targeted timelines and customers' expectations, we could thereafter fail to develop the ability to produce these vehicles or products at quantity with a quality management system that ensures that each unit performs as required. Any delay in our ability to produce launch vehicles or Space Products at rate and with a reliable quality management system could have a material adverse effect on our business.

If our current or future Launch Services or Space Products do not meet expected performance or quality standards, including with respect to customer safety and satisfaction, this could cause operational delays. Further, launch operations within restricted airspace requires advance scheduling and coordination with government agencies and 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 our launch operations or could result in cancellations, launch facility transfers, additional costs or rescheduling. Any operational or manufacturing delays or other unplanned changes to our ability to conduct our launches or manufacture our products 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 launch vehicles.

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 employees, finding manufacturing capacity to produce our launch vehicles, rockets, spacecraft, Space Products and related equipment, and delays in production and launches. 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 presence around the globe, we expect to incur substantial expenses as we continue to attempt to streamline our manufacturing process, increase our launch cadence, increase our production of our Space Products, develop our current launch system, 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.

Adverse publicity stemming from any incident involving us, our competitors, or our customers 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, or our competitors or customers. If our launch vehicles or Space Products, those of one of our competitors, or satellites of our customers were to be involved in a public incident, accident, or catastrophe, this could create an adverse public perception of launch or manufacturing activities and result in decreased customer demand for launch and spacecraft services, which could cause a material adverse effect on our business, financial conditions, and results of operations. Further, if our launch vehicles or rockets 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 or industry could cause customers with existing contracts with us to cancel their contracts 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 such incident, adverse media, or accident.

Regulatory, availability, and other challenges may delay our progress in establishing the number of launch sites we require for our targeted annual launch rate, which could have an adverse effect on our ability to grow our business.

Part of our strategy involves increasing our launch capability and approaching a more frequent than monthly launch capability at some point in the future. Our ability to achieve a more frequent than monthly launch capability in the future will depend on our ability to add new launch sites. We currently operate launch sites at the Pacific Spaceport Complex in Kodiak, Alaska, and Cape Canaveral Space Force Station in Cape Canaveral, Florida, and we expect, after successful flights of our Launch System 2, to enter into a variety of arrangements to secure additional launch sites, which may include ownership, leasing, licensing, and permitting in the United States and outside the United States. We have in the past and may in the future experience delays in our efforts to secure additional launch sites around the globe based upon our customers' inclination needs. Challenges as a result of regulatory processes or in our ability to secure the necessary permissions to establish these launch sites could delay our ability to achieve our target cadence and could adversely affect our business.

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 manufacture our launch vehicles is dependent upon sufficient availability of raw materials and supplied components, 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.

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 launches, customer cancellations or reductions in our prices and margins, any of which could harm our business, financial condition and results of operations.

We have identified material weaknesses in our internal control over financial reporting and may identify additional material weaknesses in the future or otherwise fail to maintain an effective system of internal control, which may result in material misstatements of our financial statements or cause us to fail to meet our periodic reporting obligations.

We have identified material weaknesses in our internal controls over financial reporting, as of and for the years ended December 31, 2022 and 2021. A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected on a timely basis. Please see Item 9A — Controls and Procedures included elsewhere in this Annual Report for more information about identified material weaknesses.

We are in the process of designing and implementing measures to improve our internal controls over financial reporting to remediate the material weaknesses described in Item 9A. Controls and Procedures, primarily by implementing additional review procedures within our accounting and finance department, hiring additional personnel within the Company's accounting and finance function, designing and implementing information technology and application controls in our financially significant systems, providing internal resources with enhanced access to accounting literature and research materials, engaging additional external accounting experts to supplement our internal resources and increasing communication with third-party professionals with whom we consult regarding the application of accounting standards on complex transactions and instruments.

While we are designing and implementing measures to remediate the material weaknesses, we cannot predict the success of such measures or the outcome of our assessment of these measures at this time. We can give no assurance that these measures will remediate the weaknesses in internal control or that additional material weaknesses or significant deficiencies in our internal controls over financial reporting will not be identified in the future. Our failure to implement and maintain effective internal controls over financial reporting could result in errors in our financial statements that may lead to a restatement of our financial statements or cause us to fail to meet our reporting obligations. Further, any failure to implement and maintain effective internal controls over financial reporting, information technology and management processes could adversely affect our financial results and the assessments by our independent registered public accounting firm and their attestation reports, if applicable. Additionally, Astra may not be able to complete our evaluation, testing and any required remediation in a timely fashion. Finally, our current controls and any new controls that we develop may become inadequate because of poor design and changes in our business, including increased complexity resulting from any international expansion.

To comply with the requirements of being a public company, we are undertaking various actions and expect to need to undertake additional actions, such as implementing new internal controls and procedures and hiring additional accounting or internal audit staff. Failure to comply with the Sarbanes-Oxley Act could potentially subject us to sanctions or investigations by the SEC, NASDAQ or other regulatory authorities, which would require additional financial and management resources.

If we are unable to certify the effectiveness of our internal controls, or if our internal controls have material weaknesses, we may not detect errors in a timely manner, our financial statements could be misstated, we could be subject to regulatory scrutiny and a loss of confidence by stakeholders, which could harm our business, financial condition and results of operations and adversely affect the market price of our securities.

We may face litigation and other risks as a result of the material weaknesses in our internal control over financial reporting and the restatement of our financial statements.

The Company, in consultation with the Audit Committee and Company's management, determined that it was appropriate to restate our previously filed financial statements for the period ended June 30, 2021. As part of the restatement, we identified a material weakness in our internal control over financial reporting.

As a result of such material weakness and such restatement, we face potential for litigation or other disputes which may include, among others, claims invoking the federal and state securities laws, contractual claims or other claims arising from the restatement and material weaknesses in our internal control over financial reporting and the preparation of our financial statements. We can provide no assurance that additional litigation or dispute will not arise in the future. Any such litigation or dispute, whether successful or not, could have a material adverse effect on our business, results of operations and financial condition.

Instability caused by the closure of Silicon Valley Bank ("SVB") and an inability to access its cash, cash equivalents and marketable securities may result in a material adverse effect on the Company.

On March 10, 2023, the Company became aware that SVB was closed by the California Department of Financial Protection and Innovation, which appointed the Federal Deposit Insurance Corporation (“FDIC”) as receiver. As of March 10, 2023, the Company’s cash is held on deposit with SVB. The cash represents approximately 15% of the Company’s current cash, cash equivalents and marketable securities. The Company’s cash equivalents and marketable securities are held in securities accounts with an affiliate of SVB. The Company moved expeditiously to diversify its banking relationships, but instability in the banking system could have an effect on other banking institutions to which the Company has transferred funds. If the Company is unable to access its capital in the short term for any reason, there will be material adverse impacts on its business operations as the Company will be unable to fund working capital, its payment obligations or other cash requirements. In this event, if it is unable to quickly access additional capital, the Company may be required to scale back its business operations to manage its cash flow needs. Any reduction in the Company’s business operations is likely to affect the Company’s ability to meet its production deadlines for the Astra Spacecraft Engine™ and the launch targets for Rocket 4, and such delays could expose the Company to late fees, interest, penalties, fines or termination rights to its customers, suppliers, regulators and employees. SVB has also issued letters of credit related to security deposits for the Company’s Skyhawk and Sunnyvale facilities, which could result in events of default under the Company’s lease agreements if the landlords require the Company to replace the letters of credit and the Company is unable to timely do so.

We are subject to environmental regulation and may incur substantial costs or have operational disruptions.

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 which could result in operational disruptions. 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 or have operational disruptions to comply with such current or future laws and regulations, the violation of which could lead to substantial fines, penalties and operational costs.

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. We may also have to suspend operations until we have remediated and the investigation is closed. 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 its operations, operating costs, or competitive position.

A failure of our information technology systems, physical or electronic security protections, or an interruption in their operation due to internal or external factors including cyber-attacks or insider threats, could have a material adverse effect on our business, financial condition or results of operations.

Our operations are dependent on our ability to protect our employees, business systems, manufacturing capabilities, information systems, computer equipment and information databases from systems failures or malicious acts. We rely on both internal information technology systems, physical controls and policies, and certain external services and service providers to manage the day-to-day operation of our business, operate elements of our manufacturing facilities, manage relationships with our employees, customers and suppliers, fulfill customer orders and maintain our financial and accounting records. In addition, many of our systems are required to comply with higher standards applicable to systems that hold controlled technology or data. Failure of any one or more than one of our systems could be caused by internal or external events, such as incursions by intruders or hackers, physical intrusion or act, insider threats, computer viruses, cyber-attacks, failures in hardware or software, or power or telecommunication fluctuations or failures. The failure of our information technology systems to perform as anticipated for any reason or any significant breach of security could disrupt our business and result in numerous adverse consequences, including reduced effectiveness and efficiency of operations, increased costs or loss of important information or capabilities, any of which could have a material adverse effect on our business, financial condition or results of operations. The unauthorized access to or theft of controlled technology may have adverse legal and regulatory consequences to us and our business. We have technology and information security processes, security and threat assessment plans and safeguards and periodic external service and service provider reviews in place to mitigate our risk to these vulnerabilities. However, these measures may not be adequate to ensure that our operations will not be disrupted or our financial impact minimalized, should such an event occur.

The ongoing military action by Russia in Ukraine could have negative impact on the global economy which could materially adversely affect our business, operations, operating results and financial condition.

On February 24, 2022, Russian forces launched significant military action against Ukraine, and sustained conflict and disruption in the region is possible. The impact to Ukraine as well as actions taken by other countries, including new and stricter sanctions imposed by Canada, the United Kingdom, the European Union, the U.S. and other countries and companies and organizations against officials,

individuals, regions, and industries in Russia and Ukraine, and actions taken by Russia in response to such sanctions, and each country's potential response to such sanctions, tensions, and military actions could continue to adversely affect the global economy and financial markets and thus could affect our business, operations, operating results and financial condition as well as the price of our common stock. The extent and duration of the military action, sanctions and resulting market disruptions are impossible to predict, but could be substantial. Any such disruptions caused by Russian military action or resulting sanctions may magnify the impact of other risks described in this Annual Report on Form 10-K, including impacting our ability to provide timely Launch Services to our customers or delaying our customers' plans to use our services.

Certain future operational facilities will require significant expenditures in capital improvements and operating expenses to develop and foster basic levels of service required by our launch and space services, and the ongoing need to maintain existing operational facilities requires us to expend capital.

We operate out of our headquarters in Alameda, California, which consists of approximately 179,070 square feet leased from the City of Alameda. The campus includes two primary buildings. This includes the Skyhawk Development and Production Facility, with a fully built out machine shop, production facilities, and offices for administrative responsibilities as well as research and development, and the Orion Engine Testing Facility for rocket engine testing, research, and development that was originally constructed by the U.S. Navy for jet engine testing. As part of our growth strategy, we anticipate finishing out additional space in the Skyhawk Development and Production Facility to support the Launch Services offerings, as well as the build out of facilities for our space services offerings. We entered into a long-term lease for the Skyhawk Development and Production Facility that commenced on January 7, 2023 and will continue for a term for approximately five years.

The building out of our Alameda campus and our Sunnyvale facility and the construction of additional launch sites 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 Launch Services. As our Alameda campus 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. 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.

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

We are dependent on various third-party contractors and suppliers to develop and provide certain of our components of our launch vehicles and Space Products and to provide critical services to our business operations. Should we experience complications with any of these components, which are critical to the operation of our launch vehicle or Space Products, we may need to delay our manufacturing activities or delay or cancel scheduled launches. We face the risk that any of our contractors and suppliers may not fulfill their contracts and deliver their products or services on a timely basis, or at all. We have in the past experienced, and may in the future experience, operational complications with our contractors and suppliers. The ability of our contractors and suppliers to effectively satisfy our requirements could also be impacted by such contractors' and suppliers' financial difficulty or damage to their operations caused by fire, terrorist attack, natural disaster or other events or our contractors' and suppliers' staffing challenges. The failure of any contractors and suppliers to perform to our expectations could result in shortages of certain manufacturing or operational components for our spacecraft or delays in spaceflights or the provision of critical services to us, all of which could harm our business. Our reliance on contractors and suppliers and inability to fully control any operational difficulties with our third-party contractors and suppliers, including their inability to timely provide us products and services necessary to our business operations, 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 and we may use these proceeds from future financing transactions in ways with which you may not agree.

Since our inception, we have financed our operations and capital expenditures primarily through raising venture equity, public and private financing. 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. 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, could have pre-payment penalties and could reduce our operational flexibility or profitability. We may be required to delay, limit, reduce or terminate our development activities or future commercialization efforts. If we are unable to generate such additional funding, or if we are unable to do so on favorable terms, we may not be able to meet our liquidity needs and ultimately generate positive cash flows on our anticipated timeline or at all. We would anticipate using any proceeds from such financing transactions for general corporate purposes; however, we would have considerable discretion in the application of any future proceeds. Our stockholders will not have the opportunity, as part of their investment decision, to assess whether the proceeds we may receive from financing transactions in the future are being used by us in a manner agreeable to them. Our stockholders must

rely on management's judgment regarding the application of any such proceeds. The proceeds may be used for corporate purposes that do not immediately improve our profitability or increase the price of our stock.

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 launch 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, conducting commercial space launches 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, NASA, and FCC. 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. Delays in FAA action allowing us to conduct commercial space launches could adversely affect our ability to operate our business and our financial results. For example, the FAA has recently concluded its mishap investigation into our LV0010 flight.

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. 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.

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. The timing of our launches depends on our ability to secure regulatory licenses from the FAA and the FCC, and no company has yet conducted licensed launches at the annual rate we are targeting.

We aim to mass-produce the world's first daily space delivery system. A component of our near-term strategy involves increasing our launch cadence by accelerating our development and production efforts and adding additional launch sites. Our ability to achieve this increased launch cadence within the timeframe in which we hope to do so will depend on our ability to secure the necessary regulatory licenses from the FAA, the FCC and other regulatory authorities. To our knowledge, the applicable regulatory authorities to date have not granted such licenses to a company endeavoring to launch rockets with such frequency, and as a result our business is dependent upon a regulatory framework that is untested and unprecedented. Our failure to obtain the licenses necessary to support our anticipated launch cadence, or any delays or hurdles that present in our interactions with the FAA, the FCC or other regulatory authorities, could impact our ability to grow our business, could delay our ability to execute on our existing and future customer contracts and could adversely affect our business and results of operations.

We are subject to stringent U.S. export and import control laws and regulations.

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 EAR, the ITAR, and economic sanctions administered by the Treasury Department's OFAC. 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. We have had inadvertent disclosures of certain of our products or components which are subject to the requirements of these U.S. import and export control laws while no such regulatory authority has yet determined that any such inadvertent disclosure has violated these U.S. import and export control laws, we could be found to be in violation of these laws and regulations. Such a violation, if determined, could result in civil and criminal, monetary and non-monetary penalties, the loss of export or import privileges, debarment and reputational harm. If we are unable to maintain adequate controls related to the disclosure of information subject to U.S. import and export control laws and regulations, we may have future incidents that could result in violations of these laws and regulations.

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.

Under the “Exon-Florio Amendment” to the U.S. Defense Production Act of 1950, as amended (the “DPA”), the U.S. President has the power to disrupt or block certain foreign investments in U.S. businesses if he determines that such a transaction threatens U.S. national security. The Committee on Foreign Investment in the United States (“CFIUS”) has been delegated the authority to conduct national security reviews of certain foreign investments. CFIUS may impose mitigation conditions to grant clearance of a transaction.

The Foreign Investment Risk Review Modernization Act (“FIRRMA”), enacted in 2018, amended the DPA to, among other things, expands CFIUS’s jurisdiction beyond acquisitions of control of U.S. businesses. Under FIRRMA, CFIUS also has jurisdiction over certain foreign non-controlling investments in U.S. businesses that have involvement with critical technology or critical infrastructure, or that collect and maintain sensitive personal data of U.S. citizens (“TID U.S. Businesses”), if the foreign investor receives specified triggering rights in connection with its investment. We are a TID U.S. Business because we develop and design technologies that would be considered critical technologies. Certain foreign investments in TID U.S. Businesses are subject to mandatory filing with CFIUS. These restrictions on the ability of foreign persons to invest in us could limit our ability to engage in strategic transactions that could benefit our stockholders, including a change of control, and could also affect the price that an investor may be willing to pay for our common stock.

Natural disasters, unusual weather conditions, epidemic outbreaks, global health crises, terrorist acts 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 outbreaks, terrorist attacks 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, financial condition and results of operations. Severe weather, such as rainfall, snowfall or extreme temperatures, may impact the ability of our Launch Services to be carried out as planned, resulting in additional expense to reschedule such service, thereby reducing our sales and profitability. Terrorist attacks, actual or threatened acts of war or the escalation of current hostilities, 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. These events also could cause or act to prolong an economic recession in the United States or abroad. These events also could impact one or more of our suppliers or contractors or result in the closure of any of their facilities or our facilities, which would make it difficult to continue our commercial launch activities as planned or thereafter increase our launch cadence. These events may also delay our customers’ plans to launch their payloads. 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 launch operations.

Our prospects and operations may be adversely affected by changes in consumer preferences and economic conditions that affect demand for launch or space services.

Because our offerings are currently concentrated on commercial launch and space services, 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 customers may choose not to expend the amounts that we anticipate based on our expectations with respect to the addressable market for launch and space services. 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 customer or governmental demand for LEO launch vehicles and satellites, which could have a material adverse effect on our business, financial condition and results of operations.

We may in the future invest significant resources in developing new service offerings and exploring the application of our proprietary technologies for other uses and those opportunities may never materialize.

While our primary focus for the foreseeable future will be on commencing our commercial launch activities, increasing our launch cadence and increasing the payload capacity of our rockets, we may also invest significant resources in developing new technologies, services, products and offerings including space services offerings. However, we may not realize the expected benefits of these

investments. These anticipated technologies are unproven and these products or technologies may never materialize or be commercialized in a way that would allow us to generate ancillary revenue streams. Relatedly, if such technologies become viable offerings in the future, we may be subject to competition from our competitors within the commercial launch and satellite industries, 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. 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 customer 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.

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 for our Launch Services, we aim to identify launch sites outside of the United States. As we expand internationally, 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 in foreign jurisdictions to the extent required;
- unexpected changes in tariffs, trade barriers and regulatory requirements, including through the ITAR, Export Administration Regulations (“EAR”), and Office of Foreign Assets Control (“OFAC”);
- 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 space 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 the U.S. Foreign Corrupt Practices Act, OFAC regulations and U.S. anti-money laundering regulations, as well as exposure of our foreign operations to liability under these regulatory regimes.

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. We are vulnerable to damage or interruption from earthquakes, hurricanes, floods, fires, cyber security attacks including ransomware incidents, terrorist attacks, actual or threatened acts of war, 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. The facilities also could be subject to break-ins, computer viruses, sabotage, intentional acts of vandalism and other misconduct. Any security breach, including personal data breaches, or incident, including cybersecurity incidents, that we experience could result in unauthorized access to, misuse of or unauthorized acquisition of our or our customers’ data, the loss, corruption or alteration of this data, interruptions in our operations or damage to our computer hardware or systems or those of our customers. Moreover, negative publicity arising from these types of disruptions could damage our reputation. We may not carry sufficient business interruption insurance to compensate us for losses, exclusions may apply, that may occur as a result of any events that cause interruptions in our service. Significant unavailability of our services due to attacks could cause users to cease using our services and materially and adversely affect our business, prospects, financial condition and results of operations.

We may experience difficulties in integrating the operations of acquired companies into our business and in realizing the expected benefits of these acquisitions.

From time to time, we may enter into a transaction to acquire another company as we did when we acquired the Apollo Fusion business. Acquisitions involve numerous risks, any of which could harm our business and negatively affect our financial condition and results of operations. The success of our acquisitions will depend in part on our ability to realize the anticipated business opportunities from combining their and our operations in an efficient and effective manner. These integration processes could take longer than anticipated and could result in the loss of key employees, the disruption of each company's ongoing businesses, tax costs or inefficiencies, or inconsistencies in standards, controls, information technology systems, procedures and policies, any of which could adversely affect our ability to maintain relationships with customers, employees or other third parties, or our ability to achieve the anticipated benefits of the acquisitions, and could harm our financial performance. If we are unable to successfully or timely integrate the operations of an acquired company with our business, we may incur unanticipated liabilities and be unable to realize the revenue growth, synergies and other anticipated benefits resulting from the acquisitions, or fully offset the costs of the acquisition, and our business, results of operations and financial condition could be materially and adversely affected.

Any acquisitions, partnerships or joint ventures that we enter into could disrupt our 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.

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.

Moreover, our operations are based in and around our Alameda, California campus, where our machine shop, production facilities, administrative offices, and research and development functions are located. Our Alameda, California campus also houses our facility used for rocket engine testing, research, and development. In addition, we also operate facilities in Mountain View, California and Sunnyvale, California, launch facilities in Kodiak, Alaska and Cape Canaveral, Florida. Any significant interruption due to any of the above hazards and operational to the manufacturing or operation of our 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 launch pad could result in manufacturing delays or the delay or cancellation of our planned commercial launches and, as a result, could have a material adverse effect on our business, financial condition and results of operations.

In addition, our insurance coverage may be inadequate to cover our liabilities related to such hazards or operational risks. 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.

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 launch 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. 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 customers, 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.

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.

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.

The majority of our customer contracts may be terminated by the customer at any time for convenience as well as other provisions permitting the customer to discontinue contract performance for cause (for example, if we do not achieve certain milestones on a timely basis) which if terminated could adversely impact our results of operations.

We are subject to a variety of contract-related risks. Some of our existing customer contracts, including those with the government, include provisions allowing the customers to terminate their contracts for convenience, with a termination penalty for at least the amounts already paid, or to terminate the contracts for cause (for example, if we do not achieve certain milestones on a timely basis). Customers that terminate such contracts may also be entitled to a pro rata refund of the amount of the customer's deposit. In addition, some of our customers are pre-revenue startups or otherwise not fully established companies, which exposes us to a degree of counterparty credit risk.

Part of our strategy is to market our Launch Services to key government customers. We expect we may derive limited revenue from contracts with National Aeronautics and Space Administration ("NASA") and the U.S. government 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 U.S. government, including the Federal Acquisition Regulation ("FAR"). These U.S. 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, in which case 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.

Our government contracts may be 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 any customer were to unexpectedly terminate, cancel, or decline to exercise an option to renew with respect to one or more of our significant contracts for any reason, including as a result of our failure to meet certain performance milestones, or if a government customer were to suspend or debar us from doing business with such government, our business, financial condition, and results of operations would be materially harmed.

Failure to comply with 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, 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 federal, state and foreign laws and regulations govern the collection, use, retention, sharing and security of this information. Laws and regulations relating to privacy, data protection and consumer protection are evolving and subject to potentially differing interpretations. These requirements may not be harmonized, may be interpreted and applied in a manner that is inconsistent from one jurisdiction to another or may conflict with other rules or our practices. As a result, 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 be proposed regarding privacy, data protection and information security in many jurisdictions. We cannot yet determine the impact such future laws, regulations and standards may have on our business. Complying with these evolving obligations is costly.

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, but not limited to:

- the number of launch missions or Space Products delivery we schedule for a period, the price at which we sell them and our ability to schedule additional launch missions for repeat customers;
- unexpected weather patterns, maintenance issues, natural disasters or other events that force us to cancel or reschedule launches;
- the cost of raw materials or supplied components critical for the manufacture and operation of our rockets and launch equipment;
- 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; 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 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.

We have been focused on developing launch capabilities and services since 2017 and space products since 2021. This limited operating history makes it difficult to evaluate Astra's future prospects and the risks and challenges it may encounter.

Because Astra has limited historical financial data and operates in a rapidly evolving market, any predictions about its future revenue and expenses may not be as accurate as they would be if it had a longer operating history or operated in a more developed market. Astra has encountered in the past, and will encounter in the future, risks and uncertainties frequently experienced by growing companies with limited operating histories in rapidly changing industries. If Astra's assumptions regarding these risks and uncertainties, which it uses to plan and operate its business, are incorrect or change, or if it does not address these risks successfully, its results of operations could differ materially from its expectations and its business, financial condition and results of operations could be adversely affected.

The markets for launch services and space products have not been well established as the commercialization of space is a relatively new development and is rapidly evolving. Our estimates for the total addressable markets for launch and space services are based on a number of internal and third-party estimates, including our contracted revenue and sales pipeline, assumed prices at which we can offer services, assumed frequency of service, our ability to leverage our current manufacturing and operational processes and general market conditions. As a result, our estimates of the annual total addressable markets for in-space infrastructure services, as well as the expected growth rate for the total addressable market for that experience, may prove to be incorrect.

The increase in non-U.S. sales could lead to incidents in violation of U.S. and international anti-corruption laws.

Our non-U.S. sales are subject to both U.S. and non-U.S. governmental regulations and procurement policies and practices, including regulations relating to import-export control, tariffs, investment, exchange controls, anti-corruption laws, and repatriation of earnings. Non-U.S. sales are also subject to varying currency, political and economic risks. The violation of any regulation could adversely affect our plans for international expansion.

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, supplier, customer, or relationships with third-parties, including intellectual property, commercial, product liability, employment, class action, whistleblower and other litigation and claims, and governmental and other regulatory investigations and proceedings. Such matters can be time-consuming, divert management's attention and resources from the operation of our business, and 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. We are currently a defendant in certain actions, alleging violations of federal securities laws. Please see Item 3: Legal Proceedings for more information about these actions. We can provide no assurance that additional litigation or dispute will not arise in the future. While we believe these actions are not meritorious, these actions (and any future litigation or dispute), whether successful or not, could have a material adverse effect on our business, results of operations and financial condition. We may also choose to settle such actions if we believe that doing so is in the best interests of the company, and the amount of such settlement could also have a material adverse effect on our business, results of operations and financial condition. Further, while we have insurance to cover the defense of the existing actions, the amount of our retention is \$20 million and we will need to incur costs in that amount before we will be eligible for assistance from our insurer.

Astra needs to meet multiple security requirements in order to meet ongoing requirements for participation in government contracts. The inability to meet regulatory requirements or security standards may mean a failure to win contracts, receive security clearance certifications, and loss of current and future business.

U.S. government contracts generally are subject to FAR, agency-specific regulations that supplement FAR, such as the Department of Defense's Federal Acquisition Regulations, and other applicable laws, security requirements, and regulations. These regulations impose a broad range of requirements, many of which are unique to U.S. government contracting, including various procurement, import and export, security, contract pricing and cost, contract termination and adjustments, mandatory disclosure, and audit requirements. Our failure to comply with these regulations, agency or government entity processes or opinions, and requirements could result in an inability

to acquire government contracts, reductions of the value of contracts, contract modifications or termination, inability to bill and collect receivables from customers, and the assessment of penalties and fines that could lead to suspension or debarment from U.S. government contracting or subcontracting.

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

We are subject to complex and evolving U.S. tax laws and regulations, which might in the future make changes to corporate income tax rates, the treatment of foreign earnings, if any, or other income tax laws that could affect our future income tax provision and reduce our earnings while increasing the complexity, burden and cost of tax compliance.

Our determination of our tax liability is subject to review by applicable tax authorities. Any adverse outcome of such a review could harm our results of operations and financial condition. The determination of our tax liabilities requires significant judgment, and, in the ordinary course of business, there are many transactions and calculations where the ultimate tax determination is complex and uncertain. In addition, our future effective tax rates could be favorably or unfavorably affected by changes in tax rates, changes in the valuation of our deferred tax assets or liabilities, the effectiveness of our tax planning strategies or changes in tax laws or their interpretation. Such changes could have an adverse effect on our financial condition.

Although we believe our estimates are reasonable, as a result of these and other factors, the ultimate amount of our tax obligations owed might differ from the amounts recorded in our consolidated financial statements and any such difference could harm our results of operations in future periods in which we change our estimates of our tax obligations or in which the ultimate tax outcome is determined.

Beginning in 2022, the 2017 Tax Cuts and Jobs Act amended Section 174 to eliminate the option to deduct research and experimentation (“R&E”) expenditures and software development costs (collectively, “R&E” expenditures) currently and require taxpayers to capitalize and amortize them over five years for U.S. incurred expenditure (15 years for expenditures attributable R&E activity performed outside the United States). While there is the potential for legislation that would repeal or defer the capitalization requirement to later years, we have followed the current legislation to capitalize R&E expenditure for our tax related reporting aspects of our financial statements. The Company generated a deferred tax asset for capitalized R&E expenditures for the year ended December 31, 2022, which is fully offset with a valuation allowance.

Although we believe our estimates are reasonable, as a result of these and other factors, the ultimate amount of our tax obligations owed might differ from the amounts recorded in our consolidated financial statements and any such difference could harm our results of operations in future periods in which we change our estimates of our tax obligations or in which the ultimate tax outcome is determined.

Our ability to use our net operating losses to offset future taxable income could be subject to certain limitations.

As of December 31, 2022, we have net operating loss carryforwards (“NOLs”) available to reduce future taxable income. However, under Sections 382 and 383 of the United States Internal Revenue Code of 1986, as amended (the “Code”), a corporation that undergoes an “ownership change” (as defined by the Code) may be subject to limitations on its ability to utilize its pre-change NOLs and other tax attributes such as research tax credits to offset future taxable income. If it is determined that we have in the past experienced an ownership change, or if we undergo one or more ownership changes as a result of future transactions in our stock, then our ability to utilize NOLs and other pre-change tax attributes could be limited by Sections 382 and 383 of the Code, and similar state provisions. Future changes in our stock ownership, many of which are outside of our control, could result in an ownership change under Section 382 or 383 of the Code. Furthermore, our ability to utilize NOLs of any companies that we acquire in the future may be subject to limitations. For these reasons, we might not be able to utilize our NOLs, even if we maintain profitability.

The dual class structure of our common stock has the effect of concentrating voting power with our Chief Executive Officer and Chief Technology Officer, which limits an investor’s ability to influence the outcome of important transactions, including a change in control.

Shares of our Class B common stock have 10 votes per share, while shares of our Class A common stock have one vote per share. Our Chief Executive Officer and Chief Technology Officer (the “Astra Founders”), collectively, hold all of the issued and outstanding shares of our Class B common stock. Accordingly, the Astra Founders hold approximately seventy-three percent (73%) of the voting power of our capital stock and are able to control matters submitted to our stockholders for approval, including the election of directors, amendments of our organizational documents and any merger, consolidation, sale of all or substantially all of our assets or other major corporate transactions. The Astra Founders may have interests that differ from other investors and may vote in a way with which other investors disagree and which may be adverse to their interests. This concentrated control may have the effect of delaying, preventing or deterring a change in control of the Company, could deprive our stockholders of an opportunity to receive a premium for their capital stock as part of a sale of the Company, and might ultimately affect the market price of shares of our Class A common stock.

We cannot predict the impact our dual class structure may have on the stock price of our Class A common stock.

We cannot predict whether our dual class structure will result in a lower or more volatile market price of our Class A common stock or in adverse publicity or other adverse consequences. For example, certain index providers have announced restrictions on including companies with multiple-class share structures in certain of their indexes. Under these policies, our dual class capital structure would

make us ineligible for inclusion in certain indices, and as a result, mutual funds, exchange-traded funds and other investment vehicles that attempt to passively track those indices will not be investing in our stock. It is unclear what effect, if any, these policies will have on the valuations of publicly traded companies excluded from such indices, but it is possible that they may depress valuations, as compared to similar companies that are included. As a result, the market price of shares of our Class A common stock could be adversely affected.

Our stock price has been, and likely will continue to be, volatile.

The market price of our Class A common stock has in the past been, and is likely to continue in the future to be, volatile. During the fiscal year ended December 31, 2022, the NASDAQ closing price of one share of our Class A common stock reached a high of \$6.75 and a low of \$0.41. As of March 24, 2023, the closing share price of a share of our Class A common stock was \$0.42. The volatility depends upon many factors, some of which are beyond our control, including:

- announcements regarding the results of expansion or development efforts by us or our competitors;
- announcements regarding the acquisition of businesses or companies by us or our competitors;
- technological innovations or new products and services developed by us or our competitors;
- changes in foreign or domestic regulations;
- issuance of new or changed securities analysts' reports and/or recommendations applicable to us or our competitors;
- additions or departure of our key personnel;
- instability in the banking industry and the effect on us of the closure of Silicon Valley Bank;
- actual or anticipated fluctuations in our quarterly financial and operating results and degree of trading liquidity in our common stock; and
- political or economic uncertainties including the current military action between Russian and the Ukraine.

One or more of these factors could cause a decline in the price of our Class A common stock. In addition, stock markets generally have experienced significant price and volume volatility. This volatility has had a substantial effect on the market prices of securities of many public companies for reasons frequently unrelated or disproportionate to the operating performance of the specific companies.

Delaware law and provisions in our certificate of incorporation and bylaws could make a takeover proposal more difficult.

Our organizational documents are governed by Delaware law. Certain provisions of Delaware law and of our certificate of incorporation and bylaws could discourage, delay, defer or prevent a merger, tender offer, proxy contest or other change of control transaction that a stockholder might consider in its best interest, including those attempts that might result in a premium over the market price for the shares of Class A common stock held by our stockholders. These provisions provide for, among other things:

- the ability of our board of directors to issue one or more series of preferred stock;
- stockholder action by written consent only until the first time when the Astra Founders cease to beneficially own a majority of the voting power of our capital stock;
- certain limitations on convening special stockholder meetings;
- advance notice for nominations of directors by stockholders and for stockholders to include matters to be considered at our annual meetings;
- amendment of certain provisions of the organizational documents only by the affirmative vote of (i) a majority of the voting power of our capital stock so long as the Astra Founders beneficially own shares representing a majority of the voting power of our capital stock and (ii) at least two-thirds of the voting power of the capital stock from and after the time that the Astra Founders cease to beneficially own shares representing a majority of the voting power of our voting stock; and
- a dual-class common stock structure with 10 votes per share of our Class B common stock, the result of which is that the Astra Founders have the ability to control the outcome of matters requiring stockholder approval, even though the Astra Founders own less than a majority of the outstanding shares of our capital stock.

These anti-takeover provisions as well as certain provisions of Delaware law could make it more difficult for a third party to acquire the Company, even if the third party's offer may be considered beneficial by many of our stockholders. As a result, our stockholders may be limited in their ability to obtain a premium for their shares. If prospective takeovers are not consummated for any reason, we may experience negative reactions from the financial markets, including negative impacts on the price of our common stock. These provisions could also discourage proxy contests and make it more difficult for our stockholders to elect directors of their choosing and to cause the Company to take other corporate actions that our stockholders desire.

ITEM 1B. UNRESOLVED STAFF COMMENTS.

None.

ITEM 2. PROPERTIES.

We operate out of our 179,070 square foot headquarters and have significant business operations in Alameda, California. We entered a long-term lease for our Alameda facility in December 2022, which commenced on January 7, 2023, and expires in approximately five years. Recent legislation passed in California exempting Alameda Point from the Surplus Lands Act will allow The City of Alameda, as Landlord, and Astra to evaluate the opportunity for a longer-term lease beyond this initial term.

In late July 2022, the Company entered into a lease agreement for approximately 60,000 square feet of research, development and manufacturing facility in Sunnyvale, California having a lease term of 36 months. This facility enables expansion of our Space Products production and development capacity, as well as thermal testing capacity. We commenced occupancy of the Sunnyvale facility in February 2023, and, while the timing is dependent on a number of factors outside of our control, we currently expect to commence operations in the Sunnyvale facility by the end of the first half of 2023.

We lease general office space in Mountain View, California and a testing facility in Atwater, California. Astra leases two units in Mountain View: 1045 and 1049 Linda Vista Ave for a cumulative total of 6,150 square feet. Astra is currently on month-to-month terms for its tenancy at 1049 Linda Vista and expects to vacate entirely by the end of the first quarter of 2023; and the lease for 1045 Linda Vista is due to expire in February 2024. We recently renewed and extended our leased premises for our testing facility in Atwater from two acres to 32 acres to enable a higher level of public safety and increased testing cadence. The renewal extends the term through July 2027. We believe the location of our facilities provides us with unique access to the technology and manufacturing expertise found in the San Francisco Bay Area.

Our current facilities are adequate for our present operating needs.

Currently, we do not own any real estate.

ITEM 3. LEGAL PROCEEDINGS.

Discussion of legal matters is incorporated by reference from Part II, Item 8. Note 11 — Commitments and Contingencies, included elsewhere in this Annual Report, and should be considered an integral part of this Part I, Item 3. “Legal Proceedings.”

ITEM 4. MINE SAFETY DISCLOSURES.

None.

PART II

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

Market Information

Our Class A common stock is traded on the NASDAQ Global Select Market under the symbols “ASTR”. Our Class B common stock is not listed on any stock exchange nor traded on any public market.

Holders of Record

As of March 24, 2023, there were 98 stockholders of record of our Class A common stock. Because many of our shares of Class A common stock are held by brokers and other institutions on behalf of stockholders, we are unable to estimate the total number of stockholders represented by these record holders. As of March 24, 2023, there were 2 stockholders of record of our Class B common stock.

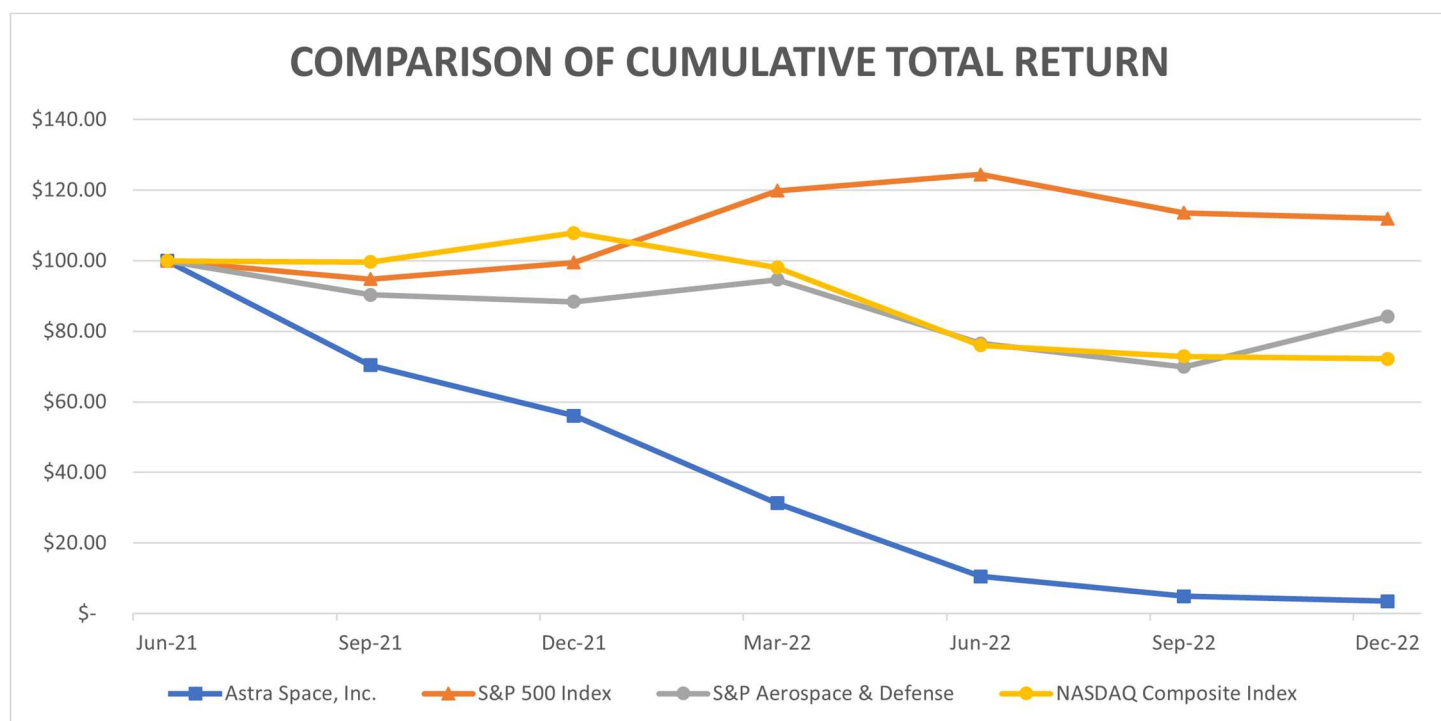
Dividends

We have never declared or paid any dividends on our common stock. We currently intend to retain all available funds and any future earnings for the operation and expansion of our business. Accordingly, we do not anticipate declaring or paying dividends in the foreseeable future. The payment of any future dividends will be at the discretion of our Board of Directors and will depend on our results of operations, capital requirements, financial condition, prospects, contractual arrangements, any limitations on payment of dividends present in any debt agreements and other factors that our Board of Directors may deem relevant.

Stock Performance Graph

This performance graph shall not be deemed “soliciting material” or to be “filed” with the Securities and Exchange Commission, or the SEC, for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, or 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 of 1933, as amended, or the Securities Act.

The following graph compares (i) the cumulative total stockholder return on our common stock from June 30, 2021 (the effective date of the Business Combination) through December 31, 2022 with (ii) the cumulative total return of the S&P 500 Index, the NASDAQ Composite Index, and the S&P Aerospace and Defense Index over the same period, assuming the investment of \$100 in our common stock and in both of the other indices on June 30, 2021 and the reinvestment of dividends. The graph uses the closing market price of our Class A common stock on June 30, 2021 of \$12.35 per share. As discussed above, we have never declared or paid a cash dividend on our common stock and do not anticipate declaring or paying a cash dividend in the foreseeable future.



Recent Sales of Unregistered Securities

We did not sell any unregistered equity securities that were not otherwise disclosed on our Quarterly Reports on Form 10-Q or our Current Reports on Form 8-K filed during the year ended December 31, 2022.

Purchases of Equity Securities by the Issuer and Affiliated Purchasers

During the three months ended December 31, 2022, there were no repurchases of our Class A common stock made by us.

ITEM 6. RESERVED.

ITEM 7. MANAGEMENT’S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS.

This Management’s Discussion and Analysis of Financial Condition and Results of Operations should be read in conjunction with our consolidated financial statements and notes thereto, which appear elsewhere in this Annual Report on Form 10-K (the “Annual Report”). This discussion may contain forward-looking statements based upon current expectations that involve risks and uncertainties. Our actual results may differ materially from those anticipated in these forward-looking statements as a result of various factors, including those set forth in Item 1A. “Risk Factors” or in other parts of this Annual Report on Form 10-K. Unless the context otherwise requires, all references in this section to “the Company” “Astra,” “us,” “our” or “we” refer to Astra Space, Inc. (n/k/a Astra Space Operations, Inc.) prior to the Business Combination, and to Astra Space, Inc. (f/k/a Holicity, Inc.) following the consummation of the Business Combination on June 30, 2021.

A discussion regarding our financial condition and results of operations for the years ended December 31, 2022 and 2021 is presented below.

Management’s Discussions and Analysis (“MD&A”) is divided into the following sections:

- Overview
- Key Factors Affecting our Results and Prospects
- Key Components of Our Results of Operations
- Critical Accounting Estimates
- Results of Operations
- Liquidity and Capital Resources

Overview

Our mission is to launch a new generation of Launch Services and Space Products to Improve Life on Earth from Space[®]. These services and products are enabled by new constellations of small satellites in Low Earth Orbit (“LEO”), which have rapidly become smaller, cheaper, and many times more numerous than legacy satellites. Launch vehicles, however, have not evolved in the same way—most rockets remain focused on serving legacy satellites and human spaceflight missions and we aim to provide the world’s first mass-produced orbital launch system. Our primary focus remains the growth and development of our Launch Services and Space Products offerings to support our overall mission to Improve Life on Earth from Space[®]. We manage our business and report our financial results in two segments: Launch Services and Space Products.

Launch Services

During the third quarter of 2022, we decided to focus on the development and production of the next version of our launch system, which we unveiled at our inaugural Spacetech Day on May 12, 2022. As a result, we discontinued the production of launch vehicles supported by our previous launch system and did not conduct any further commercial launches in 2022. As part of the development cycle for our new launch system, we expect to conduct a test launch of our new launch system in the later part of 2023, and, at this time, we do not expect that we will be able to conduct paid commercial launches until 2024 using this new launch system. Our ability to conduct paid commercial launches in 2024 will depend in part upon the success of test launches.

Our new launch system is intended to support launch vehicles that will serve a market focused on populating mega constellations. We have designed this launch system to support more payload capacity, greater reliability, and a more frequent launch cadence, which we believe will allow us to offer our customers more dependable services. We have begun discussions with some customers for whom we agreed to launch payloads on our Rocket 3 series launch vehicles (aka Launch System 1) to shift those flights to our Rocket 4 series (aka Launch System 2).

Space Products

We have also been focusing on the growth of our Space Products business with 278 Astra Spacecraft Engine[™] committed unit orders to date (including new orders of 264 units since the acquisition of Apollo Fusion on July 1, 2021). The Astra Spacecraft Engine[™] is a propulsion engine that assists satellites in achieving and maintaining targeted orbits.

Segments

Our reportable segments changed during the year ended December 31, 2022. The segment reporting for prior periods was recast to conform to the current period presentation; however, there were no revenues or cost of revenues associated to these segments in the prior period.

We identify our reporting segments based on the organizational units used by management to monitor performance and make operating decisions. The Company previously had one operating, as well as one reportable, segment. Following the realignment of our management and internal reporting in the third quarter of 2022, the Company now has the following two operating and reportable

segments: (i) Launch Services and (ii) Space Products. The Company reclassified corresponding assets, including goodwill, and liabilities to the reporting units for all prior year periods.

Refer to Note 16 – Segment Information to our consolidated financial statements for more information regarding our segment reporting.

Key Factors Affecting Our Results and Prospects

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 competition from better known and well-capitalized companies, the risk of actual or perceived safety issues and their consequences for our reputation and the other factors discussed under Item 1A. “Risk Factors.” We believe the factors discussed below are key to our success.

Commencing and Expanding Commercial Operations

We commenced paid commercial Launch Services in 2022, with our launch on February 10, 2022, of launch vehicle LV0008. In July 2022, we decided to focus on the development and production of the next version of Launch System 2, which we unveiled at our inaugural Spacetech Day on May 12, 2022. As a result, in order to focus on the development of Launch System 2, we discontinued the production of launch vehicles supported by our previous launch system. When we refer to a “commercial launch,” we mean a launch conducted under an FAA commercial launch license.

We also commenced delivery of Space Products during the second quarter of 2022. We expect the volume of delivery of our Space Products would increase in the future as we continue to fulfill our obligations under existing Space Products contracts and enter into contracts with potential new customers. In late July 2022, we entered into a lease agreement for approximately 60,000 square feet of manufacturing facility in Sunnyvale, California having a lease term of 36 months. This new lease facility will enable expansion of our Space Products production and development capacity, as well as thermal testing capacity.

Lowering Manufacturing Costs and Increasing Payloads

We aim to be a cost-efficient dedicated orbital launch system provider. We plan to increase the maximum payload capacity of our launch vehicle to meet customer needs and demands through a process of iterative development and improvement. We have made significant investment in our manufacturing facility located in Alameda, California. We expect this investment will allow us to increase manufacturing and testing capacity, thereby lowering costs and improving quality and reliability. Refer to Item 1A. “Risk Factors” for factors that could affect our ability to realize benefits from the investment in our manufacturing facility.

Leveraging Core Technologies

We plan to develop, license or acquire core space technologies that we expect to commercialize and incorporate into our launch vehicles, Space Products and other infrastructure that we will use to deliver our product and service offerings. These core technologies include, among other things, electric propulsion and solar power. For example, we acquired propulsion technology through our merger with Apollo Fusion on July 1, 2021, which technology supports our Astra Spacecraft Engines™.

Space Services Offerings

As of December 31, 2022, we were in the preliminary stages of developing our space services offering but have since decided to put these development efforts on hold as we focus on our primary objectives of developing our new Launch System 2 and the production and delivery of our Astra Spacecraft Engines™. As a result, we do not expect to generate any revenue and are planning to reduce our investments in our space services offerings into 2023 or in the near future. We continue to explore opportunities to develop or partner in the development of our space services offering as it remains a significant part of our long-term business strategy. Once developed, we would expect our space services offering to include providing modular configurable satellite buses for customers, leveraging both in-house and partner-provided subsystem components and in-house design and integration services, as well as operational support of satellites on orbit, to turn-key provision of entire constellations, offering “concept to constellation” in months instead of years. Specifically, we would expect our space services to encompass all aspects of hosted satellite and constellation services, including hosting customer payloads onto our satellites, and delivering services, such as communication services. These services are expected to allow customers to focus on developing innovative payloads rather than having to design or develop complete satellite buses or satellites or constellations, which we will provide, along with ancillary services that are likely to include telemetry, tracking and control (“TT&C”), communications, processing, as well as software development and maintenance.

Impairment of long-lived assets, indefinite-lived intangible assets and goodwill

During the third quarter for the year ended December 31, 2022, the Company determined that impairment indicators were present based on the existence of substantial doubt about the Company’s ability to continue as a going concern, a sustained decrease in the Company’s share price and macroeconomic factors, as well as changes in the Company’s operations. As a result, we performed quantitative impairment testing and recorded a total impairment charge of \$135.2 million for the year ended December 31, 2022. The total impairment charge reflects a \$58.3 million charge in goodwill, \$2.1 million charge in indefinite-lived intangible assets and \$74.8 million in long-lived assets of Launch Services related to property, plant and equipment. For further information, refer to Note 1 – Description

of Business, Basis of Presentation and Significant Accounting Policies, Note 4 – Supplemental Financial Information, and Note 5 – Goodwill and Intangible Assets to our consolidated financial statements.

Key Components of Results of Operations

We are an early-stage company and our historical results may not be indicative of our future results for reasons that may be difficult to anticipate. Accordingly, the drivers of our future financial results, as well as the components of such results, may not be comparable to our historical or future results of operations.

Revenues

We commenced our first paid commercial launch in February 2022, followed by subsequent paid commercial launches in March 2022 and June 2022. These launches represented the start of our paid commercial launch operations. In August 2022, we discontinued the production of launch vehicles supported by our Launch System 1. Therefore, we did not conduct any further commercial launches in late 2022 as we shifted resources to the development of our Launch System 2. See “Overview” in this Item 7 for more information about our decision to stop producing launch vehicles supported by Launch System 1.

We also commenced delivery of Space Products to our customers during the year ended December 31, 2022.

As we are in the very early stages of developing our space services offering and have decided to put these development activities on hold for the near future, we do not expect to generate revenues by delivering space services to our customers at this time.

Cost of Revenues

Cost of revenues consist primarily of direct material, direct labor, manufacturing overhead, other personnel-related expenses, which include salaries, bonuses, benefits, stock-based compensation expense, and depreciation expense. Cost of revenues also includes inventory write-downs to reduce the carrying value of inventory related to Launch Services when the carrying value exceeds its estimated net realizable value. We anticipate recording write-downs to our inventory over the foreseeable future as we continue to ramp production of launch vehicles supported by our new launch system. We expect our cost of revenues to increase in future periods as we sell more Launch Services and Space Products. As we grow into our current capacity and execute on cost-reduction initiatives, we expect our gross margins to improve over time.

Operating Expenses

Research and Development Expense

Our R&D expenses consist primarily of internal and external expenses incurred in connection with our research activities and development programs. These expenses include, but are not limited to, development supplies, testing materials, personnel and personnel-related costs (including salaries, bonuses, benefits, and stock-based compensation expense), depreciation expense, amortization of intangible assets, overhead allocation (consisting of various support and facility costs), and consulting fees. R&D costs are expensed as incurred.

We allocate R&D costs by function rather than by project, as a significant majority of our historical R&D spending was related to the initial development and testing of our underlying technology, including preparation for multiple test launches.

A change in the outcome of any of these variables could delay the development of our launch systems and Space Products, which in turn could impact the timing of commercialization of our offerings.

As we are developing and building our Launch Services, we have expensed all research and development costs associated with developing and building our Launch Services offering. We expect that our research and development expenses will increase in the short-term as we invest in improving and further reducing the costs of our launch system.

R&D is and will continue to be an important part of our business as we invest in improving our existing products and services, as well as potentially in developing new products or services. We make choices on where to invest resources into R&D based on our view of the market and how it will evolve, and by identifying those opportunities for new or improved products and services where Astra is well positioned to be successful.

Currently, our Launch Services Business is investing in the R&D activities necessary to complete the design, build, and qualification of Launch System 2, which we expect will bring significantly more capability to the market as compared to the prior version of our Launch System.

Our Space Products Business is more focused on scaling up of our new production facility, though some R&D activities will continue to further improve the current product, develop and potentially introduce other versions of the Astra Spacecraft Engine[™], and potentially develop and introduce other Space Products to the marketplace.

We have historically invested some resources in R&D activities to support a future Space Services business, and we may do so again in the future.

Sales and Marketing Expense

Sales and marketing expenses consist of personnel and personnel-related expenses (including stock-based compensation expense) for our business development team as well as advertising and marketing expenses. We expect to increase our sales and marketing activities in order to grow our customer base and increase market share in the future.

General and Administrative Expense

General and administrative expenses consist primarily of personnel and personnel-related costs (including salaries, bonuses, benefits, and stock-based compensation expense) for personnel in executive, finance, accounting, corporate development and other administrative functions. General and administrative expenses also include legal fees, professional fees paid for accounting, auditing, consulting, tax, and investor relations services, insurance costs, and facility costs not otherwise included in research and development expenses and costs associated with compliance with the rules and regulations of the SEC and the stock exchange.

We manufacture and assemble nearly all of our products in house, and as a result relies on a number of supplier partnerships for components and raw materials for the launch system and spacecraft engine products. We obtain these components in accordance with internal quality and traceability policies to ensure that our products can meet rigorous reliability requirements. Our design team goes to great effort to ensure that our components and assemblies are designed with simple, short lead time and commodity-based supply chains whenever possible. We engage into long term supplier contracts for those components that are critical to function or have a limited supply base in order to protect our ability to scale production. Astra has two manufacturing facilities and two test facilities, totaling over 300,000 square feet where engineering and manufacturing are co-located with their respective products. Each facility is maintained under a long-term lease and is designed with scaled operations in mind. Please refer to Item 2. Properties section for more details. Our headquarters is located in Alameda, CA and is where we conduct rocket and launch vehicle assembly and test, as well as machining and metal forming operations for all products. In 2022, Astra began work on its second factory in Sunnyvale, CA for spacecraft components that will first be utilized to produce spacecraft engines in 2023. Additionally, we maintain two primary launch locations with the unique ability to expand and bring up new sites with little infrastructure requirement.

Income Tax (Benefit) Expense

Our income tax provision consists of an estimate for U.S. federal and state income taxes based on enacted rates, as adjusted for allowable credits, deductions, uncertain tax positions, changes in deferred tax assets and liabilities, and changes in the tax law. We maintain a valuation allowance against the full value of our U.S. and state net deferred tax assets because we believe the recoverability of the tax assets is not more likely than not.

Other Income (Expense), Net

Other income (expense), net primarily consists of income from government research and development contracts.

Critical Accounting Policies and Estimates

Our financial statements have been prepared in accordance with U.S. generally accepted accounting principles, or U.S. GAAP. Preparation of the financial statements requires Management to make judgments, estimates, and assumptions that affect the amounts reported in those financial statements and accompanying notes. We consider an accounting judgment, estimate or assumption to be critical when (1) the estimate or assumption is complex in nature or requires a high degree of judgment and (2) the use of different judgments, estimates and assumptions could have a material impact on our consolidated financial statements. Our significant accounting policies are described in Note 1 – Description of Business, Basis of Presentation and Significant Accounting Policies to the consolidated financial statements included elsewhere in this Annual Report. Our critical accounting estimates are described below.

Revenue Recognition

We generate revenues from Launch Services and from Space Products. Revenue for Launch Services or for Space Products is generally recognized at a point in time when the Company has transferred control of the promised services or products to the customer and recognize revenues at the amount of consideration we expect to receive. For Launch Services, this is the successful launch of the rocket and deployment of the payload. For Space Products, this is the delivery and acceptance of the manufactured space engines.

We evaluate an arrangement at inception to determine if it falls within the scope of the Accounting Standards Codification (“ASC”) Topic 606, *Revenue from Contracts with Customers* (“ASC 606”), or is considered in scope of other accounting guidance. We assess the nature of the goods and services promised in the contract and whether the promises are distinct. We consider all goods or services promised in the contract regardless of whether they are explicitly stated or are implied by customary business practices. A performance obligation is identified for each distinct promise to transfer to the customer a good or service (or bundle of goods or services). A distinct performance obligation is identified for each promise if it can benefit the customer on its own, or with resources readily available to the customer and if the promise is separately identifiable from other promises within the context of the contract. Historically our Launch Services and Space Products have been considered as single performance obligations as the promises for each product are complex, requiring a significant level of integration and are highly interrelated, and as such, are not considered separately identifiable within the context of the contract. When a contract involves multiple launches or products, the Company accounts for each launch or product as a

separate performance obligation, because the customer can benefit from each launch or product on its own or with other readily available resources and the launch or product is separately identifiable.

The transaction price will be defined as the amount of consideration in a contract to which we expect to be entitled in exchange for transferring promised goods or services to a customer. Historically, for both Launch Services and Space Products, we have entered into fixed price contracts. The transaction price is allocated to each performance obligation on an estimated relative standalone selling price basis, where we have observable data. The Company's process to estimate standalone selling prices involves management's judgment and considers multiple factors such as prices charged for similar goods and services and the Company's ongoing pricing strategy and policies.

Changes in judgments with respect to these assumptions and estimates could impact the timing or amount of revenue recognition.

Contingent Consideration

In connection with the Apollo acquisition, the Company was required to make contingent payments in cash and Class A common stock, subject to the Apollo assets achieving certain sales and revenue thresholds from the date of the acquisition through December 31, 2023. The fair value of the liabilities for the contingent payments recognized as part of the purchase accounting opening balance sheet totaled \$18.4 million and was estimated by discounting to present value the probability-weighted contingent payments expected to be made using a Monte Carlo simulation model. Assumptions used in this calculation were customer revenue, expected revenue, discount rate and various probability factors. The ultimate settlement of contingent consideration could deviate from current estimates based on the actual results of these financial measures.

In the fiscal year 2021, the gain on change in fair value of contingent consideration of \$4.7 million was presented in other income, net in the consolidated statements of operations. In fiscal year 2022, changes in fair value of contingent consideration are separately presented as a component of operating loss and we have reclassified the prior year amount to conform to the current presentation. We have determined that presenting changes in fair value of contingent consideration is more appropriate in our operating costs. This change does not have a material impact to our consolidated financial statements.

As of December 31, 2022, the contingent consideration recognized increased to \$33.9 million as a result of changes in forecasted revenues subject to milestone payments and the passage of time, resulting in a loss of \$20.2 million for the year ended December 31, 2022. The Company has recognized \$15.5 million in cumulative net losses on changes in fair value of contingent consideration since the Apollo acquisition date.

Goodwill and Indefinite-lived Intangible Assets

Goodwill and indefinite-lived intangible assets are not subject to amortization. We perform an annual impairment review of goodwill and indefinite-lived intangible assets as of October 1st of each year, and more frequently if we believe that indicators of impairment exist. To review for impairment, we first assess qualitative factors to determine whether events or circumstances lead to a determination that it is more likely than not that the fair value of our reporting unit is less than its carrying amount. Our qualitative assessment considers various macroeconomic, industry-specific and company-specific factors including: (i) severe adverse industry or economic trends; (ii) significant company-specific actions; (iii) current, historical or projected deterioration of our financial performance; or (iv) a sustained decrease in our market capitalization below our net book value. If we determine that it is more likely than not that the fair value of our reporting unit is less than its carrying amount, we calculate and compare the fair value of our reporting unit to the respective carrying amount and recognize an impairment charge for the amount by which the carrying amount exceeds the reporting unit's fair value.

Determining the fair value of a reporting unit involves significant judgment in the use of estimates, assumptions and market conditions. Estimating the fair value of individual reporting units requires us to make assumptions and estimates regarding our future plans, as well as industry and economic conditions. These estimates include but are not limited to: future annual net cash flows, income tax considerations, discount rates, growth rates, royalty rates, and other market factors. If current expectations are not met or if market factors outside our control change, one or more of our reporting units may become impaired in the future. We estimate fair value through various valuation methods, including the use of discounted expected future cash flows of each reporting unit, as well as the use of the relief-from-royalty method to estimate the fair value of our indefinite-lived intangible assets.

During the third quarter of fiscal year 2022, we reorganized our reporting structure and performed an interim quantitative impairment test as described in Note 1 to the consolidated financial statements. As a result of the reorganization, together with a sustained decrease in the Company's share price, existence of substantial doubt about the Company's ability to continue as a going concern, and macroeconomic factors, we determined that triggers were present indicating goodwill may not be recoverable. During the third quarter of fiscal year 2022, we concluded that indicators of impairment were present as described in Note 1 to the consolidated financial statements. As a result, for the year ended December 31, 2022, we recognized impairment losses related to goodwill and indefinite-lived intangible assets of \$58.3 million and \$2.1 million, respectively, resulting in the full impairment of our goodwill.

Long-lived Assets

Long-lived assets are primarily comprised of property, plant, and equipment and definite-lived intangible assets. We evaluate long-lived assets for impairment when events or changes in circumstances indicate, in management's judgement, that the carrying amount of such

assets may not be recoverable. Factors we consider important which could trigger an impairment review include (i) significant under-performance relative to historical or projected future operating results, (ii) significant changes in the manner of our use of the acquired assets or the strategy for our overall business, or (iii) significant negative industry or economic trends. Long-lived asset recoverability is measured by comparing the carrying amount of the asset group with its estimated future undiscounted pre-tax cash flows over the remaining life of the primary long-lived asset of the asset group. Assumptions and estimates about future values and remaining useful lives are complex and often subjective. They can be affected by a variety of factors including external factors, industry and economic trends, and internal factors, such as changes in our business strategy and our internal forecasts. If the carrying amount exceeds the estimated future undiscounted cash flows as part of the recoverability assessment, an impairment charge is recognized equal to the difference between the carrying amount and fair value of the asset group. The impairment charge is allocated to the underlying long-lived assets in the asset group on a relative carrying amount basis; however, carrying amount after allocated impairment is subject to a floor of fair value on an individual asset basis.

We believe the accounting estimates used in the long-lived asset impairment assessment are critical accounting estimates because of the significant judgment required in identifying indicators of impairment, determining asset groups, assessing future undiscounted cash flows of the asset groups, and as applicable, evaluating the fair value of the determined asset groups as well as the underlying long-lived assets, once indicators of impairment have been identified. Although we believe the assumptions and estimates we have made have been reasonable and appropriate, changes in assumptions and estimates could materially impact our reported financial results.

As a result of the reorganization, together with a sustained decrease in the Company's share price, existence of substantial doubt about the Company's ability to continue as a going concern, and macroeconomic factors, we determined that triggers were present indicating long lived assets may not be recoverable. During the third quarter of fiscal year 2022, we concluded that indicators of impairment were present as described in Note 1 to the consolidated financial statements. As a result, for the year ended December 31, 2022, we recorded non-cash impairment charges of \$72.1 million related to property, plant, and equipment and \$2.7 million related to definite-lived intangible assets.

Stock-Based Compensation

We use the fair value method of accounting for our stock-based awards granted to employees to measure the cost of employee services received in exchange for the stock-based awards. We recognize compensation expense for time-based restricted stock units ("RSUs") over the requisite service period based on the fair value of RSUs on the date of grant. The fair value of RSUs is the closing market price of Astra common stock on the date of grant. We recognize compensation expense for time-based stock options and employee stock purchase plan, based on the estimated grant-date fair value determined using the Black-Scholes option-pricing model over the requisite service period. The Black-Scholes option-pricing model requires inputs that are subjective and require significant judgment and is impacted by the following assumptions:

- **Expected Term** — We use the midpoint between the vesting term and the original contractual term (contractual period to exercise). If the option contains graded vesting, then the vesting term is based on the vesting pattern.
- **Expected Volatility** — The volatility is based on a benchmark of comparable companies.
- **Expected Dividend Yield** — The dividend rate used is zero as we have never paid any cash dividends on common stock and do not anticipate doing so in the foreseeable future.
- **Risk-Free Interest Rate** — The interest rates used are based on the implied yield available on U.S. Treasury zero-coupon issues with an equivalent remaining term equal to the expected life of the award.

Certain stock options include service, market and performance conditions ("Performance-based stock options"). The fair value of performance-based stock options is estimated on the date of grant using the Monte Carlo simulation model. Certain RSUs also include service and performance conditions ("Performance-based Units"). The fair value of performance-based units is the closing market price of Astra common stock on the date of grant. Awards that include performance conditions are assessed at the end of each reporting period whether those performance conditions are met or probable of being met and involves significant judgment. For performance-based units, stock-based compensation expense associated with each tranche is recognized over the longer of the expected performance achievement period of individual performance milestones and the implicit service period when the achievement of each individual performance milestone becomes probable. Additionally, achievement of the related share price milestone determined on the grant date (i.e., included in the fair value determination) is required for full vesting of the Performance-based stock options. If such operational milestone becomes probable any time after the grant date, we will recognize a cumulative catch-up expense from the grant date to that point in time. If the related share price milestone is achieved earlier than achievement of the related operational milestone, then the stock-based compensation expense will continue to be recognized over the expected achievement period for the operational milestone.

We reverse previously recognized costs for unvested stock-based awards in the period that forfeitures occur.

Income Taxes

We follow the asset and liability method of accounting for income taxes under ASC Topic 740, *Income Taxes* ("ASC 740"). Deferred tax assets and liabilities are recognized for the expected future tax consequences of temporary differences between consolidated financial

statement carrying amounts and the tax basis of assets and liabilities and net operating loss and tax credit carryforwards. Valuation allowances are established when necessary to reduce deferred tax assets to the amount expected to be realized.

We determine whether it is more likely than not that a tax position will be sustained upon examination. If it is not more likely than not that a position will be sustained, no amount of benefit attributable to the position is recognized. The tax benefit to be recognized for any tax position that meets the more likely than not recognition threshold is calculated as the largest amount that is more than 50% likely of being realized upon resolution of the contingency. Changes in recognition or measurement are reflected in the period in which judgment occurs.

Results of Operations

Comparison of the Years Ended December 31, 2022 and 2021

<i>(in thousands, except percentages)</i>	For The Year Ended December 31,		Period over period change	
	2022	2021	(\$)	(%)
Revenues:				
Launch services	\$ 5,899	\$ —	\$ 5,899	n.m.
Space products	3,471	—	3,471	n.m.
Total revenues	9,370	—	9,370	—
Cost of revenues:				
Launch services	28,193	—	28,193	n.m.
Space products	1,337	—	1,337	n.m.
Total cost of revenues	29,530	—	29,530	—
Gross profit (loss):				
Launch services	(22,294)	—	(22,294)	n.m.
Space products	2,134	—	2,134	n.m.
Total gross profit (loss)	(20,160)	—	(20,160)	—

n.m. = not meaningful.

Revenues

Revenues were \$9.4 million for the year ended December 31, 2022 of which \$5.9 million related to Launch Services and \$3.5 million related to Space Products. We commenced paid commercial Launch Services and delivery of Space Products during the year ended December 31, 2022. We launched launch vehicles LV0008, LV0009 and LV0010 on February 10, 2022, March 15, 2022 and June 12, 2022, respectively, all of which were paid launches. The orbital launch of LV0009 conducted on March 15, 2022, represents our first successful paid delivery of customer payloads into Earth orbit. No revenues were recognized for the year ended December 31, 2021. We do not anticipate any revenues related to our Launch Services business in 2023 as we work to develop and test the next version of our launch system: Rocket 4 (aka Launch System 2).

Cost of Revenues

Cost of revenues were \$29.5 million for the year ended December 31, 2022, which was primarily driven by recording of \$10.2 million of inventory write-downs related to the discontinuance of Rocket 3 in second quarter of fiscal year 2022, \$5.5 million related to the net realizable value write-downs and \$3.1 million of other write-downs, and \$6.9 million of cost of Launch Services and Space Products, as well as other costs attributable to higher revenues as noted above. The cost of Launch Services does not reflect the actual gross margins as certain inventory values were recorded at net realizable value. In 2022, we conducted our first paid commercial launch and have not yet achieved economies of scale in our manufacturing processes. We also decided to discontinue paid commercial launches during the second half of 2022 so that we can focus on developing our Launch System 2. In the third quarter of fiscal year 2022, we recorded our first positive gross profit as a Company, driven solely by the Astra Spacecraft Engine™ business. Notwithstanding this,

we incurred negative gross margins for the entire 2022 fiscal year. No cost of revenues were recognized for the year ended December 31, 2021.

<i>(in thousands, except percentages)</i>	For The Year Ended December 31,		Period over period change	
	2022	2021	(\$)	(%)
Gross profit (loss)	(20,160)	—	(20,160)	—
Operating expenses:				
Research and development	140,666	80,398	60,268	75
Sales and marketing	17,401	4,111	13,290	323
General and administrative	85,285	74,752	10,533	14
Impairment expense	76,889	—	76,889	n.m.
Goodwill impairment	58,251	—	58,251	n.m.
Loss (gain) on change in fair value of contingent consideration	20,200	(4,700)	24,900	(530)
Total operating expenses	398,692	154,561	244,131	158
Operating loss	(418,852)	(154,561)	(264,291)	171
Interest income (expense), net	1,748	(1,169)	2,917	(250)
Other income, net	5,666	31,346	(25,680)	(82)
Loss on extinguishment of convertible notes	—	(131,908)	131,908	n.m.
Loss on extinguishment of convertible notes attributable to related parties	—	(1,875)	1,875	n.m.
Loss before taxes	(411,438)	(258,167)	(153,271)	59
Income tax (benefit) expense	-	(385)	385	n.m.
Net loss	\$ (411,438)	\$ (257,782)	(153,656)	60
Adjustment to redemption value on Convertible Preferred Stock	—	(1,011,726)	1,011,726	n.m.
Net loss attributable to common stockholders	\$ (411,438)	\$ (1,269,508)	\$ 858,070	(68)

n.m. = not meaningful.

Research and Development

R&D costs were \$140.7 million for the year ended December 31, 2022, compared to \$80.4 million for the year ended December 31, 2021. The \$60.3 million increase mainly reflected a \$24.6 million increase in personnel-related costs due to headcount increases in R&D departments, a \$15.2 million increase in R&D materials expense, a \$6.9 million increase in depreciation and amortization expense, a \$5.3 million increase in professional services costs, a \$3.7 million increase in stock-based compensation expense, a \$2.7 million increase in licensed technology, and a \$1.9 million increase due to changes in other R&D expenses, particularly facilities costs and office expenses. These increases were to support our product roadmap and Launch Services business.

Sales and Marketing

Sales and marketing expenses were \$17.4 million for the year ended December 31, 2022, compared to \$4.1 million for the year ended December 31, 2021. The \$13.3 million increase mainly reflected a \$6.7 million increase in personnel-related costs, a \$5.7 million increase in stock-based compensation expense, a \$1.2 million increase due to changes in other sales and marketing expenses, and a \$0.8 million increase in depreciation expense, partially offset by a \$1.1 million decrease in professional services fees. These increases were to support business development and marketing activities.

General and Administrative

General and administrative expenses were \$85.3 million for the year ended December 31, 2022, compared to \$74.8 million for the year ended December 31, 2021. The \$10.5 million increase was primarily due to a \$6.4 million increase in stock-based compensation expense, a \$5.4 million increase in personnel-related costs due to increased headcount, a combined \$4.8 million increase in insurance costs and licenses and subscriptions, and a \$1.7 million increase for professional services, partially offset by a decrease of \$1.5 million in facilities costs, office expenses, and other operating costs. Also partially offsetting the overall increase was a \$6.2 million decrease due to

transaction costs incurred and expensed by the Company in relation to the Business Combination during fiscal year 2021, which did not reoccur in fiscal year 2022.

Impairment Expense

Impairment expense was \$76.9 million for the year ended December 31, 2022 and was triggered by the reorganization, together with a sustained decrease in the Company's share price, existence of substantial doubt about the Company's ability to continue as a going concern, and macroeconomic factors in the second half of fiscal year 2022. The impairment expense reflects charges of \$72.1 million in property, plant and equipment, \$2.7 million in definite-lived intangible assets, and \$2.1 million in indefinite-lived intangible assets. No impairment charges were recorded for the year ended December 31, 2021.

Goodwill Impairment

Goodwill impairment was \$58.3 million for the year ended December 31, 2022 and was triggered by the reorganization, together with a sustained decrease in the Company's share price, existence of substantial doubt about the Company's ability to continue as a going concern, and macroeconomic factors in the second half of fiscal year 2022. The expense reflects the full impairment of the Company's goodwill balance. No goodwill impairment was recorded for the year ended December 31, 2021.

Loss on Change in Fair Value of Contingent Consideration

Loss on change in fair value of contingent consideration of \$20.2 million for the year ended December 31, 2022, was due to higher revenues forecasted in estimating the fair value of contingent consideration. A \$4.7 million gain on change in fair value of contingent consideration was recognized for the year ended December 31, 2021.

Interest Income (Expense), Net

Interest income, net was \$1.7 million for the year ended December 31, 2022, compared to interest expense, net of \$1.2 million for the year ended December 31, 2021. The \$2.9 million increase in interest (expense) income, net was primarily due to the higher interest income on marketable securities in fiscal year 2022 coupled with lower interest expense due to the settlement of the outstanding debt during fiscal year 2021.

Other Income (Expense), Net

Other income, net was \$5.7 million for the year ended December 31, 2022, compared to other income, net of \$31.3 million for the year ended December 31, 2021. The \$25.7 million decrease in other income was due to a \$25.7 million decrease in other income from change in fair value of warrant liability and a \$4.9 million decrease in gain on forgiveness of Paycheck Protection Program ("PPP") Note. These decreases were offset by a \$4.3 million increase of other income from research and development contracts and a \$0.6 million increase in miscellaneous income.

Loss on Extinguishment of Convertible Notes

No loss on extinguishment of convertible notes was recorded for the year ended December 31, 2022. Loss on extinguishment of convertible notes of \$131.9 million was recorded for the year ended December 31, 2021 due to the settlement of convertible notes on January 28, 2021.

Loss on Extinguishment of Convertible Notes Attributable to Related Parties

No loss on extinguishment of convertible notes attributable to related parties was recorded for the year ended December 31, 2022. Loss on extinguishment of convertible notes attributable to related parties of \$1.9 million was recorded for the year ended December 31, 2021 due to the settlement of convertible notes attributable to related parties on January 28, 2021.

Income Tax (Benefit) Expense

We did not incur income tax expense for the year ended December 31, 2022.

We recorded an income tax benefit of \$0.4 million as the result of the Apollo acquisition during the year ended December 31, 2021.

Adjustment to redemption value on Convertible Preferred Stock

No adjustment to redemption value on convertible preferred stock was recorded for the year ended December 31, 2022. Adjustment to redemption value on Convertible Preferred Stock of \$1.0 billion for the year ended December 31, 2021 was recorded due to the re-measurement of Convertible Preferred Stock to its redemption value due to the likelihood of a redemption event becoming probable.

Liquidity and Capital Resources

The following section discusses our principal liquidity and capital resources as well as our primary liquidity requirements and uses of cash. Our cash and cash equivalents are maintained in highly liquid investments with remaining maturities of 90 days or less at the time of purchase. We believe our cash equivalents are liquid and accessible, but see Item 1A. "Risk Factors" — "Instability caused by the closure of Silicon Valley Bank ("SVB") and an inability to access its cash, cash equivalents and marketable securities may result in a

material adverse effect on the Company” for more information about how we may be impacted by the closure of Silicon Valley Bank and overall banking instability in the market.

We measure liquidity in terms of our ability to fund the cash requirements of our research and development activities and our current business operations, including our capital expenditure needs, contractual obligations and other commitments. Our current liquidity needs relate to our business operations, research and development activities, mainly in connection with the ongoing development of our technology, products and services, lease obligations and capital expenditures, which primarily relate to the development of our manufacturing facilities.

Given our current liquidity position and historical operating losses, we believe there is substantial doubt that we can continue as a going concern. Substantial doubt about an entity’s ability to continue as a going concern exists when conditions and events, considered in the aggregate, indicate that it is probable that the entity will be unable to meet its obligations as they become due within one year after the date that the financial statements are issued. See Item 1A. “Risk Factors” for information about the risks related to our ability to continue operating as a going concern.

We have, however, prepared the consolidated financial statements included elsewhere in this Annual Report on a going concern basis, assuming that our financial resources will be sufficient to meet our capital needs over the next twelve months. Accordingly, our financial statements do not include adjustments relating to the recoverability and realization of assets and classification of liabilities that might be necessary should we be unable to continue in operation.

As of December 31, 2022 and 2021, our existing sources of liquidity included cash and cash equivalents of \$33.6 million and \$325.0 million, respectively, and marketable securities of \$69.2 million and none, respectively. We have a limited history of operations and have incurred negative cash flows from operating activities and loss from operations in the past as reflected in the accumulated deficit of \$1.8 billion as of December 31, 2022. We expect to continue to incur operating losses due to the investments we intend to make in our business, including the development of our products and services, although we expect those losses to be offset by revenues recognized through the delivery of our Space Products in 2023. We remain focused on managing cash expenditures, including but not limited to, reducing capital expenditures, consulting services and re-focusing hiring efforts. In addition, we continue to evaluate opportunities to strengthen our financial position, including through the issuance of additional equity securities or by entering into new financing arrangements, as appropriate. We believe that the Company has limited cash resources at the current level to fund commercial scale production and sale of its services and products. However, if we execute on our Space Products deliverables and we are able to obtain additional financing and assuming our plans to manage capital expenditures are effective, we would expect that our existing sources of liquidity will be sufficient to fund operating and capital expenditure requirements through at least 12 months from the date of this Annual Report. Our current liquidity may not be sufficient to meet the required long-term liquidity needs associated with continued use of cash from operating activities at historical levels, other liquidity needs associated with capital expenditures, as well as other investing needs. We are actively evaluating other sources of liquidity to further support long-term business operations. As of December 31, 2022, the Company is not party to any off-balance sheet arrangements that have, or are reasonably likely to have, a current or future material effect on our financial condition, results of operations, liquidity, capital expenditures, or capital resources. The cash requirements for the upcoming fiscal year relate to our leases and operating and capital purchase commitments. For additional information regarding our cash requirements from contractual obligations and lease obligations, see Note 11 — Commitments and Contingencies and Note 9 — Leases to the consolidated financial statements for more information.

On March 10, 2023, the Company became aware that Silicon Valley Bank (“SVB”) was closed by the California Department of Financial Protection and Innovation, which appointed the Federal Deposit Insurance Corporation (“FDIC”) as receiver. As of March 10, 2023, the Company’s cash is held on deposit with SVB. The cash represents approximately 15% of the Company’s current cash, cash equivalents and marketable securities. The Company’s cash equivalents and marketable securities are held in securities accounts with an affiliate of SVB. While the Company currently has access to the cash on deposit with SVB and such funds are sufficient to meet the Company’s near-term payment obligations, there remains some uncertainty as to if and how the closure of SVB and the receivership will affect the Company’s ability to access its cash, and to access and sell its cash equivalents and marketable securities on an ongoing basis. In addition, instability in the banking system could have an effect on other banking institutions to which the Company has transferred funds. Refer to Item 1A. “Risk Factors” for information about the risks related to the liquidity of our deposits with SVB.

Committed Equity Purchases

On August 2, 2022, we entered into a \$100.0 million Class A common stock purchase agreement with B. Riley to support working capital and other general corporate needs. Under the terms of this agreement, we have the right, without obligation, to sell and issue up

to \$100.0 million of our Class A common stock over a period of 24 months to B. Riley at the Company's sole discretion, subject to certain limitations and conditions. See Note 13 — Stockholders' Equity to the consolidated financial statements for more details.

As of December 31, 2022, no shares have been sold under this agreement.

Summary Statement of Cash Flows for the Years Ended December 31, 2022 and 2021

The following table sets forth the primary sources and uses of cash and cash equivalents for the periods presented below:

(in thousands)	For The Year Ended December 31,		Period over period change	
	2022	2021	\$	%
Net cash used in operating activities	\$ (175,438)	\$ (114,356)	\$ (61,082)	53%
Net cash used in investing activities	(117,359)	(61,059)	(56,300)	92
Net cash provided by financing activities	1,434	489,811	(488,377)	(100)
Net increase (decrease) in cash and cash equivalents	\$ (291,363)	\$ 314,396	\$ (605,759)	(193)%

Cash Flows used in Operating Activities

Our cash flows from operating activities are significantly affected by our cash investments to support the growth of our business in areas such as research and development and general and administrative and working capital. Our operating cash inflows include cash from milestone billing under certain Launch Services and Space Products contracts. These cash inflows are offset by our payments to suppliers for production materials and parts used in our manufacturing process as we ramp up our production, payments to our employees and other operating expenses.

For the year ended December 31, 2022, net cash used in operating activities was \$175.4 million. The primary factors affecting the Company's operating cash flows during the period were a net loss of \$411.4 million. This is offset by non-cash charges including impairment expense \$76.9 million, stock-based compensation expense of \$55.9 million, inventory reserves including write-offs and net realizable value write-downs of \$18.8 million, loss on change in fair value of contingent consideration of \$20.2 million, depreciation and amortization expense of \$13.3 million and non-cash lease expense of \$3.5 million. Changes in operating working capital items is mainly due to decrease in inventories of \$17.1 million, accounts payable of \$4.2 million, trade accounts receivable of \$3.5 million, lease liabilities of \$3.2 million, accrued expense and other current liabilities of \$4.0 million, and other non-current assets of \$1.0 million. Changes in operating working capital items was partially offset by an increase in other non-current liabilities of \$22.0 million, prepaid and other current assets of \$0.5 million.

For the year ended December 31, 2021, net cash used in operating activities was \$114.4 million. The primary factors affecting the Company's operating cash flows during the period were net loss of \$257.8 million, gain of \$25.7 million due to change in fair value of warrant liability, gain of \$4.9 million due to forgiveness of PPP Note, gain of \$4.7 million due to change in fair value of contingent consideration and deferred income tax benefit of \$0.4 million. This offset by non-cash charges including a non-cash loss on extinguishment of convertible notes of \$133.8 million, stock-based compensation expense of \$39.7 million, inventory net realizable value write downs of \$6.7 million, depreciation and amortization expense of \$5.3 million, non-cash lease expense of \$1.1 million and amortization of convertible note debt discounts of \$0.4 million. Changes in operating working capital items is mainly due to increased headcount and ramp-up of our production and primarily reflect the increase in trade accounts receivable of \$1.8 million, inventories of \$12.9 million, prepaid and other current assets of \$11.0 million, other non-current assets of \$0.6 million, accounts payable of \$1.3 million and accrued expenses and other current liabilities of \$18.8 million. Changes in operating working capital items was partially offset by a decrease in lease liabilities of \$1.2 million and other non-current liabilities of \$0.8 million.

Cash Flows used in Investing Activities

For the year ended December 31, 2022, net cash used in investing activities was \$117.4 million, which was comprised mainly of purchases of marketable securities of \$157.8 million, purchases of property, plant and equipment of \$47.6 million mainly related to the construction of our manufacturing facility at our corporate headquarters in Alameda, California, and acquisition of an indefinite-lived intangible trademark asset of \$0.9 million. This was partially offset by maturities of marketable securities of \$81.3 million and proceeds from sales of marketable securities of \$7.7 million.

For the year ended December 31, 2021, net cash used in investing activities was \$61.1 million, which was comprised mainly of cash paid as purchase price consideration for the acquisition of Apollo Fusion, Inc., net of cash acquired of \$19.4 million, acquisition of an indefinite-lived intangible trademark asset of \$3.4 million and purchases of property, plant and equipment of \$38.3 million mainly related to the construction of our manufacturing facility.

Cash Flows from Financing Activities

For the year ended December 31, 2022, net cash provided by financing activities amounted to \$1.4 million and consisted primarily of proceeds from the sale of shares of the Company's Class A common stock and issuance of shares of Class A common stock under equity plans.

For the year ended December 31, 2021, net cash provided by financing activities amounted to \$489.8 million and consisted primarily of proceeds from the Business Combination and private offering, net of transaction costs, of \$463.6 million, issuance of Series C of \$30.0 million, borrowings of \$10.0 million, issuance of stock under equity plans of \$2.0 million and employee stock purchase plan of \$0.8 million, offset by repayments on borrowings of \$16.4 million and settlement of Public Warrants and Private Placement Warrants of \$0.1 million.

Compliance With Continued Listing Standards of NASDAQ Global Select Market

On October 6, 2022, we received a deficiency notice from NASDAQ that we were not in compliance with Rule 5450(a)(1) of the listing requirements because its per share closing bid price has been below \$1.00 for the last thirty consecutive business days. This notice has no immediate effect on the listing of the Company's Class A common stock. Pursuant to Rule 5810(c)(3)(A), we have 180 calendar days, or until April 4, 2023, to regain compliance with the minimum bid price requirement set forth in Rule 5450(a)(1) (the "Minimum Bid Price Requirement").

NASDAQ's notice stated that if, at any time before April 4, 2023, the per share closing bid price of Astra's Class A common stock is at least \$1.00 for a minimum of ten consecutive business days, NASDAQ's staff will provide us written notice that we comply with the Minimum Bid Price Requirement.

On March 13, 2023, we submitted an application to NASDAQ for an additional 180-day period (the "Extended Compliance Period") to comply with the minimum bid price requirement. Based on our discussions with representatives of NASDAQ, we expect to hear back from NASDAQ regarding the status of our application on or around April 5, 2023.

We intend to monitor the per share closing bid price of its Class A common stock and consider available options if its Class A common stock does not trade at a level likely to result in us regaining compliance with Minimum Bid Price Requirement by April 4, 2023 or the expiration of the Extended Compliance Period, if applicable.

If NASDAQ concludes that we will not be able to cure the deficiency during the Extended Compliance Period or does not grant us the Extended Compliance Period, then NASDAQ will give notice that the Company's Class A common stock is subject to delisting and we will be able to appeal that delisting before a NASDAQ hearings panel.

There can be no assurance that the Company will regain compliance with the Minimum Bid Price Requirement or that it will otherwise remain in compliance with the other listing requirements for NASDAQ. Also, refer to Item 1A. "Risk Factors" for more information about risks associated with the Company's failure to remain in compliance with the continuing listing standards of NASDAQ.

Recent Accounting Pronouncements

See Note 1 to our consolidated financial statements included elsewhere in this annual report on Form 10-K for more information about recently adopted accounting pronouncements and recently issued accounting pronouncements not yet adopted, including the timing of their adoption, and our assessment, to the extent we have made one yet, of their potential impact on our financial condition and our results of operations.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK.

We have not, to date, been exposed to material market risks given our early stage of operations. As we expand our commercial operations, we expect to be exposed to foreign currency exchange rate and commodity price risks, particularly related to rocket propellants, helium, and aluminum, among others, and potentially other market risks, including those related to interest rates or valuation of financial instruments, among others.

Interest Rate Risk

As of December 31, 2022, we had \$21.9 million of cash equivalents invested in money market funds and \$69.2 million invested in marketable securities, which consisted of U.S. Treasury securities, corporate debt securities, commercial paper and asset backed securities. Our cash and cash equivalents are held for working capital purposes. We do not enter into investments for trading or speculative purposes. There was no material interest rate risk for the years ended December 31, 2022 and 2021.

Inflation Risk

We are exposed to inflation risk. Inflationary factors, such as increases in raw material and overhead costs, could impair our operating results. Although there has been a significant increase in inflation recently, it has not had a substantial impact on our results of operations for the year ended December 31, 2022. However, a higher rate of inflation in the future may have an adverse effect on our ability to recover increasing costs and we might not be able to pass along cost increases to our customers.

Foreign Currency Risk

There was no material foreign currency risk for the years ended December 31, 2022 and 2021. Our activities to date have been limited and were conducted in the United States, however we may service foreign customers, and this may introduce foreign currency risk.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA.

**ASTRA SPACE, INC.
INDEX TO CONSOLIDATED FINANCIAL STATEMENTS**

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Board of Directors and Stockholders
Astra Space, Inc.

Opinion on the financial statements

We have audited the accompanying consolidated balance sheet of Astra Space, Inc. (a Delaware corporation) and subsidiaries (the “Company”) as of December 31, 2021, the related consolidated statements of operations, stockholders’ equity, and cash flows for the year then ended, and the related notes (collectively referred to as the “financial statements”). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2021, and the results of its operations and its cash flows for the year then ended, in conformity with accounting principles generally accepted in the United States of America.

Basis for opinion

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

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

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

We served as the Company's auditor from 2020 to 2022

/s/ GRANT THORNTON LLP
Phoenix, Arizona
March 31, 2022

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of Astra Space, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheet of Astra Space, Inc. and its subsidiaries (the “Company”) as of December 31, 2022, and the related consolidated statements of operations, of comprehensive loss, of stockholders’ equity and of cash flows for the year then ended, including the related notes (collectively referred to as the “consolidated financial statements”). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2022, and the results of its operations and its cash flows for the year then ended in conformity with accounting principles generally accepted in the United States of America.

Substantial Doubt About the Company’s Ability to Continue as a Going Concern

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 1 to the consolidated financial statements, the Company has incurred operating losses and has additional capital needs to proceed with its business plan, and has stated that these events or conditions raise substantial doubt about the Company’s ability to continue as a going concern. Management’s plans in regard to these matters are also described in Note 1. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

Basis for Opinion

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

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

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

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the audit committee and that (i) relate to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Impairment of Goodwill

As described in Notes 1 and 5 to the consolidated financial statements, goodwill is reviewed for impairment annually on October 1 or more frequently if impairment indicators arise. To review for impairment, management first assesses qualitative factors to determine whether events or circumstances lead to a determination that it is more likely than not the fair value of a reporting unit is less than its carrying value. If management determines that it is more likely than not that the fair value of a reporting unit is less than its carrying value, management calculates the fair value of that reporting unit and compares the fair value to the reporting unit’s carrying value. If

the fair value of the reporting unit is less than its carrying value, management records a goodwill impairment charge for the amount by which the carrying value of the reporting unit exceeds its fair value up to the amount of the goodwill. As disclosed by management, during the third quarter of 2022, management determined that impairment indicators were present and accordingly, proceeded with a quantitative impairment assessment for its goodwill based on the reporting structure immediately before the reorganization of its reporting structure, resulting in a non-cash impairment charge of \$58.3 million, fully impairing the goodwill balance. The fair value of the Company's reporting unit was determined using a discounted cash flow model. Significant inputs included the discount rate, forecasted revenue growth, and forecasted operating expenses.

The principal considerations for our determination that performing procedures relating to the impairment of goodwill is a critical audit matter are (i) the significant judgment by management when developing the fair value estimate of the Company's reporting unit; (ii) a high degree of auditor judgment, subjectivity, and effort in performing procedures and evaluating management's significant assumptions related to the discount rate, forecasted revenue growth, and forecasted operating expenses; and (iii) the audit effort involved the use of professionals with specialized skill and knowledge. As disclosed by management, material weaknesses existed related to the Company's control environment, which impacted this matter.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included, among others (i) testing management's process for developing the fair value estimate of the Company's reporting unit; (ii) evaluating the appropriateness of the discounted cash flow model; (iii) testing the completeness and accuracy of underlying data used in the discounted cash flow model; and (iv) evaluating the significant assumptions used by management related to the discount rate, forecasted revenue growth, and forecasted operating expenses. Evaluating management's assumptions related to forecasted revenue growth and forecasted operating expenses involved evaluating whether the assumptions used by management were reasonable considering (i) the current and past performance of the Company; (ii) the consistency with external market and industry data; and (iii) whether the assumptions were consistent with evidence obtained in other areas of the audit. Professionals with specialized skill and knowledge were used to assist in the evaluation of the appropriateness of the Company's discounted cash flow model and the reasonableness of the discount rate assumption.

Impairment of Property, Plant and Equipment

As described in Notes 1 and 4 to the consolidated financial statements, the Company's property, plant and equipment, net of accumulated depreciation was \$24.3 million as of December 31, 2022. Long-lived assets are reviewed for impairment whenever factors or changes in circumstances indicate that the carrying values of long-lived assets, including property, plant and equipment, may not be recoverable. Long-lived asset recoverability is measured by comparing the carrying value of the asset group with its estimated future undiscounted pre-tax cash flows over the remaining life of the primary long-lived asset of the asset group. If the carrying value exceeds the estimated future undiscounted cash flows as part of the recoverability assessment, an impairment charge is recognized equal to the difference between carrying value and fair value of the asset group. The impairment charge is allocated to the underlying long-lived assets in the asset group on a relative carrying value basis; however, carrying value after allocated impairment is subject to a floor of fair value on an individual asset basis. As disclosed by management, during the third quarter of 2022, management determined that impairment indicators were present and accordingly, assessed its long-lived assets for recoverability and recorded a non-cash impairment charge of \$72.1 million related to property, plant and equipment. The fair values of the Company's asset groups were determined using a discounted cash flow model. Significant inputs included discount rates, forecasted revenue growth, and forecasted operating expenses.

The principal considerations for our determination that performing procedures relating to the impairment of property, plant & equipment is a critical audit matter are (i) the significant judgment by management when developing the fair value estimates of the Company's asset groups and the allocation of impairment loss to individual long-lived assets; (ii) a high degree of auditor judgment, subjectivity, and effort in performing procedures and evaluating management's significant assumptions related to discount rates, forecasted revenue growth, and forecasted operating expenses; and (iii) the audit effort involved the use of professionals with specialized skill and knowledge. As disclosed by management, material weaknesses existed related to the Company's control environment, which impacted this matter.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included, among others (i) testing management's process for developing the fair value estimates of the Company's asset groups; (ii) evaluating the appropriateness of the discounted cash flow model; (iii) testing the completeness and accuracy of underlying data used in the discounted cash flow model; and (iv) evaluating the significant assumptions used by management related to discount rates, forecasted revenue growth, and forecasted operating expenses. Evaluating management's assumptions related to forecasted revenue growth and forecasted operating expenses involved evaluating whether the assumptions used by management were reasonable considering (i) the current and past performance of the Company; (ii) the consistency with external market and industry data; and (iii) whether the assumptions were consistent with evidence obtained in other

areas of the audit. Professionals with specialized skill and knowledge were used to assist in the evaluation of the appropriateness of the Company's discounted cash flow model and the reasonableness of the discount rate assumptions.

/s/ PricewaterhouseCoopers LLP
San Francisco, California
March 30, 2023

We have served as the Company's auditor since 2022.

ASTRA SPACE, INC.
CONSOLIDATED BALANCE SHEETS
(In thousands, except share data)

	As of	
	December 31, 2022	December 31, 2021
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 33,644	\$ 325,007
Marketable securities	69,173	—
Trade accounts receivable	5,327	1,816
Inventories	6,800	7,675
Prepaid and other current assets	10,838	12,238
Total current assets	125,782	346,736
Non-current assets:		
Property, plant and equipment, net	24,271	66,316
Right-of-use asset	12,813	9,079
Goodwill	—	58,251
Intangible assets, net	10,132	17,921
Other non-current assets	1,701	721
Total assets	\$ 174,699	\$ 499,024
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$ 1,799	\$ 9,122
Operating lease obligation, current portion	3,800	1,704
Contingent consideration	33,900	—
Accrued expenses and other current liabilities	42,043	29,899
Total current liabilities	81,542	40,725
Non-current liabilities:		
Operating lease obligation, net of current portion	9,051	7,180
Contingent consideration, net of current portion	—	13,700
Other non-current liabilities	1,796	899
Total liabilities	92,389	62,504
Commitments and Contingencies (Note 11)		
STOCKHOLDERS' EQUITY		
Founders convertible preferred stock, \$0.0001 par value; 1,000,000 shares authorized; none issued and outstanding as of December 31, 2022 and 2021	—	—
Class A common stock, \$0.0001 par value; 400,000,000 shares authorized; 213,697,468 and 207,451,107 shares issued and outstanding as of December 31, 2022 and 2021, respectively	22	22
Class B common stock, \$0.0001 par value; 65,000,000 shares authorized; 55,539,188 and 55,539,188 shares issued and outstanding as of December 31, 2022 and 2021, respectively	6	6
Additional paid in capital	1,902,213	1,844,875
Accumulated other comprehensive loss	(110)	—
Accumulated deficit	(1,819,821)	(1,408,383)
Total stockholders' equity	82,310	436,520
Total liabilities and stockholders' equity	\$ 174,699	\$ 499,024

The accompanying notes are an integral part of these consolidated financial statements.

ASTRA SPACE, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS
(In thousands, except share and per share data)

	For the year ended December 31,	
	2022	2021
Revenues		
Launch services	\$ 5,899	\$ —
Space products	3,471	—
Total revenues	<u>9,370</u>	<u>—</u>
Cost of revenues		
Launch services	28,193	—
Space products	1,337	—
Total cost of revenues	<u>29,530</u>	<u>—</u>
Gross profit (loss)	(20,160)	—
Operating expenses:		
Research and development	140,666	80,398
Sales and marketing	17,401	4,111
General and administrative	85,285	74,752
Impairment expense	76,889	—
Goodwill impairment	58,251	—
Loss (gain) on change in fair value of contingent consideration	20,200	(4,700)
Total operating expenses	<u>398,692</u>	<u>154,561</u>
Operating loss	(418,852)	(154,561)
Interest income (expense), net	1,748	(1,169)
Other income, net	5,666	31,346
Loss on extinguishment of convertible notes	—	(131,908)
Loss on extinguishment of convertible notes attributable to related parties	—	(1,875)
Loss before taxes	(411,438)	(258,167)
Income tax (benefit) provision	—	(385)
Net loss	<u>\$ (411,438)</u>	<u>\$ (257,782)</u>
Adjustment to redemption value on Convertible Preferred Stock	—	(1,011,726)
Net loss attributable to common stockholders	<u>\$ (411,438)</u>	<u>\$ (1,269,508)</u>
Net loss per share:		
Weighted average number of shares of Class A common stock outstanding – basic and diluted	210,177,911	110,837,016
Net loss per share of Class A common stock – basic and diluted	\$ (1.55)	\$ (7.82)
Weighted average number of shares of Class B common stock outstanding – basic and diluted	55,539,188	51,548,314
Net loss per share of Class B common stock – basic and diluted	\$ (1.55)	\$ (7.82)

The accompanying notes are an integral part of these consolidated financial statements.

ASTRA SPACE, INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS
(In thousands)

	For the year ended December 31,	
	2022	2021
Net loss	\$ (411,438)	\$ (257,782)
Other comprehensive loss:		
Unrealized gain (loss) on available-for-sale marketable securities	(110)	—
Total comprehensive loss	<u>\$ (411,548)</u>	<u>\$ (257,782)</u>

The accompanying notes are an integral part of these consolidated financial statements.

ASTRA SPACE, INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(In thousands, except share data)

	Temporary Equity		Permanent Equity											
	Convertible Preferred Stock		Common Stock (Pre-combination Astra)		Class A Common Stock (New Astra)		Class B Common Stock (New Astra)		Founders Preferred Stock		Additional Paid in	Accumulated Other Comprehensive	Accumulated	Total Stockholders' Equity (Deficit)
	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount	Capital	Loss	Deficit	
Balance as of December 31, 2020	90,768,286	\$ 108,829	62,961,258	\$ 6	—	\$ —	—	\$ —	12,302,500	\$ 1	\$ 50,282	\$ —	\$ (190,697)	\$ (140,408)
Cumulative effect adjustment due to adoption of ASU 2020-06	—	—	—	—	—	—	—	—	—	—	(9,719)	—	691	(9,028)
Stock-based compensation	—	—	—	—	—	—	—	—	—	—	31,923	—	—	31,923
Issuance of common stock under equity plans	—	—	2,310,888	—	1,853,638	1	—	—	—	—	1,969	—	—	1,970
Issuance of Series C Convertible Preferred Stock, net of issuance costs	28,498,141	221,943	—	—	—	—	—	—	—	—	—	—	—	—
Conversion of Founders Convertible Preferred Stock to Series C Convertible Preferred Stock	5,073,576	—	—	—	—	—	—	(5,073,576)	—	—	8,156	—	—	8,156
Adjustment to redemption value on Convertible Preferred Stock	—	—	—	—	—	—	—	—	—	—	960,595	—	(960,595)	—
Merger recapitalization-Class A	(124,340,003)	(330,772)	(16,261,881)	(2)	140,601,884	14	—	—	—	—	330,751	—	—	330,763
Merger recapitalization-Class B	—	—	(49,010,265)	(4)	—	—	56,239,188	6	(7,228,924)	(1)	—	—	—	1
Private offering and merger financing, net of redemptions and equity issuance costs of \$23,337	—	—	—	—	57,489,019	6	—	—	—	—	406,863	—	—	406,869
Issuance of Class A common stock upon the acquisition of Apollo Fusion, Inc.	—	—	—	—	2,558,744	—	—	—	—	—	33,008	—	—	33,008
Issuance of Class A common stock upon settlement of warrants	—	—	—	—	4,247,822	1	—	—	—	—	31,047	—	—	31,048
Conversion of Class B common stock into Class A common stock	—	—	—	—	700,000	—	(700,000)	—	—	—	—	—	—	—
Net loss	—	—	—	—	—	—	—	—	—	—	—	—	(257,782)	(257,782)
Balance as of December 31, 2021	—	\$ —	—	\$ —	207,451,107	\$ 22	55,539,188	\$ 6	—	\$ —	\$ 1,844,875	\$ —	\$ (1,408,383)	\$ 436,520
Stock-based compensation	—	—	—	—	—	—	—	—	—	—	55,904	—	—	55,904
Issuance of common stock under equity plans	—	—	—	—	5,887,263	—	—	—	—	—	1,434	—	—	1,434
Issuance of common stock as consideration for the commitment under the Common Stock Purchase agreement (Note 13)	—	—	—	—	359,098	—	—	—	—	—	—	—	—	—
Unrealized gain on available-for-sale marketable securities	—	—	—	—	—	—	—	—	—	—	—	(110)	—	(110)
Net loss	—	—	—	—	—	—	—	—	—	—	—	—	(411,438)	(411,438)
Balance as of December 31, 2022	—	\$ —	—	\$ —	213,697,468	\$ 22	55,539,188	\$ 6	—	\$ —	\$ 1,902,213	\$ (110)	\$ (1,819,821)	\$ 82,310

The accompanying notes are an integral part of these consolidated financial statements.

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

	Year Ended December 31,	
	2022	2021
Cash flows from operating activities:		
Net loss	\$ (411,438)	\$ (257,782)
Adjustments to reconcile net loss to cash flows used in operating activities		
Stock-based compensation	55,904	39,743
Impairment expense	76,889	—
Goodwill impairment	58,251	—
Depreciation	10,368	3,698
Amortization of intangible assets	2,960	1,629
Inventory write-downs	18,828	6,748
Non-cash lease expense	3,467	1,113
Deferred income taxes	—	(385)
Change in fair value of warrant liabilities	—	(25,681)
Gain on forgiveness of PPP note	—	(4,850)
Loss (gain) on change in fair value of contingent consideration	20,200	(4,700)
Accretion (amortization) of marketable securities purchased at a premium (discount)	(421)	—
Loss on extinguishment of convertible notes	—	131,908
Loss on extinguishment of convertible notes attributable to related parties	—	1,875
Amortization of convertible note discounts	—	315
Amortization of convertible note discounts attributable to related parties	—	55
Loss on marketable securities	24	—
Changes in operating assets and liabilities:		
Trade accounts receivable	(3,511)	(1,816)
Inventories	(17,093)	(12,925)
Prepaid and other current assets	538	(10,958)
Other non-current assets	(980)	(570)
Accounts payable	(4,186)	1,327
Lease liabilities	(3,233)	(1,156)
Accrued expenses and other current liabilities	(3,971)	18,835
Other non-current liabilities	21,966	(779)
Net cash used in operating activities	<u>\$ (175,438)</u>	<u>\$ (114,356)</u>
Cash flows from investing activities:		
Acquisition of Apollo, net of cash acquired	—	(19,360)
Acquisition of trademark	(850)	(3,350)
Purchases of marketable securities	(157,837)	—
Proceeds from sales of marketable securities	7,700	—
Proceeds from maturities of marketable securities	81,251	—
Purchases of property, plant and equipment	(47,623)	(38,349)
Net cash used in investing activities	<u>\$ (117,359)</u>	<u>\$ (61,059)</u>
Cash flows from financing activities:		
Settlement of public and private placement of warrants	—	(59)
Proceeds from business combination and private offering, net of transaction costs of \$23,337	—	463,648
Borrowings on Pendrell bridge loan	—	10,000
Repayment on Pendrell bridge loan	—	(10,000)
Proceeds from issuance of Series C preferred stock	—	30,000
Issuance cost of Series C preferred stock	—	(94)
Repayments on term loans	—	(2,800)
Repayments on equipment advances	—	(3,636)
Proceeds from issuance of common stock under equity award and purchase plans	1,434	2,752
Net cash provided by financing activities	<u>\$ 1,434</u>	<u>\$ 489,811</u>
Net increase (decrease) in cash and cash equivalents	\$ (291,363)	\$ 314,396
Cash and cash equivalents at beginning of period	325,007	10,611
Cash and cash equivalents at end of period	<u>\$ 33,644</u>	<u>\$ 325,007</u>
Non-cash investing and financing activities:		
Conversion of Series A, Series B, Series C, and Founders' convertible preferred into common stock	\$ —	\$ 330,764
Assets acquired included in accounts payable, accrued expenses and other current liabilities	1,893	8,693
Public and private placement of warrants acquired as part of business combination	—	56,786
Conversion of public and private placement of warrants into Class A common stock	—	31,047
Change in redemption value of Convertible Preferred Stock	—	1,011,726

Issuance of Class A common stock upon acquisition of Apollo Fusion, Inc.	—	33,008
Fair value of contingent consideration provided upon acquisition of Apollo Fusion, Inc.	—	18,400
Supplemental disclosures of cash flow information:		
Cash paid for interest	\$ 15	\$ 691

The accompanying notes are an integral part of these consolidated financial statements

ASTRA SPACE, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Note 1 — Description of Business, Basis of Presentation and Significant Accounting Policies

Description of Business

Astra Space, Inc. (the “Company”) designs, tests, manufactures and operates the next generation of launch services and space products and services that it expects to enable a new generation of global communications, earth observation, precision weather monitoring, navigation, and surveillance capabilities. The Company’s mission is to Improve Life on Earth from Space[®] through greater connectivity and more regular observation, and to enable a wave of innovation in low Earth orbit by expanding its space platform offerings.

Holicity Inc. (“Holicity”) was originally incorporated in Delaware and was established as a special purpose acquisition company, which completed its initial public offering in August 2020. On June 30, 2021 (the “Closing Date”), Holicity consummated a business combination (the “Business Combination”) pursuant to the Business Combination Agreement dated as of February 2, 2021 (the “BCA”), by and among Holicity, Holicity Merger Sub Inc., a wholly owned subsidiary of Holicity (“Merger Sub”), and Astra Space Operations, Inc. (“pre-combination Astra”). Immediately upon the consummation of the Business Combination, Merger Sub merged with and into pre-combination Astra with pre-combination Astra surviving the merger as a wholly owned subsidiary of Holicity. Holicity changed its name to “Astra Space, Inc.” and pre-combination Astra changed its name to “Astra Space Operations, Inc.”

Unless the context otherwise requires, “we”, “us”, “our”, “Astra” and the “Company” refers to Astra Space, Inc., the combined company and its subsidiaries following the Business Combination and Astra Space Operations, Inc. prior to the Business Combination. See Note 3 — Acquisitions for further discussion of the Business Combination. The Company’s Class A common stock is listed on the NASDAQ under the symbol “ASTR”.

Basis of Presentation and Principles of Consolidation

The consolidated financial statements include the accounts of Astra and its subsidiaries and have been prepared in conformity with accounting principles generally accepted in the United States of America (“GAAP”) as determined by the Financial Accounting Standards Board (“FASB”) Accounting Standards Codification (“ASC”) and pursuant to the rules and regulations of the U.S. Securities and Exchange Commission (“SEC”) for financial reporting.

The consolidated financial statements include the accounts for the Company and its wholly owned subsidiaries. All significant intercompany balances and transactions have been eliminated in consolidation.

Business Combination

On June 30, 2021, the Business Combination pursuant to the BCA, by and among Holicity, Merger Sub, and pre-combination Astra, was accounted for as a reverse recapitalization as pre-combination Astra was determined to be the accounting acquirer under ASC Topic 805, *Business Combinations* (“ASC 805”). The determination is primarily based on the evaluation of the following facts and circumstances:

- the equity holders of pre-combination Astra hold the majority of voting rights in the Company;
- the board of directors of pre-combination Astra represent a majority of the members of the board of directors of the Company;
- the senior management of pre-combination Astra became the senior management of the Company; and
- the operations of pre-combination Astra comprise the ongoing operations of the Company.

In connection with the Business Combination, outstanding common stock and preferred convertible stock of the pre-combination Astra was converted into common stock of the Company, par value of \$0.0001 per share, representing a recapitalization, and the net assets of the Company were acquired and recorded at historical cost, with no goodwill or intangible assets recorded. Pre-combination Astra was deemed to be the predecessor and the consolidated assets and liabilities and results of operations prior to the Closing Date are those of pre-combination Astra. Reported shares and earnings per share available to common stockholders, prior to the Business Combination, have been retroactively restated as shares reflecting the exchange ratio established in the BCA. The number of shares of preferred stock was also retroactively restated based on the exchange ratio. See Note 3 — Acquisitions for additional information.

Liquidity

The accompanying consolidated financial statements have been prepared assuming the Company will continue as a going concern. The going concern basis of presentation assumes that the Company will continue in operation one year after the date these consolidated financial statements are issued and will be able to realize its assets and discharge its liabilities and commitments in the normal course of business.

Pursuant to the requirements of ASC Topic 205-40, *Disclosure of Uncertainties about an Entity's Ability to Continue as a Going Concern*, management must evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the Company's ability to continue as a going concern for one year from the date these consolidated financial statements are issued. This evaluation does not take into consideration the potential mitigating effect of management's plans that have not been fully implemented or are not within control of the Company as of the date the consolidated financial statements are issued. When substantial doubt exists, management evaluates whether the mitigating effect of its plans sufficiently alleviates substantial doubt about the Company's ability to continue as a going concern. The mitigating effect of management's plans, however, is only considered if both (1) it is probable that the plans will be effectively implemented within one year after the date that the consolidated financial statements are issued, and (2) it is probable that the plans, when implemented, will mitigate the relevant conditions or events that raise substantial doubt about the entity's ability to continue as a going concern within one year after the date that the consolidated financial statements are issued.

The Company evaluated whether there are any conditions and events, considered in the aggregate, that raise substantial doubt about its ability to continue as a going concern over the next twelve months through March 2024. Since inception, the Company has incurred significant operating losses and has an accumulated deficit of approximately \$1,819.8 million. As of December 31, 2022, the Company's existing sources of liquidity included cash and cash equivalents of \$33.6 million and marketable securities of \$69.2 million. The Company believes that its current level of cash and cash equivalents and marketable securities are not sufficient to fund commercial scale production and sale of its services and products. These conditions raise substantial doubt regarding its ability to continue as a going concern for a period of at least one year from the date of issuance of these consolidated financial statements.

In order to proceed with the Company's business plan, the Company will need to raise substantial additional funds through the issuance of additional debt, equity or both. Until such time, if ever, the Company can generate revenue sufficient to achieve profitability, the Company expects to finance its operations through equity or debt financings, which may not be available to the Company on the timing needed or on terms that the Company deems to be favorable. To the extent that the Company raises additional capital through the sale of equity or convertible debt securities, the ownership interest of its stockholders will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect the rights of common stockholders. Debt financing and equity financing, if available, may involve agreements that include covenants limiting or restricting the Company's ability to take specific actions, such as incurring additional debt, making acquisitions or capital expenditures or declaring dividends. If the Company is unable to obtain sufficient financial resources, its business, financial condition and results of operations will be materially and adversely affected. The Company may be required to delay, limit, reduce or terminate its product development activities or future commercialization efforts. There can be no assurance that the Company will be able to obtain the needed financing on acceptable terms or at all.

In an effort to alleviate these conditions, the Company continues to seek and evaluate opportunities to raise additional capital through the issuance of equity or debt securities. As an example, on August 2, 2022, the Company entered into a Common Stock Purchase Agreement with B. Riley Principal Capital II LLC ("B. Riley"), which would allow the Company to sell newly issued shares of its Class A common stock to B. Riley in aggregate amount not to exceed \$100.0 million or 19.99% of the aggregate outstanding Class A and Class B Common Stock of the Company as of August 2, 2022. See Note 13 – Stockholders' Equity for additional information about this financing arrangement. However, actual sales of shares under the Purchase Agreement will depend on a variety of factors including, among other things, market conditions and the trading price of the Class A common stock, and the full amount of capital may not be fully realized. As the Company seeks additional sources of financing, there can be no assurance that such financing would be available to the Company on favorable terms or at all. The Company's ability to obtain additional financing in the debt and equity capital markets is subject to several factors, including market and economic conditions, our performance and investor sentiment with respect to us and our industry.

As a result of these uncertainties, and notwithstanding management's plans and efforts to date, there is substantial doubt about the Company's ability to continue as a going concern. If the Company's unable to raise substantial additional capital in the near term, the Company's operations and production plans will be scaled back or curtailed. If the funds raised are insufficient to provide a bridge to full commercial production at a profit, the Company's operations could be severely curtailed or cease entirely and the Company may not realize any significant value from its assets.

The Company has, however, prepared these consolidated financial statements on a going concern basis, assuming that the Company's financial resources will be sufficient to meet our capital needs over the next twelve months. Accordingly, the Company's financial statements do not include adjustments relating to the recoverability and realization of assets and classification of liabilities that might be necessary should we be unable to continue in operation.

Use of Estimates and Judgments

The preparation of the consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities in the consolidated financial statements and accompanying notes. The Company bases these estimates on historical experience and on various other assumptions that it believes are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying amounts of assets and liabilities that are not readily apparent from other sources. Actual results could differ significantly from those estimates. Significant items subject to such estimates and assumptions include the valuations of reporting units and long-lived assets, inventory valuation and reserves, stock-based

compensation, pre-combination Astra common stock, useful lives of intangible assets and property, plant and equipment, deferred tax assets, income tax uncertainties, contingent consideration, and other contingencies.

Segment Reporting

Operating segments are identified as components of an enterprise about which separate discrete financial information is available for evaluation by the chief operating decision-maker (“CODM”) in making decisions regarding resource allocation and assessing performance. Prior to the third quarter of fiscal year 2022, the Company operated as one operating and reportable segment, as the CODM reviewed financial information presented on a consolidated basis for purposes of making operating decisions, allocating resources and evaluating financial performance.

During the third quarter of fiscal year 2022, the Company took steps to realign management and internal reporting, resulting in two operating and reportable segments: Launch Services and Space Products. The segment reporting for prior periods were recast to conform to the current period presentation. Refer to Note 16 – Segment Information for more information.

Cash and Cash Equivalents

The Company considers all highly liquid investment securities with original maturities of three months or less at the date of purchase to be cash equivalents. Cash and cash equivalents consists of cash deposited with banks and a money market account. The Company determines the appropriate classification of our cash and cash equivalents at the time of purchase.

Marketable Securities

Marketable securities consist of U.S. Treasury securities, corporate debt securities, commercial paper, and asset backed securities. The Company classifies marketable securities as available-for-sale at the time of purchase and reevaluates such classification as of each balance sheet date. Interest receivable on these securities is presented in other current assets on the consolidated balance sheets. All marketable securities are recorded at their estimated fair values. When the fair value of a marketable security declines below its amortized cost basis, the carrying value of the security will be reduced to its fair value if it is more likely than not that management is required to sell the impaired security before recovery of its amortized basis, or management has the intention to sell the security. If neither of these conditions are met, the Company determines whether any portion of the decline is due to credit losses. Any portion of that decline attributable to credit losses, to the extent expected to be nonrecoverable before the sale of the security, is recognized in the consolidated statements of operations. When the fair value of the security declines below its amortized cost basis due to changes in interest rates, such amounts are recorded in accumulated other comprehensive income (loss) and are recognized in the consolidated statements of operations only if the Company sells or intends to sell the security before recovery of its cost basis. Realized gains and losses are determined based on the specific identification method and are reported in other income (expense), net in the consolidated statements of operations.

Trade Accounts Receivable

Trade accounts receivable are recognized at the invoiced amount that represents an unconditional right to consideration under the contract with customers, less an allowance for any potential expected uncollectible amounts, and do not bear interest. The allowance for doubtful accounts is determined by estimating the expected credit losses based on historical experience, current economic conditions and certain forward-looking information, among other factors. Uncollectible accounts are written off when deemed uncollectible. No allowances for expected credit losses were recorded as of December 31, 2022 and 2021, and no accounts were written off during the years ended December 31, 2022 and 2021.

Concentration of Credit Risk

Financial instruments that potentially subject the Company to concentrations of credit risk consist of cash and cash equivalents, marketable securities, and accounts receivable. The Company maintains cash and cash equivalent balances in bank accounts with one bank. All cash accounts are located in the United States (“U.S.”) and insured by the FDIC up to \$250,000. The Company's cash balances exceed the insured values of the FDIC. See further discussion of SVB closure under "*Liquidity*" section above. Marketable securities consist of highly liquid investments with financial institutions, which management believes to be of a high credit quality. Our accounts receivable are derived from revenue earned from customers or invoice billed to customer that represent unconditional right to consideration located within the U.S. We mitigate collection risks from our customers by performing regular credit evaluations of our customers' financial conditions. The Company believes there is no exposure to any significant credit risks related to its cash and cash equivalents or accounts receivable and has not experienced any losses in such accounts.

As of December 31, 2022, three customers accounted for 53.3%, 21.7% and 20.8% of the Company's outstanding trade accounts receivable, respectively. As of December 31, 2021, no customers accounted for 10% or more of outstanding trade accounts receivable.

For the year ended December 31, 2022, two customers accounted for 37.0% and 59.0% of total revenues, respectively.

Inventories

Inventories consist of materials expected to be used for customer-specific contracts. Costs include direct material, direct labor, applicable manufacturing and engineering overhead, and other direct costs. Inventories are stated at the lower of cost or net realizable value determined by the first-in, first-out method. The Company assesses inventories quarterly for events or changes in circumstances indicating that the utility of our inventories have diminished through damage, deterioration, obsolescence, changes in price or other causes and records write-downs of inventories to research and development expense in the period for which they occur. A net realizable value write down is recorded, when actual costs exceed the estimated selling price less estimated selling costs.

Property, Plant and Equipment

Property, plant and equipment is measured at cost less any impairment losses and represents those assets with estimated useful lives exceeding one year. Repairs and maintenance are expensed as incurred. Costs for research and development equipment include amounts related to design, construction, launch and commissioning. Costs for production equipment include amounts related to construction and testing. Interest expense is capitalized on certain qualifying assets that take a substantial period of time to prepare for their intended use. Capitalized interest was not material for the years ended December 31, 2022 and 2021.

When the costs of certain components of an item of property, plant and equipment are significant in relation to the total cost of the item and the components have different useful lives, they are accounted for and depreciated separately.

Depreciation expense is recognized as an expense on a straight-line basis over the estimated useful life of the related asset to its residual value.

The estimated useful lives are as follows:

Asset class	Estimated useful life
Leasehold improvements	Lesser of lease term or useful life
Research and development equipment	5 years
Production equipment	10 years
Furniture and fixtures	5 years
Computer and software	3 years

Business Combinations

The Company accounts for business combinations under the acquisition method of accounting, which requires us to recognize separately from goodwill the assets acquired and the liabilities assumed at their acquisition date fair values. While we use our best estimates and assumptions to accurately value assets acquired and liabilities assumed at the acquisition date as well as contingent consideration, where applicable, our estimates are inherently uncertain and subject to refinement. As a result, during the measurement period, which may be up to one year from the acquisition date, we record adjustments to the assets acquired and liabilities assumed with the corresponding offset to goodwill. Upon the conclusion of the measurement period or final determination of the values of assets acquired or liabilities assumed, whichever comes first, any subsequent adjustments are recognized in our consolidated statements of operations. Accounting for business combinations requires our management to make significant estimates and assumptions, especially at the acquisition date including our estimates for intangible assets, contractual obligations assumed, pre-acquisition contingencies, and contingent consideration, where applicable. Although we believe the assumptions and estimates we have made are reasonable and appropriate, they are based, in part, on historical experience and information obtained from the management of the acquired company and are inherently uncertain. Critical estimates in valuing certain acquired intangible assets under the income approach include growth in future expected cash flows from product sales, revenue growth rate, technology royalty rate, expected life of the technology acquired, customer retention rate and discount rates. Unanticipated events and circumstances may occur that may affect the accuracy or validity of such assumptions, estimates or actual results.

Goodwill

Goodwill represents the excess of purchase price and related costs over the value assigned to the net tangible and identifiable intangible assets of businesses acquired. Goodwill is not amortized but is reviewed annually as of October 1 of each year (or more frequently if impairment indicators arise) for impairment. To review for impairment, we first assess qualitative factors to determine whether events or circumstances lead to a determination that it is more likely than not that the fair value of a reporting unit is less than its carrying amount. Our qualitative assessment of the recoverability of goodwill, whether performed annually or based on specific events or circumstances, considers various macroeconomic, industry-specific and company-specific factors. Those factors include: (i) severe adverse industry or economic trends; (ii) significant company-specific actions; (iii) current, historical or projected deterioration of our financial performance; or (iv) a sustained decrease in our market capitalization below our net book value. After assessing the totality of events and circumstances, if we determine that it is not more likely than not that the fair value of a reporting unit is less than its carrying amount, no further assessment is performed. If we determine that it is more likely than not that the fair value of a reporting units is less than its carrying amount, we calculate the fair value of that reporting unit and compare the fair value to the reporting unit's net book value. If the fair value of the reporting unit is greater than its net book value, there is no impairment. Otherwise, we record a goodwill impairment charge for the amount by which the carrying value of the reporting unit exceeds its fair value up to the amount of the

goodwill. Determining the fair value of a reporting unit involves the use of significant estimates and assumptions. Goodwill was fully impaired in the fiscal year 2022. See further discussion in Note 5 – Goodwill and Intangible Assets.

Long-lived Assets

Purchased finite-lived intangible assets are carried at cost less accumulated amortization. Amortization is recognized over the useful life on a straight-line method. Purchased indefinite-lived intangible asset are capitalized at fair value and assessed for impairment thereafter. Long-lived assets are reviewed for impairment whenever factors or changes in circumstances indicate that the carrying amounts of long-lived assets, including purchased intangible assets and property, plant and equipment, may not be recoverable. Factors we consider important which could trigger an impairment review include (i) significant under-performance relative to historical or projected future operating results, (ii) significant changes in the manner of our use of the acquired assets or the strategy for our overall business, and (iii) significant negative industry or economic trends. Long-lived asset recoverability is measured by comparing the carrying amount of the asset group with its estimated future undiscounted pre-tax cash flows over the remaining life of the primary long-lived asset of the asset group. Assumptions and estimates about future values and remaining useful lives are complex and often subjective. They can be affected by a variety of factors including external factors, industry and economic trends, and internal factors, such as changes in our business strategy and our internal forecasts. If the carrying amount exceeds the estimated future undiscounted cash flows as part of the recoverability assessment, an impairment charge is recognized equal to the difference between the carrying amount and fair value of the asset group. The impairment charge is allocated to the underlying long-lived assets in the asset group on a relative carrying amount basis; however, carrying amount after allocated impairment is subject to a floor of fair value on an individual asset basis. The Company recognized impairments of long-lived assets in the fiscal year 2022. See further discussion in Note 4 – Supplemental Financial Information.

Leases

The Company determines whether a contract is or contains a lease at contract inception by evaluating whether substitution rights exist and whether the Company obtains substantially all of the benefits and directs the use of the identified asset. When the Company determined a lease exists, the Company records a right-of-use asset (“ROU asset”) and corresponding lease liability in the consolidated balance sheets. ROU assets represent the Company’s right to use an underlying asset for the lease term. Lease liabilities represent the Company’s obligation to make lease payments arising from the lease. ROU assets are recognized at the commencement date of the lease at the value of the lease liability, adjusted for any prepayments, lease incentives received, and initial direct costs incurred. Lease liabilities are recognized at the commencement date of the lease based on the present value of remaining lease payments over the lease term. As the discount rate implicit in the lease is not readily determinable in most leases, the Company uses its incremental borrowing rate based on the information available at the commencement date of the lease in determining the present value of lease payments. Lease terms may include options to extend or terminate the lease when it is reasonably certain that the Company will exercise that option.

The Company does not record lease contracts with a lease term of 12 months or less on its consolidated balance sheets. Fixed lease costs associated with these short-term contracts are expensed on a straight-line basis over the lease term.

The Company does not record lease contracts acquired in a business combination with a remaining lease term of 12 months or less on its consolidated balance sheets. Fixed lease costs associated with these short-term contracts are expensed on a straight-line basis over the lease term.

The Company recognizes lease expense for operating leases on a straight-line basis over the lease term. For finance leases, the Company recognizes amortization expense on the ROU asset and interest expense on the lease liability over the lease term.

The Company has lease agreements with non-lease components that relate to the lease components. The Company accounts for each lease component and any non-lease components associated with that lease component as a single lease component for all underlying asset classes. Accordingly, all costs associated with a contract that is or contains a lease are accounted for as lease costs.

Some leasing arrangements require variable payments that are dependent on usage, output, or may vary for other reasons, such as insurance and tax payments. These variable lease costs are recognized as incurred over the lease term.

The Company does not include significant restrictions or covenants in lease agreements, and residual value guarantees are generally not included within the Company’s leases. See Note 9 — Leases.

Fair Value Measurements

According to ASC Topic 820, *Fair Value Measurements and Disclosures* (“ASC 820”), fair value is defined as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in an orderly transaction between market participants at the measurement date. The fair value hierarchy establishes three tiers, which prioritize the inputs used in measuring fair value as follows:

- Level 1 — Observable inputs, such as quoted prices in active markets for identical assets or liabilities;
- Level 2 — Inputs, other than quoted prices in active markets, that are observable either directly or indirectly; and
- Level 3 — Unobservable inputs in which there is little or no market data, which require the reporting entity to develop its own assumptions.

Entities are permitted to choose to measure certain financial instruments and other items at fair value. The Company has not elected the fair value measurement option for any of the assets or liabilities that meet the criteria for this election.

Derivative Instruments

The Company recognizes all derivative instruments as either assets or liabilities in the consolidated balance sheets at their respective fair values. The Company evaluates its debt and equity issuances to determine if those contracts or embedded components of those contracts qualify as derivatives requiring separate recognition in the Company's consolidated financial statements. The result of this accounting treatment is that the fair value of the embedded derivative is revalued as of each reporting date and recorded as a liability, and the change in fair value during the reporting period is recorded in other income, net in the consolidated statements of operations.

The classification of derivative instruments, including whether such instruments should be recorded as assets/liabilities or as equity, is reassessed at the end of each reporting period. Derivative instrument assets and liabilities are classified in the consolidated balance sheets as current or non-current based on whether or not net-cash settlement of the derivative instrument is expected within twelve months of the consolidated balance sheets dates. When a derivative instrument is sold, terminated, exercised or expires, the gain or loss is recorded in the consolidated statements of operations.

The Company did not have a derivative liability related to the share settlement obligation of the Company's convertible notes as of December 31, 2022 and 2021. See Note 6 — Long-Term Debt.

Warrant Liabilities

The Company accounts for warrants as either equity-classified or liability-classified instruments based on an assessment of the warrant's specific terms and applicable authoritative guidance in ASC 480, Distinguishing Liabilities from Equity ("ASC 480") and ASC 815, Derivatives and Hedging ("ASC 815"). The assessment considers whether the warrants are freestanding financial instruments pursuant to ASC 480, meet the definition of a liability pursuant to ASC 480, and whether the warrants meet all of the requirements for equity classification under ASC 815, including whether the warrants are indexed to the Company's common stock, among other conditions for equity classification. This assessment, which requires the use of professional judgment, is conducted at the time of warrant issuance and as of each subsequent quarterly period end date while the warrants are outstanding.

For issued or modified warrants that meet all of the criteria for equity classification, the warrants are required to be recorded as a component of additional paid-in capital at the time of issuance. For issued or modified warrants that do not meet all the criteria for equity classification, the warrants are required to be recorded at their initial fair value on the date of issuance, and at each reporting period thereafter. Changes in the estimated fair value of the warrants are recognized as a non-cash gain or loss on the statements of operations. The Company redeemed all outstanding private and public warrants as of December 27, 2021.

Convertible Preferred Stock

Series A, B and C convertible preferred stock ("Convertible Preferred Stock") were classified in temporary equity prior to their conversion in June 2021 as they contain terms that could require the Company to redeem them for cash at the option of the holder or the occurrence of other events not solely within the Company's control. The shares of Series A, B and C Convertible Preferred Stock were converted into Class A common stock upon consummation of the Business Combination.

Revenue Recognition

The Company recognizes revenue to reflect the transfer of promised goods or services to customers in an amount that reflects the consideration to which the Company expects to be entitled in exchange for those goods or services. Through its current and anticipated offerings, the Company expects to generate revenue by providing the following services:

Launch Services — To provide rapid, and affordable Launch Services to satellite operators and governments in partnership with third-party spaceport providers. The Launch Services include services tied directly to launch along with complementary services that are not part of the Company's fixed pricing for which the Company charges a separate fee. Prior to suspending its Launch Services operations to focus on developing Launch System 2, the Company operated its launches from Pacific Spaceport Complex in Kodiak, Alaska and Cape Canaveral Space Force Station in Cape Canaveral, Florida.

Space Products — To design and provide Space Products based on the customers' needs for a successful satellite launch and other products that the Company may sell in the future. Currently the Company offers two in-space electric propulsion systems.

As of December 31, 2022, the Company has entered into contracts for Launch Services and Space Products. The Company's contracts may provide customers with termination for convenience clauses, which may or may not include termination penalties. In some contracts, the size of the contractual termination penalty increases closer to the scheduled launch date. At each balance sheet date, the Company evaluates each contract's termination provisions and the impact on the accounting contract term (i.e., the period in which the Company has enforceable rights and obligations). This includes evaluating whether there are termination penalties and, if so, whether they are considered substantive. The Company applies judgment in determining whether the termination penalties are substantive. In July 2022, the Company decided to focus on the development and production of the next version of its launch system. As a result, the Company discontinued the production of launch vehicles supported by Launch System 1 and did not conduct any further commercial

launches in 2022. The Company began discussions with customers for whom it agreed to launch payloads on launch vehicles supported by Launch System 1 and the shift of those flights to launch vehicles supported by its new Launch System 2. If a customer terminates its contract with the Company due to the shifting of the flights, the customer may not be obligated to pay the termination for convenience penalties. As of December 31, 2022, the Company has not incurred any termination penalties in Launch Services as a result of the rescheduling of launches.

Revenue for Launch Services and Space Products is recognized at a point in time when the Company has delivered the promised services or products to customers. Although the Company's contracts are anticipated to last anywhere from six to 24 months, depending on the number of Launch Services or units of space products ordered, the delivery of services leading up to the launch within the contracts is short-term in nature, generally between 30 to 60 days. The timing of revenue recognition may differ from contract billing or payment schedules, resulting in revenues that have been earned but not billed ("contract assets" or "unbilled revenue") or amounts that have been collected, but not earned ("contract liabilities"). Payment terms can vary by customer and type of revenue contract.

Typical Contractual Arrangements

The Company expects to provide its services based upon a combination of a statement of work ("SOW") and an executed contract detailing the general terms and conditions. Services are expected to be provided based on a fixed price per launch service or units of Space Products as identified in the contract.

Performance Obligations and Transaction Price

At contract inception, an assessment of the goods and services promised in the contracts with customers is performed and a performance obligation is identified for each distinct promise to transfer to the customer a good or service (or bundle of goods or services). To identify the performance obligations, the Company considers all the goods or services promised in the contract regardless of whether they are explicitly stated or are implied by customary business practices. A contract for Launch Services generally requires the Company to provide an integrated service for each launch, which includes launch vehicle analysis and design, development and production, payload integration, launch preparation and launch support execution. The intention of the contract is to provide a full-service launch to the customer rather than providing separate deliverables of each of the services outlined above, and these services are interdependent and interrelated. The Company believes that each dedicated launch will represent one single performance obligation. A contract for Space Products generally requires the Company to provide integrated propulsion systems, which includes analysis and design, development and production. The intention of the contract is to provide a fully functional propulsion system to the customer and all the activities are interdependent and interrelated. The Company believes that the delivery of each propulsion system represents one single performance obligation.

The transaction price is defined as the amount of consideration in a contract to which an entity expects to be entitled in exchange for transferring promised goods or services to a customer, which is a fixed price stated in the contract.

When a contract involves multiple launches or units, the Company accounts for each launch or unit as a separate performance obligation, because the customer can benefit from each launch or unit on its own or with other readily available resources and the launch or unit is separately identifiable. The transaction price is allocated to each performance obligation on an estimated relative standalone selling price basis. The Company's process to estimate standalone selling prices involves management's judgment and considers multiple factors such as prices charged for similar goods and services and the Company's ongoing pricing strategy and policies.

Costs to obtain a contract

The Company recognizes an asset for the incremental costs of obtaining a contract with a customer. These costs are ascribed to or allocated to the underlying performance obligations in the contract and amortized consistent with the recognition timing of the revenue for the underlying performance obligations. During the years ended December 31, 2022 and 2021, the Company did not recognize any expenses related to contract costs. The Company had no assets related to costs to obtain contracts as of December 31, 2022 and 2021.

For contract costs related to performance obligations with an amortization period of one year or less, the Company applies the practical expedient to expense these sales commissions when incurred. These costs are recognized as incurred within sales and marketing expenses on the accompanying consolidated statements of operations.

Significant financing components

In certain arrangements, the Company may receive payment from a customer either before or after the performance obligation has been satisfied. Depending on the expected timing difference between the payment and satisfaction of performance obligations, the Company assesses whether a significant financing component exists.

Research and Development ("R&D")

The Company incurs various direct costs in relation to the research and development of launch vehicles along with costs to build the facility to test such vehicles and spacecraft. R&D costs consist primarily of production supplies, testing materials, personnel costs (including salaries and benefits), depreciation expense, overhead allocation (consisting of various support and facility costs), stock-

based compensation and consulting fees. R&D costs are expensed as incurred. For the years ended December 31, 2022 and 2021, the Company expensed research and development costs of \$140.7 million and \$80.4 million, respectively.

Stock-Based Compensation

The Company recognizes compensation expense for time-based restricted stock units (“RSUs”) over the requisite service period based on the fair value of RSUs on the date of grant. The fair value of RSUs is the closing market price of Astra common stock on the date of grant. We recognize compensation expense for time-based stock options and employee stock purchase plan, based on the estimated grant-date fair value determined using the Black-Scholes valuation model over the requisite service period.

Certain stock options include service, market and performance conditions (“performance-based stock options” or “PSO”). The fair value of performance-based stock options is estimated on the date of grant using the Monte Carlo simulation model. Certain RSUs also include service and performance conditions (“performance-based units” or “PSU”). The fair value of performance-based units is the closing market price of Astra common stock on the date of grant. Awards that include performance conditions are assessed at the end of each reporting period whether those performance conditions are met or probable of being met and involves significant judgment. For performance-based stock options, stock-based compensation expense associated with each tranche is recognized over the longer of (i) the expected achievement period for the operational milestone for such tranche and (ii) the expected achievement period for the related share price milestone determined on the grant date, beginning at the point in time when the relevant operational milestone is considered probable of being achieved. If such operational milestone becomes probable any time after the grant date, we will recognize a cumulative catch-up expense from the grant date to that point in time. If the related share price milestone is achieved earlier than its expected achievement period and the achievement of the related operational milestone, then the stock-based compensation expense will be recognized over the expected achievement period for the operational milestone, which may accelerate the rate at which such expense is recognized. For performance-based units, stock-based compensation expense associated with each tranche is recognized over the longer of the expected performance achievement period of individual performance milestones and the implicit service period when the achievement of each individual performance milestone becomes probable.

The Company does not apply an expected forfeiture rate at the time of grant and accounts for forfeitures as they occur. See Note 14 — Stock-based Compensation.

Income Taxes

The Company follows the asset and liability method of accounting for income taxes under ASC Topic 740, *Income Taxes* (“ASC 740”). Deferred tax assets and liabilities are recognized for the expected future tax consequences of temporary differences between consolidated financial statement carrying amounts and the tax basis of assets and liabilities and net operating loss and tax credit carryforwards. Valuation allowances are established when necessary to reduce deferred tax assets to the amount expected to be realized.

The Company determines whether it is more likely than not that a tax position will be sustained upon examination. If it is not more likely than not that a position will be sustained, no amount of benefit attributable to the position is recognized. The tax benefit to be recognized of any tax position that meets the more likely than not recognition threshold is calculated as the largest amount that is more than 50% likely of being realized upon resolution of the contingency.

It is the Company’s policy to include interest and penalties related to unrecognized tax benefits as a component of income tax expense. The Company is currently not aware of any issues under review that could result in significant payments, accruals or material deviation from its position. See Note 8 — Income Taxes.

Earnings (Loss) per Share

Net loss per share is calculated using the two-class method required for participating securities and multiple classes of common stock. The Company considers convertible preferred stock to be participating securities as the holders have the right to participate in dividends with the common stockholders on a pro-rata, as converted basis. Prior to any dividends or earnings distribution to common stock, the holders of the Convertible Preferred Stock have a right to preferential dividends. Thus, any profit would be allocated to common stock and convertible preferred stock on a pro-rata, as converted basis following distribution of the preferential dividends to convertible preferred stockholders. Since application of the if-converted method results in anti-dilution, the two-class method is not applied to convertible preferred stock in the diluted earnings (loss) per share calculation. The dilutive effect of warrants, RSUs and stock options is computed using the treasury stock method. Diluted earnings (loss) per share excludes all dilutive potential shares if their effect is anti-dilutive. See Note 15 — Loss per Share.

Commitments and Contingencies

The Company accrues for claims and litigation when they are both probable and the amount can be reasonably estimated. Where timing and amounts cannot be reasonably determined, a range is estimated, and the lower end of the range is recorded. Legal costs incurred in connection with loss contingencies are expensed as incurred. See Note 11 — Commitments and Contingencies.

Recently Issued Accounting Standards Not Yet Adopted

In December 2022, the Financial Accounting Standards Board (“FASB”) issued Accounting Standards Update (“ASU”) No. 2022-06, Reference Rate Reform (Topic 848), Deferral of the Sunset Date of Topic 848 (“ASU 2022-06”). In March 2020, the FASB issued ASU No. 2020-04, Reference Rate Reform (Topic 848), Facilitation of the Effects of Reference Rate Reform on Financial Reporting (“ASU 2020-04”), which provided temporary relief when transitioning from the London Interbank Offered Rate (“LIBOR”) to the Secured Overnight Financing Rate (“SOFR”) or another applicable rate during the original transition period ending on December 31, 2022. In March 2021, the UK Financial Conduct Authority (the “FCA”) announced that the intended cessation date of the overnight 1-, 3-, 6-, and 12-month tenors of U.S. dollar LIBOR would be June 30, 2023, which is beyond the current sunset date of Topic 848. In light of this development, the FASB issued this update to defer the sunset date of Topic 848 from December 31, 2022, to December 31, 2024, after which entities will no longer be permitted to apply the relief in Topic 848. The Company does not anticipate this new guidance to have a material impact on its financial position, results of operations, cash flows, or related disclosures.

Recently Adopted Accounting Guidance

In May 2021, the FASB issued ASU No. 2021-04, Earnings Per Share (Topic 260), Debt—Modifications and Extinguishments (Subtopic 470-50), Compensation—Stock Compensation (Topic 718), and Derivatives and Hedging—Contracts in Entity’s Own Equity (Subtopic 815-40) (“ASU 2021-04”). ASU 2021-04 outlines how an entity should account for modifications made to equity-classified written call options, including stock options and warrants to purchase the entity’s own common stock. The guidance in the ASU requires an entity to treat a modification of an equity-classified written call option that does not cause the option to become liability-classified as an exchange of the original option for a new option. This guidance applies whether the modification is structured as an amendment to the terms and conditions of the equity-classified written call option or as termination of the original option and issuance of a new option. The Company adopted ASU 2021-04, effective January 1, 2022, and concluded that it did not have a material impact on its financial position, results of operations, cash flows, or related disclosures.

Note 2 — Revenues

The work performed by the Company in fulfilling Launch Services and Space Products performance obligations is not expected to create an asset to the customer since the launch vehicle that is built to deliver the customer’s payload into orbit will not be owned by the customer or the propulsion systems that are built to thrust the customers' satellite into orbit will not be controlled by the customer until they are delivered to the customer. The Company recognizes revenue at a point in time upon satisfaction of the performance obligations under its Launch Services and Space Products agreements. The following table presents revenue disaggregated by type of revenue for the periods presented:

	For The Year Ended December 31,	
	2022	2021
Launch services	\$ 5,899	\$ —
Space products	3,471	—
Total revenues	\$ 9,370	\$ —

Contracts with governmental entities involving research and development milestone activities do not represent contracts with customers under ASC 606, and as such, amounts received are recorded in other income (expense), net in the consolidated statements of operations. The Company recorded \$5.8 million and \$1.5 million in other income for the years ended December 31, 2022 and 2021.

Contract balances

Contract assets and liabilities represent the differences in the timing of revenue recognition from the receipt of cash from the Company’s customers and billings. Contract assets reflect revenue recognized and performance obligations satisfied in advance of customer billing. Contract liabilities relate to payments received in advance of the satisfaction of performance under the contract. Contract assets become receivables once the Company’s rights to consideration become unconditional. Such rights are considered unconditional if only the passage of time is required before payment of that consideration is due. The Company had no contract assets as of December 31, 2022 and 2021. The Company had contract liabilities of \$24.1 million and \$10.4 million as of December 31, 2022 and 2021, respectively. The Company recognized revenue of \$5.2 million and no revenue during the years ended December 31, 2022 and 2021, respectively, included in the contract liabilities balance at the beginning of the period.

Remaining performance obligations

Revenue allocated to remaining performance obligations represents the transaction price allocated to the performance obligations that are unsatisfied, or partially unsatisfied. It includes unearned revenue and amounts that will be invoiced and recognized as revenue in future periods and does not include contracts where the customer is not committed. Customers are not considered committed when they are able to terminate their contractual obligations to the Company without payment of a substantive penalty under the contract. Many of the Company’s contracts allow the customer to terminate the contract prior to launch or delivery without a substantive penalty, and therefore the enforceable contract is for a period less than the stated contractual term. Further, the Company has elected not to disclose the value of unsatisfied performance obligations for contracts with an original expected length of one year or less. The Company had

unsatisfied performance obligations of \$30.7 million as of December 31, 2022, \$22.9 million of which is expected to be recognized in fiscal year 2023 with the remainder recognized between 2024 and 2026.

Note 3 — Acquisitions

Acquisition of Apollo Fusion, Inc.

On July 1, 2021 (the “Apollo Acquisition Date”), the Company, through its wholly owned indirect subsidiary, merged with Apollo Fusion, Inc. (“Apollo”). The results of Apollo’s operations have been included in the consolidated financial statements since that date. Apollo designs, tests, manufactures and operates propulsion modules to enable satellites to orbit in space.

The fair value of the consideration paid as of July 1, 2021, was \$70.8 million, net of cash acquired (the “Apollo Merger”), which consisted of the following:

<i>Purchase Consideration (in thousands)</i>	
Cash paid for outstanding Apollo common stock and options	\$ 19,926
Fair value of Astra Class A common stock issued	33,008
Fair value of contingent consideration	18,400
Total purchase consideration	71,334
Less: cash acquired	566
Total purchase consideration, net of cash acquired	\$ 70,768

The fair value of the shares of Class A common stock issued in the Apollo Merger was determined based on the closing market price of the Company’s Class A common stock on the Apollo Acquisition Date.

The vesting of all unvested stock options of Apollo granted prior to the Apollo Acquisition Date were accelerated prior to the acquisition and were then canceled in exchange for a right of each option-holder to cash, equity and contingent consideration based on their pro-rata percentage, assuming all stock options of Apollo had been exercised.

The contingent consideration requires the Company to pay up to \$75.0 million of additional consideration to Apollo’s former shareholders and option-holders, if Apollo meets certain customer revenue related milestones from the Apollo Acquisition Date through December 31, 2023. The contingent consideration is earned, which is a combination of total contract value and relevant payout ratio, if the contract with the customer is entered into after the acquisition date and 25% of revenue under the contract is recognized by December 31, 2023. Contingent consideration is payable in the form of 20% cash and 80% Class A common stock on a quarterly basis based on the milestones achieved. The fair value of the contingent consideration arrangement at the acquisition date was \$18.4 million. The Company estimated the fair value of the contingent consideration using a Monte Carlo simulation model. This fair value measurement is based on significant inputs not observable in the market and thus represents a Level 3 measurement as defined in ASC 820. As of December 31, 2022, the contingent consideration liability increased to \$33.9 million as a result of changes in forecasted revenues subject to milestone payments and the passage of time. The Company has recognized \$15.5 million in cumulative net losses on changes in fair value of contingent consideration from the Apollo Acquisition Date.

An additional \$10.0 million of cash (“Cash Earnout”) was to be paid to employees of Apollo that joined the Company, subject to certain vesting conditions, as amended. The Cash Earnout is accounted for as compensation expense over the requisite service period in the post-acquisition period as the payment is subject to the employee's continued employment with the Company. The Company has recognized \$8.4 million in compensation cost from the Apollo Acquisition Date, of which \$2.6 million in compensation cost was recognized in research and development expense in the consolidated statement of operations for the year ended December 31, 2022. During the third quarter of 2022, the agreement was amended to remove the performance conditions, and the Company paid \$1.7 million to fulfill its remaining obligation under the Cash Earnout as of the third quarter of 2022. The remaining accrued liability of \$1.9 million was written off, since the total eligible compensation under the Cash Earnout was fully paid.

In addition, the Company awarded 1,047,115 Performance Stock Units (“PSUs”) to employees of Apollo that joined the Company, subject to certain performance-based milestones, as amended, and other vesting provisions. The PSUs are accounted for as compensation expense over the requisite service period in the post-acquisition period as the vesting of PSUs is subject to time-based and performance-based vesting conditions. During the third quarter of 2022, the performance stock award agreements were amended to remove the performance-based milestone as a vesting condition. The PSUs now are only subject to vesting based on the applicable employees’ years of service. See Note 14 — Stock-Based Compensation for additional information.

The Company allocated the fair value of the purchase consideration to the tangible assets, liabilities and intangible assets acquired, based on the fair values as of the acquisition date. During the year ended December 31, 2021, the Company recorded measurement period adjustments, reducing its acquisition date goodwill by approximately \$3.0 million primarily to decrease the fair value of contingent consideration by \$4.6 million and intangible assets by \$1.7 million based on the alignment of Apollo's accounting policies related to revenue recognition under the contract with customers which impacted the revenues forecasted for the valuation of contingent consideration and intangible assets acquired. In addition, the change to the preliminary amount of intangible assets resulted in a decrease

in amortization expense and accumulated amortization of \$0.2 million. We completed the valuation as of March 31, 2022. The excess purchase price over those fair values is recorded as goodwill. The valuation assumptions of acquired assets and assumed liabilities require significant estimates, especially with respect to intangible assets. The final purchase consideration allocation is presented in the following table.

<i>(in thousands)</i>	Fair Value
Inventory	\$ 131
Prepaid and other current assets	796
Property, plant and equipment	996
Right of use assets	163
Goodwill	58,251
Intangible assets	15,350
Other non-current assets	75
Total assets acquired	75,762
Accounts payable	(950)
Accrued expenses and other current liabilities	(1,939)
Operating lease obligation	(163)
Other non-current liabilities	(1,942)
Total liabilities assumed	(4,994)
Fair value of net assets acquired	\$ 70,768

Goodwill is primarily attributable to the assembled workforce and anticipated synergies expected from the integration of the Apollo business. The synergies include operating efficiencies, and other strategic benefits projected to be achieved as a result of the Apollo Merger. Goodwill is not deductible for tax purposes.

There were \$3.5 million and no revenues recorded during the years ended December 31, 2022 and 2021, respectively, related to Apollo. It was impracticable to determine the effect on net income attributable to Apollo as the Company had integrated a substantial portion of Apollo into its ongoing operations during the year.

The following table represents information related to the acquired intangibles assets from the Apollo Merger.

	Fair Value	Weighted-Average
	(in thousands)	Amortization Periods
		(in years)
Developed technology	\$ 12,100	6
Customer contracts and related relationships	2,900	3
Order backlog	200	1
Tradename	150	2
Total identified intangible assets	\$ 15,350	

Developed technology relates to propulsion modules. The Company valued the developed technology using the relief-from-royalty method under the income approach. This method is based on the application of a royalty rate to forecasted revenue that are expected to be generated by developed technology. The economic useful life was determined based on the technology cycle related to the developed technology, as well as the cash flows over the forecast period.

Customer contracts and related relationships represent the fair value of future projected revenue that will be derived from sales of products to existing customers of Apollo. Customer contracts and related relationships were valued using the multi-period excess earnings method under the income approach. This method reflects the present value of the projected cash flows that are expected to be generated by the customer contracts and related relationships less charges representing the contribution of other assets to those cash flows. The economic useful life was determined based on historical customer turnover rates.

Order backlog represents business under existing contractual obligations. The fair value of backlog was determined using the multi-period excess earnings method under the income approach based on expected operating cash flows from future contractual revenue. The economic useful life was determined based on the expected life of the backlog and the cash flows over the forecast period.

Trade name relates to the “Apollo” trade name. The fair value was determined by applying the relief-from-royalty method under the income approach. This method is based on the application of a royalty rate to forecasted revenue under the trade name. The economic useful life was determined based on the expected life of the trade name and the cash flows anticipated over the forecast period.

The Company believes the amounts of purchased intangible assets recorded above represent the fair values of, and approximate the amounts a market participant would pay for, these intangible assets as of the Apollo Acquisition Date.

Unaudited Pro Forma Information

The following unaudited pro forma financial information presents combined results of operations for the period presented, as if Apollo had been acquired as of the beginning of fiscal year 2020. The unaudited pro forma results include certain pro forma adjustments to revenue and net loss that were directly attributable to the acquisition including transaction costs and amortization of intangible assets. Transactions costs of approximately \$4.4 million are assumed to have occurred on January 1, 2020 and are recognized as if incurred in the first quarter of 2020. Of these transaction costs, \$0.4 million are incurred by Apollo and \$4.0 million are incurred by the Company. Intangible assets are assumed to be recognized at their assigned fair values as of the pro forma close date of January 1, 2020 and are amortized over their estimated useful lives. The amortization expenses were \$3.1 million for the years ended December 31, 2021. The unaudited pro forma information presented below is for informational purposes only and is not necessarily indicative of our consolidated results of operations of the combined business had the acquisition actually occurred at the beginning of fiscal year 2020 or of the results of our future operations of the combined business.

<i>in thousands</i>	For The Year Ended December 31, 2021	
Pro forma net revenues	\$	400
Pro forma net loss and net loss attributable to common stockholders	\$	(255,268)

Reverse Recapitalization

On June 30, 2021, pre-combination Astra Space, Inc. and Holicity Inc. consummated the Business Combination contemplated by the BCA, with pre-combination Astra surviving the merger as a wholly owned subsidiary of Holicity. Upon consummation of the Business Combination, Holicity changed its name to Astra Space, Inc., and pre-combination Astra changed its name to Astra Space Operations, Inc.

Immediately following the Business Combination, there were 198,090,903 shares of Class A common stock and 56,239,188 shares of Class B common stock issued and outstanding with a par value of \$0.0001. Additionally, there were outstanding options to purchase an aggregate of 5,993,412 shares of Class A common stock and outstanding warrants to purchase 15,813,829 shares of Class A common stock.

The Business Combination was accounted for as a reverse recapitalization in accordance with GAAP as pre-combination Astra has been determined to be the accounting acquirer. Under this method of accounting, while Holicity was the legal acquirer, it has been treated as the “acquired” company for financial reporting purposes. Accordingly, the Business Combination was treated as the equivalent of pre-combination Astra issuing stock for the net assets of Holicity, accompanied by a recapitalization. The net assets of Holicity were stated at historical cost, with no goodwill or other intangible assets recorded. Operations prior to the Business Combination are those of pre-combination Astra. Reported shares and earnings per share available to holders of the Company’s common stock, prior to the Business Combination, have been retroactively restated as shares reflecting the exchange ratio established in the BCA (approximately one pre-combination Astra share to 0.665 of the Company's shares).

The most significant change in the post-combination Company’s reported financial position and results was an increase in cash, net of transactions costs, of \$463.6 million, including \$200.0 million in gross proceeds from the private placements (the “PIPE”). In connection with the Business Combination, \$25.2 million of transaction costs were paid on the Closing Date. Additionally, on the Closing Date, the Company repaid the short-term promissory notes with Pendrell (the “Bridge Loan”) of \$10.4 million, which included principal of \$10.0 million and end of term fee of \$0.4 million as of June 30, 2021. The Company also repaid the outstanding principal and interest of \$4.6 million for the term loan and equipment advances with Silicon Valley Bank. Refer to Note 6 – Long-Term Debt.

The Company incurred \$25.5 million in transaction costs relating to the merger with Holicity, of which \$23.3 million has been recorded against additional paid-in capital in the consolidated balance sheets, and the remaining amount of \$2.2 million was recognized as general and administrative expenses on the consolidated statements of operations for the year ended December 31, 2021. On the date of the Business Combination, the Company recorded a liability related to the Public and Private Placement Warrants of \$56.8 million, with an offsetting entry to additional paid-in capital. In relation to the Public and Private Placement Warrants, the Company recognized a portion of pre-combination Astra’s capitalizable transaction costs relating to the merger with Holicity, using the relative fair value method, as general and administrative expenses in the consolidated statements of operations for the year ended December 31, 2021.

Upon closing of the Business Combination, the shareholders of Holicity, including Holicity founders, were issued 37,489,019 shares of Class A common stock. In connection with the Closing, holders of 10,981 shares of common stock of Holicity were redeemed at a price per share of \$10.00. In connection with the Closing 20,000,000 shares were issued to PIPE investors at a price per share of \$10.00.

The number of shares of Class A common stock issued immediately following the consummation of the Business Combination were:

Common stock of Holicity	29,989,019
Holicity founder shares	7,500,000
Shares issued in PIPE	20,000,000
Business Combination and PIPE shares	57,489,019
Pre-combination Astra shares	140,601,884
Total shares of Class A common stock immediately after Business Combination	198,090,903

In addition, in connection with the consummation of the Business Combination, 56,239,188 shares of Class B common stock were issued to two executive officers and founders of the Company: Chris Kemp and Adam London in exchange for an aggregate 73,699,647 shares of common stock and an aggregate 10,870,562 shares of Founders Preferred Stock of pre-combination Astra.

Note 4 — Supplemental Financial Information

Inventories

<i>in thousands</i>	As Of December 31,	
	2022	2021
Raw materials	\$ 2,206	\$ 5,775
Work in progress	4,594	941
Finished goods	—	959
Inventories	\$ 6,800	\$ 7,675

There were \$18.8 million of inventory write-downs recorded within cost of revenues during the year ended December 31, 2022, of which \$10.2 million related to the discontinuance of production of the Rocket 3 version of its launch vehicle as the Company focused on developing Launch System 2, beginning in July 2022. There were \$6.7 million inventory net realizable value write-downs recorded during the year ended December 31, 2021.

Property, Plant and Equipment, net

Presented in the table below are the major classes of property, plant and equipment:

<i>in thousands</i>	As Of December 31,	
	2022	2021
Construction in progress	\$ 8,309	\$ 39,246
Computer and software	2,810	3,092
Leasehold improvements	10,390	14,177
Research equipment	9,042	8,935
Production equipment	14,100	10,442
Furniture and fixtures	565	1,001
Total property, plant and equipment	45,216	76,893
Less: accumulated depreciation	(20,945)	(10,577)
Property, plant and equipment, net	\$ 24,271	\$ 66,316

Depreciation expense amounted to \$10.4 million and \$3.7 million for the years ended December 31, 2022 and 2021, respectively.

During the year ended December 31, 2022, the Company determined that impairment indicators were present based on the following: (a) reorganization of its reporting structure into two operating segments, (b) a sustained decrease in the Company's share price, (c) existence of substantial doubt about the Company's ability to continue as a going concern, and (d) macroeconomic factors affecting the Company's business. Accordingly, the Company assessed its long-lived assets for recoverability and recorded a non-cash impairment charge of \$72.1 million primarily related to leasehold improvements, production equipment and research equipment of Launch Services in the consolidated statements of operations for the year ended December 31, 2022. The Company compared the sum of the undiscounted future cash flows attributable to the Launch Services and Space Products asset groups (the lowest level for which identifiable cash flows are available) to their respective carrying amounts and concluded that the Space Products asset group was recoverable. The Launch Services asset group was not recoverable, and the Company proceeded with the comparison of the asset group's carrying amount to its fair value, resulting in a non-cash impairment charge. The fair values of the Company's asset groups were determined using a discounted cash flow model. Significant inputs included discount rates, forecasted revenue growth, and forecasted operating expenses. These valuation inputs are considered Level 3 inputs as defined by ASC 820. The historical costs of the Company's property, plant and equipment were adjusted by these impairment charges to derive the carrying amounts in the table above. No impairment charges were recorded for the year ended December 31, 2021.

Accrued Expenses and Other Current Liabilities

<i>in thousands</i>	As Of December 31,	
	2022	2021
Employee compensation and benefits	\$ 5,861	\$ 9,927
Contract liabilities, current portion	24,137	10,162
Construction in progress related accruals	2,692	3,726
Accrued expenses	5,179	3,464
Other (miscellaneous)	4,174	2,620
Accrued expenses and other current liabilities	<u>\$ 42,043</u>	<u>\$ 29,899</u>

Other Non-Current Liabilities

<i>in thousands</i>	As Of December 31,	
	2022	2021
Contract liabilities, net of current portion	\$ —	\$ 149
Other (miscellaneous)	1,796	750
Other non-current liabilities	<u>\$ 1,796</u>	<u>\$ 899</u>

Other Income, Net

<i>in thousands</i>	For The Year Ended December 31,	
	2022	2021
Change in fair value of warrant liabilities	\$ —	\$ 25,681
Gain on forgiveness of PPP note	—	4,850
Other income from research and development contracts	5,789	1,528
Miscellaneous expense	(123)	(713)
Other income, net	<u>\$ 5,666</u>	<u>\$ 31,346</u>

In fiscal year 2021, the gain on change in fair value of contingent consideration of \$4.7 million was presented in other income, net in the consolidated statement of operations. In fiscal year 2022, changes in fair value of contingent consideration are separately presented as a component of operating loss and we have reclassified the prior year amount to conform to the current presentation. We have determined that presenting the change in fair value of contingent consideration is more appropriately reflected in our operating costs. This change does not have a material impact to our consolidated financial statements.

Contracts with governmental entities involving research and development milestone activities do not represent contracts with customers under ASC 606, and, as such, amounts received are recorded in other income, net in the consolidated statements of operations.

Note 5 — Goodwill and Intangible Assets

Goodwill

The following table summarizes the changes in the carrying amount of goodwill:

<i>in thousands</i>	
Balance as of December 31, 2020	\$ —
Apollo Merger	58,251
Balance as of December 31, 2021	58,251
Accumulated impairment charge	(58,251)
Balance as of December 31, 2022	<u>\$ —</u>

During the year ended December 31, 2022, the Company determined that impairment indicators were present based on the following: (a) reorganization of its reporting structure to two operating segments, (b) a sustained decrease in the Company's share price, (c) existence of substantial doubt about the Company's ability to continue as a going concern, and (d) macroeconomic factors affecting the Company's business. Accordingly, the Company proceeded with a quantitative impairment assessment of its indefinite-lived intangible assets and of goodwill based on the reporting structure immediately before the reorganization, as a single reporting unit, resulting in a non-cash impairment charge of \$58.3 million during the year ended December 31, 2022, fully impairing its goodwill balance. There was no impairment charge for the year ended December 31, 2021. The fair value of the Company's reporting unit was determined using a discounted cash flow model. Significant inputs included discount rate, forecasted revenue growth, and forecasted operating expenses. These valuation inputs are considered Level 3 inputs as defined by ASC 820 *Fair Value Measurement*.

Intangible Assets

<i>in thousands</i>	Gross Carrying Amount	Accumulated Amortization	Net Book Value
As of December 31, 2022:			
Definite-lived intangible assets			
Developed technology	\$ 9,909	\$ (2,910)	\$ 6,999
Customer contracts and related relationship	2,383	(1,376)	1,007
Order backlog	200	(200)	—
Trade names	123	(103)	20
Intangible assets subject to amortization	<u>12,615</u>	<u>(4,589)</u>	<u>8,026</u>
Indefinite-lived intangible assets			
Trademarks	2,106	—	2,106
Total	<u>\$ 14,721</u>	<u>\$ (4,589)</u>	<u>\$ 10,132</u>

<i>in thousands</i>	Gross Carrying Amount	Accumulated Amortization	Net Book Value
As of December 31, 2021:			
Definite-lived intangible assets			
Developed technology	\$ 12,100	\$ (1,008)	\$ 11,092
Customer contracts and related relationship	2,900	(483)	2,417
Order backlog	200	(100)	100
Trade names	150	(38)	112
Intangible assets subject to amortization	<u>15,350</u>	<u>(1,629)</u>	<u>13,721</u>
Indefinite-lived intangible assets			
Trademarks	4,200	—	4,200
Total	<u>\$ 19,550</u>	<u>\$ (1,629)</u>	<u>\$ 17,921</u>

For indefinite-lived intangible assets, the Company compared the carrying amount of the asset to its fair value, resulting in a non-cash impairment charge. The fair value of the tradename was determined using the relief-from-royalty method. Significant inputs include discount rates, growth rates, and cash flow projections, and for the tradename, the royalty rate. These valuation inputs are considered Level 3 inputs as defined by ASC 820. The Company recorded a pre-tax impairment charge of \$4.8 million for the year ended December 31, 2022. The historical costs of the Company's definite-lived intangible assets were adjusted by these impairment charges to derive the carrying amounts in the table above. There was no impairment charge for the year ended December 31, 2021.

Based on the amount of intangible assets as of December 31, 2022, the expected amortization expense for each of the next five years and thereafter is as follows:

<i>in thousands</i>	Expected Amortization Expense
2023	2,247
2024	1,891
2025	1,555
2026	1,555
Thereafter	778
Total Intangible assets subject to amortization	<u>\$ 8,026</u>

Note 6 — Long-Term Debt

There was no short-term or long-term debt outstanding as of December 31, 2022 and 2021, respectively. In connection with the Business Combination, all outstanding debt with the exception of the Paycheck Protection Program note was paid on June 30, 2021. Refer to Note 3 – Acquisitions.

Term Loan and Equipment Advances

On December 25, 2018, the Company entered into a loan agreement (the “2018 Loan Agreement”) with SVB. Pursuant to the 2018 Loan Agreement, the Company could borrow up to a total of \$3.0 million term loans (“2018 Term Loans”) and \$7.0 million equipment loans (“2018 Equipment Advances”) with access period ended on April 30, 2020 for 2018 Term Loans and June 30, 2019 for 2018 Equipment Advances. Amounts borrowed under the 2018 Loan Agreement were repaid prior to or on June 30, 2021.

In connection with the execution of the 2018 Loan Agreement, the Company entered into a 2018 warrant agreement which granted certain warrants to SVB (the “Warrants”). The Warrants were issued in one initial tranche on December 25, 2018 and three subsequent tranches in 2019 each time the Company made an additional debt draw under the 2018 Loan Agreement. Pursuant to the warrant agreement, SVB had the option to purchase an aggregate of 480,520 shares of Class A common stock. The warrants had a weighted average exercise price of \$0.24 per share and were exercisable for a period of 10 years. The Company accounted for all the Warrants issued as equity instruments since the Warrants were indexed to the Company’s common shares and met the criteria for classification in stockholders’ equity. In July 2021, SVB exercised all the outstanding Warrants and the Company issued 472,113 shares of Company’s Class A Common Stock, net of exercise price.

Paycheck Protection Program (“PPP”) Note

On April 20, 2020, the Company received loan proceeds of approximately \$4.9 million under the PPP, offered by the U.S. Small Business Administration (the “SBA”) pursuant to Title 1 of the Coronavirus Aid, Relief and Economic Security Act (the “CARES Act”) (the “PPP Note”).

The PPP Note was subject to forgiveness to the extent proceeds were used for payroll costs, including payments required to continue group health care benefits, and certain rent, utility, and mortgage interest expenses (collectively, “Qualifying Expenses”), pursuant to the terms and limitations of the PPP Note. The Company used the PPP Note amount intended for Qualifying Expenses. During the three months ended March 31, 2021, the Company submitted a forgiveness application to its lender seeking full forgiveness of the PPP Note. On August 24, 2021, the Company received notice from the lender that the Small Business Administration has approved the application for forgiveness of the PPP Note in the full amount.

Convertible Notes

Issuance of Convertible Notes

From June 2019 through July 2019, the Company issued \$14.8 million of convertible promissory notes (the “June 2019 Convertible Notes”) to certain investors. The June 2019 Convertible Notes matured on June 10, 2021 and accrued interest at 2.37% or 2.13%, compounded annually on basis of 360-days year of twelve 30-day months. Principal and any accrued but unpaid interest were due and payable at maturity.

From October 2019 through December 2020, the Company issued \$45.0 million of convertible promissory notes (the “October 2019 Convertible Notes” and collectively with the June 2019 Convertible Notes, the “Convertible Notes”) to certain investors. The October 2019 Convertible Notes matured on October 1, 2021 and accrued interest at 1.69%, 1.59% or 1.85%, compounded annually on basis of 360-days year of twelve 30-day months. Principal and any accrued but unpaid interest were due and payable at maturity.

Settlement of Convertible Notes

On January 28, 2021, the Company entered a stock purchase agreement with certain investors to close the issuance of Series C convertible preferred stock at a cash purchase price of \$6.62 per share and settle all outstanding Convertible Notes through Series C convertible preferred stock at a conversion price of \$1.33 or \$1.71 per share (“Series C Financing”). The Company issued 38,323,292 shares of Series C Convertible Preferred Shares (pre-combination) for conversion of outstanding Convertible Notes of \$61.0 million.

The June 2019 Convertible Notes were settled pursuant to the contractual conversion upon the Next Equity Financing feature with such financing yielding at least \$20.0 million in a single transaction. The Company credited the net carrying amount of the June 2019 Convertible Notes of \$14.5 million, including any unamortized debt discount, to Series C convertible preferred stock with no gain or loss recognized.

The October 2019 Convertible Notes were settled based on negotiated terms between the Company and the note holders as the Series C Financing did not meet the definition of Next Equity Financing for the October 2019 Convertible Notes. The Company assessed the economics of the settlement of the October 2019 Convertible Notes and concluded that it should be treated as a privately negotiated debt redemption/settlement transaction where debt extinguishment accounting should be applied. Therefore, the Company derecognized the net carrying amount, including any unamortized debt discount, of the October 2019 Convertible Notes of \$42.6 million and recognized the Series C convertible preferred stock issued specifically to settle the October 2019 Convertible Notes at fair value as the reacquisition consideration. Accrued and unpaid interest of \$0.6 million was settled and not paid in cash and therefore it was included in calculating the extinguishment loss. The difference between the net carrying amount of the October 2019 Convertible Notes, plus accrued and unpaid interest, and the reacquisition consideration was recorded as a loss on extinguishment in the consolidated statements of operations for the year ended December 31, 2021.

The Company issued in aggregate 26,727,308 shares of Series C convertible preferred stock (pre-combination) to settle the October 2019 Convertible Notes. The fair value of the Series C convertible preferred stock was determined to be \$176.9 million using the cash purchase price of \$6.62 per share on January 28, 2021. These October 2019 Convertible Notes had a carrying amount plus accrued and unpaid interest of \$43.2 million upon settlement. The difference of \$133.8 million was recognized as a loss on extinguishment on the consolidated statements of operations for the year ended December 31, 2021.

Bridge Loan

On May 20, 2021, the Company entered into a short-term promissory note (the “Bridge Loan”) with Pendrell as the lender, pursuant to which Pendrell agreed to make available to the Company up to \$20.6 million in borrowings. Pendrell is the parent of X-icity Holdings Corporation, the sponsor of Holicity. The interest rate on the Bridge Loan borrowings was a fixed rate of 5.00% per annum. However, if repaid in full in connection with the closing of the Business Combination, then no interest will be due and payable. The Company was required to pay an upfront fee in the amount of 1.00% of the principal amount and an end of term fee in the amount of 2.00% of the principal amount. The funds drawn on the Bridge Loan may be prepaid by the Company at any time. The Bridge Loan matures upon the earliest of (a) the closing of the Business Combination, (b) 60 days following the abandonment of the Business Combination and (c) the date when the commitment amount is otherwise paid in full or accelerated pursuant to the terms of the Bridge Loan. Under the terms of the Bridge Loan, the Company borrowed \$10.0 million in June 2021, and subsequently paid off the outstanding principal and end of term fee totaling \$10.4 million on June 30, 2021. Refer to Note 3 – Acquisitions.

Note 7 — Warrant Liabilities

As part of Holicity’s initial public offering (“IPO”) in 2020, Holicity issued 9,999,976 warrants to third party investors, and each whole warrant entitled the holder to purchase one share of the Company’s Class A common stock at an exercise price of \$11.50 per share (the “Public Warrants”). Simultaneously with the closing of the IPO, Holicity completed the private sale of 5,333,333 warrants to Holicity’s sponsor (“Private Placement Warrants”) and each Private Placement Warrant allowed the sponsor to purchase one share of the Company’s Class A common stock at \$11.50 per share.

The Private Placement Warrants and the shares of Class A common stock issuable upon the exercise of the Private Placement Warrants were not transferable, assignable or salable until after the completion of a Business Combination, subject to certain limited exceptions. Additionally, the Private Placement Warrants were exercisable for cash or on a cashless basis, at the holder’s option, and were non-redeemable so long as they were held by the initial purchasers or their permitted transferees. If the Private Placement Warrants were held by someone other than the initial purchasers or their permitted transferees, the Private Placement Warrants will be redeemable by the Company and exercisable by such holders on the same basis as the Public Warrant.

The Company accounted for Public Warrants and Private Placement Warrants as liability-classified instruments based on an assessment of the warrant’s specific terms and applicable authoritative guidance in FASB ASC 480, Distinguishing Liabilities from Equity (“ASC 480”) and ASC 815, Derivatives and Hedging (“ASC 815”). Specifically, the exercise of the Public and Private Placement Warrants may be settled in cash upon the occurrence of a tender offer or exchange that involves 50% or more of the Company’s Class A shareholders. Because not all of the Company’s shareholders needed to participate in such tender offer or exchange to trigger the potential cash settlement and the Company did not control the occurrence of such an event, the Company concluded that the Public Warrants and Private Placement Warrants did not meet the conditions to be classified in equity. Since the Public and Private Placement Warrants met the definition of a derivative under ASC 815, the Company recorded these warrants as liabilities on the balance sheet at fair value upon the closing of the Business Combination, with subsequent changes in their respective fair values recognized in the consolidated statement of operations at each reporting date.

On November 26, 2021, the Company issued a notice of redemption to redeem all of its Public Warrants and Private Placement Warrants (“Redeemable Warrants”) outstanding as of December 27, 2021. Under the Warrant Agreement, the Company was entitled to redeem not less than all of the outstanding Redeemable Warrants at a Redemption Price of \$0.10 per Redeemable Warrant, provided that the last reported sales price of the Class A common stock had been at least \$10.00 per share on the trading day prior to the date on which notice of redemption is given, and further provided that there is an effective registration statement covering the shares of Class A common stock issuable upon exercise of the Redeemable Warrants and a current prospectus relating thereto, available through the Redemption Date.

Under the notice of redemption, Company required holders of the Redeemable Warrants to exercise their Warrants on a cashless basis, (the “Cashless Exercise Option”) and holders were not permitted to exercise Redeemable Warrants by paying the \$11.50 per share exercise price in cash. Pursuant to the Cashless Exercise Option, an exercising holder of the Redeemable Warrants received a number of shares of Class A common stock (the “Exercise Shares”) equal to the quotient obtained by dividing the product of the number of shares of Class A common stock underlying the Redeemable Warrants, multiplied by the excess of the fair market value of the Class A common stock over the exercise price of the Redeemable Warrants by the fair market value. Since the fair market value was less than the exercise price of the Redeemable Warrants, no Exercise Shares would have been issued if a holder would have elected to exercise its Redeemable Warrant pursuant to the Cashless Exercise Option. Alternatively, holders of the Redeemable Warrants were entitled to elect to receive, in lieu of the redemption price or exercising their Redeemable Warrants pursuant to the Cashless Exercise Option, 0.2560374 shares of Class A common stock for each Redeemable Warrants.

In connection with the redemption, the holders of 9,413,895 Public Warrants and 5,333,333 Private Placement Warrants elected to receive, in lieu of the redemption price, an aggregate 3,775,709 shares of Class A common stock at 0.2560374 shares of Class A common stock per Warrant. A total of 586,075 Public Warrants remained unexercised as of December 27, 2021, and the Company redeemed the Public Warrants for a redemption price of \$0.10 per Redeemable Warrant on December 27, 2021. The Public Warrants and Private

Placement Warrants were remeasured to fair value as of the exercise or redemption date, resulting in a gain of \$25.7 million for year ended December 31, 2021, classified within other income, net in the consolidated statements of operations.

Note 8 — Income Taxes

Components of Income Before Taxes

For financial reporting purposes, loss before income taxes includes the following components:

<i>in thousands</i>	As Of December 31,	
	2022	2021
Domestic	\$ (411,438)	\$ (258,167)
Foreign	—	—
Loss before income taxes	<u>\$ (411,438)</u>	<u>\$ (258,167)</u>

Components of Tax Expense

For the year ended December 31, 2022, the Company recognized no provision for income taxes consistent with the losses incurred and the valuation allowance against the deferred tax assets. The Company recognized a tax benefit of \$0.4 million for the year ended December 31, 2021, primarily due to the release of valuation allowance associated with deferred tax liabilities as a result of the Apollo Merger.

Effective Tax Rate

Reconciliation between the effective tax rate on income from continuing operations and the statutory tax rate of 21% is as follows:

	December 31,	
	2022	2021
U.S. federal provision at statutory rate	21.0%	21.0%
Tax credits	2.1	1.1
Non-deductible executive compensation	(1.0)	(1.8)
Stock-based compensation	(1.3)	0.1
Convertible notes	—	(10.9)
Fair value adjustment	(1.0)	2.5
Change in valuation allowance	(16.8)	(11.6)
Goodwill impairment	(3.0)	—
Other	—	(0.3)
Effective tax rate	0.0%	0.1%

Deferred Taxes

The Company's deferred income tax assets and liabilities are as follows:

<i>in thousands</i>	As Of December 31,	
	2022	2021
Deferred tax assets:		
Net operating loss carry forward	\$ 95,980	\$ 75,750
Tax credits	24,296	10,005
Capitalized research and development	21,763	—
Stock-based compensation	2,752	1,807
Operating lease liabilities	3,283	2,073
Intangibles	18,245	—
Accruals and reserves	8,005	4,350
Total deferred tax assets	<u>174,324</u>	<u>93,985</u>
Deferred tax liabilities:		
Fixed assets	—	(709)
Right of use assets	(3,273)	(2,119)
Intangible assets	(913)	(2,534)
Total deferred tax liabilities	<u>(4,186)</u>	<u>(5,362)</u>
Net deferred tax assets before valuation allowance	170,138	88,623
Valuation allowance	(170,138)	(88,623)
Net deferred tax assets (liabilities)	<u>\$ —</u>	<u>\$ —</u>

The Company assesses the realizability of deferred tax assets based on the available evidence, including a history of taxable income and estimates of future taxable income. In assessing the realizability of deferred tax assets, the Company considers whether it is more likely than not that all or some portion of deferred tax assets will not be realized. Due to the losses the Company generated in the current and prior years, the Company believes it is not more likely than not that all of the deferred tax assets can be realized. Accordingly, the Company established and recorded a full valuation allowance on its net deferred tax assets. The Company's valuation allowance increased by \$81.5 million and \$38.5 million during the years ended December 31, 2022 and 2021, respectively.

As of December 31, 2022, the Company had \$381.4 million of U.S. federal net operating loss carryforwards, of which \$361.3 million will be carried forward indefinitely for U.S. federal tax purposes and \$20.1 million will expire beginning in 2036. In addition, the Company has \$257.3 million of state net operating loss carryforwards available to reduce future taxable income, if not utilized, will begin to expire beginning in 2036.

As of December 31, 2022, the Company also has federal and California research and development tax credit carryforwards of \$17.3 million and \$15.2 million, respectively. The federal research credit carryforwards will begin to expire in 2036 and California research credits can be carried forward indefinitely.

Utilization of the net operating loss and credit carryforwards may be subject to a substantial annual limitation due to the ownership change limitations provided by Section 382 of the Internal Revenue Code of 1986, as amended, and similar state provisions. The annual limitation may result in the expiration of net operating losses and tax credits before utilization. The events that may cause ownership changes include, but are not limited to, a cumulative stock ownership change of greater than 50% over a three-year period.

The Company files income tax returns in the U.S. federal jurisdiction and various states. The Company is not currently under examination by income tax authorities in federal, state or other jurisdictions. All tax returns will remain open for examination by the federal and state authorities for three and four years, respectively, from the date of utilization of any net operating loss or credits.

On August 16, 2022, the U.S. enacted the Inflation Reduction Act of 2022, (the "Act"), which, among other things, implements a 15% minimum tax on book income of certain large corporations, a 1% excise tax on net stock repurchases and several tax incentives to promote clean energy. Based on the Company's current analysis of the provisions, the Company does not believe this legislation will have a material impact on our consolidated financial statements. The Company continues to monitor for future and additional guidance related to the Act.

Unrecognized Tax Benefits

The Company accrues for uncertain tax positions identified, which are not deemed more likely than not to be sustained if challenged, and recognizes interest and penalties accrued on any unrecognized tax benefits as a component of income tax expense. The Company recorded no amounts of accrued interest and accrued penalties related to unrecognized tax benefits as of December 31, 2022 and 2021.

The following is a tabular reconciliation of the total amounts of unrecognized tax benefits:

<i>in thousands</i>	Year Ended December 31,	
	2022	2021
Unrecognized tax benefits as of the beginning of the year	\$ 5,114	\$ 4,842
Increases related to prior year tax provisions (acquisition)	—	487
Decrease related to prior year tax provisions	(1,582)	(1,112)
Increase related to current year tax provisions	1,978	897
Statute lapse	—	—
Unrecognized tax benefits as of the end of the year	\$ 5,510	\$ 5,114

The unrecognized gross tax benefits would not reduce the annual effective tax rate if recognized because the Company recorded a valuation allowance on its deferred tax assets.

As of December 31, 2022, the Company does not believe there will be a significant increase or decrease of unrecognized tax benefits within the next twelve months. The Company files income tax returns in the U.S. federal and various state jurisdictions. All tax returns will remain open for examination by the federal and state authorities for three and four years, respectively, from the date of utilization of any net operating loss or credits. There have been no examinations of our income tax returns by any tax authority.

Note 9 — Leases

The Company has operating leases for warehouse, production, and office facilities and equipment. Lease contracts have remaining lease terms of less than one year to six years, some of which include options to extend the term by up to five years. The Company included renewal options that are reasonably certain to be exercised as part of the lease term. Additionally, some lease contracts include termination options. The Company does not expect to exercise the majority of termination options and generally excludes such options when determining the term of leases.

Information regarding the Company's leases for the December 31, 2022 and 2021 were as follows:

<i>in thousands</i>	For The Year Ended December 31,	
	2022	2021
Lease costs:		
Operating lease costs	\$ 3,087	\$ 1,669
Short-term lease costs	—	62
Other information:		
Cash paid for amounts included in the measurements of lease liabilities — operating cash flows	2,847	1,712
Right-of-use assets obtained in exchange for operating leases liabilities	5,936	5,243
Weighted average remaining lease term (years)	4.08	6.68
Weighted average discount rate (%)	8.79%	7.34%

Future minimum lease payments under non-cancelable leases in effect as of December 31, 2022 are as follows (in thousands):

	Operating Leases
2023	\$ 3,938
2024	3,964
2025	3,253
2026	2,160
2027	1,932
Thereafter	161
Total future undiscounted minimum lease payments	\$ 15,408
Less: imputed interest	2,557
Total reported lease liability	\$ 12,851

Note 10 — Fair Value Measurements

The Company measures its financial assets and liabilities at fair value each reporting period using a fair value hierarchy that prioritizes the use of observable inputs and minimizes the use of unobservable inputs when measuring fair value. A financial instrument's classification within the fair value hierarchy is based upon the lowest level of input that is significant to the fair value measurement.

The Company uses the market approach to measure fair value for its financial assets and liabilities. The market approach uses prices and other relevant information generated by market transactions involving identical or comparable assets or liabilities.

The carrying amounts of Company's financial instruments, which include cash equivalents, accounts receivable, prepaid expenses, other current assets, accounts payable, accrued liabilities and certain other current liabilities approximate fair value because of their short-term maturities. The carrying amounts of the 2018 Term Loans and 2018 Equipment Advances (as defined in Note 6 — Long-Term Debt) approximate fair value as the interest rate varies with the Prime Rate.

The following table presents information about the Company's assets and liabilities that are measured at fair value on a recurring basis (in thousands):

Description	As of December 31, 2022			
	Level 1	Level 2	Level 3	Total
Assets				
Cash equivalents:				
Money market account	\$ 21,909	\$ —	\$ —	\$ 21,909
Marketable securities				
US Treasury securities	14,713	—	—	14,713
Corporate debt securities	—	16,915	—	16,915
Commercial paper	—	34,698	—	34,698
Asset backed securities	—	2,847	—	2,847
Total financial assets	\$ 36,622	\$ 54,460	\$ —	\$ 91,082
Liabilities:				
Contingent consideration	\$ —	\$ —	\$ 33,900	\$ 33,900
Total financial liabilities	\$ —	\$ —	\$ 33,900	\$ 33,900

Description	As of December 31, 2021			
	Level 1	Level 2	Level 3	Total
Assets				
Cash equivalents:				
Money market account	\$ 100,000	\$ —	\$ —	\$ 100,000
Total financial assets	\$ 100,000	\$ —	\$ —	\$ 100,000
Liabilities:				
Contingent consideration	\$ —	\$ —	\$ 13,700	\$ 13,700
Total financial liabilities	\$ —	\$ —	\$ 13,700	\$ 13,700

The following table presents a summary of the changes in fair value of the Company's Level 3 financial instruments:

<i>in thousands</i>	Contingent Consideration
Fair value as of December 31, 2020	\$ —
Recognition of contingent consideration liability upon acquisition	18,400
Gain on change in fair value of contingent consideration	(4,700)
Fair value as of December 31, 2021	\$ 13,700
Loss on change in fair value of contingent consideration	20,200
Fair value as of December 31, 2022	\$ 33,900

The fair value of the contingent consideration related to the Apollo acquisition is classified as a Level 3 financial instrument. To determine the fair value of the contingent consideration, the Company used a Monte Carlo simulation model. The Monte Carlo simulation considered assumptions including revenue volatilities, risk free rates, discount rates and additional revenue discount rate. Additionally, other key assumptions included forecasted revenues from new customers and probability of achieving it. The following table sets forth the range of inputs for the significant assumptions utilized to determine the fair value of contingent consideration as of December 31, 2022 and 2021:

	As Of December 31,	
	2022	2021
Risk-free interest rate	4.14%	0.56%
Expected revenue volatility	19.00%	20.00%
Revenue discount rate	10.00%	5.50%
Discount rate	7.50%	3.25%

The Company began investing in available-for-sale marketable securities in the first quarter of 2022. These marketable securities are classified as short term investments on the consolidated balance sheets. The following is a summary of available-for-sale marketable securities as of December 31, 2022 (in thousands):

Description	As of December 31, 2022		
	Amortized Cost	Gross Unrealized Loss	Fair Value
U.S. Treasury securities	\$ 14,763	\$ (50)	\$ 14,713
Corporate debt securities	16,972	(57)	16,915
Commercial paper	34,698	—	34,698
Asset backed securities	2,850	(3)	2,847
Total available-for-sale marketable securities	\$ 69,283	\$ (110)	\$ 69,173

The following table presents the breakdown of the available-for-sale marketable securities in an unrealized loss position as of December 31, 2022 (in thousands).

December 31, 2022		
	Fair Value	Gross Unrealized Loss
U.S. Treasury securities		
Less than 12 months	\$ 14,713	\$ (50)
Total	\$ 14,713	\$ (50)
Corporate debt securities		
Less than 12 months	\$ 16,915	\$ (57)
Total	\$ 16,915	\$ (57)
Commercial paper		
Less than 12 months	\$ 34,698	\$ —
Total	\$ 34,698	\$ —
Asset backed securities		
Less than 12 months	\$ 2,847	\$ (3)
Total	\$ 2,847	\$ (3)

The Company does not believe these available-for-sale marketable securities to be other-than-temporarily impaired as of December 31, 2022. There was a realized loss of \$0.1 million on available-for-sale marketable securities during the year ended December 31, 2022.

As of December 31, 2022		
<i>in thousands</i>	Amortized Cost	Fair Value
Due in 1 year or less	\$ 69,283	\$ 69,173

Note 11 — Commitments and Contingencies

Legal Proceedings

The Company is party to ordinary and routine litigation incidental to its business. On a case-by-case basis, the Company engages inside and outside counsel to assess the probability of potential liability resulting from such litigation. After making such assessments, the Company makes an accrual for the estimated loss only when the loss is probable, and an amount can be reasonably estimated. The Company and or its current or former directors and officers are currently parties to the following litigation matters:

On February 9, 2022, a putative class action was filed in the United States District Court for the Eastern District of New York styled Artery v. Astra Space, Inc. et al., Case No. 1:22-cv-00737 (E.D.N.Y.) (the “Artery Action”). On March 23, 2022, a second putative class action was filed in the United States District Court for the Eastern District of New York styled Riley v. Astra Space, Inc., et al., Case No. 1:22-cv-01591 (E.D.N.Y.) (the “Riley Action”). On November 14, 2022, the Artery Action and the Riley Action were consolidated into a single action (the “Securities Action”), restyled In re Astra Space Inc. f/k/a Holicity Inc. Securities Litigation, and Lead Plaintiffs were appointed. On December 14, 2022, the Securities Action was transferred to the United States District Court for the Northern District of California under Case No. 3:22-cv-08875. On December 28, 2022, Lead Plaintiffs filed their amended complaint. The amended complaint alleges that the Company and several of its current and former officers and directors violated provisions of the Securities Exchange Act of 1934 with respect to certain statements concerning the Company’s projected launch cadence and payload capacity goals. The amended complaint seeks unspecified damages on behalf of a purported class of purchasers of the Company’s securities between February 2, 2021 and December 29, 2021. Defendants moved to dismiss on December 28, 2022. Briefing on that motion is expected to be complete in June 2023. The Company believes that the Securities Action is without merit and intends to defend it vigorously. Due to the early stage of the cases, neither the likelihood that a loss, if any, will be realized, nor an estimate of the possible loss or range of loss, if any, can be determined.

On April 27, 2022, a stockholder derivative suit was filed in the United States District Court for the Eastern District of New York styled Gonzalez v. Kemp, et al., Case No. 22-cv-02401 (E.D.N.Y.) (the “Gonzalez Action”). On January 25, 2023, the plaintiff filed an amended complaint. The amended complaint asserts claims against certain of the Company’s current and former officers and directors for alleged breaches of their fiduciary duties, unjust enrichment, abuse of control, gross mismanagement, waste of corporate assets, alleged violations of Section 14(a) of the Securities Exchange Act of 1934 (the “Exchange Act”), and for contribution under Section 10(b) and 21D of the Exchange Act based upon the conduct alleged in the Securities Action described above. The plaintiff in the Gonzalez Action seeks monetary damages in favor of the Company in an unstated amount, reforms to the Company’s corporate governance and internal procedures, restitution including disgorgement of any compensation, profits or other benefits received, and reimbursement of the plaintiff’s reasonable fees and costs, including attorney’s fees. On February 17, 2023, the Gonzalez Action was transferred to the United States District Court for the Northern District of California under Case No. 3:23-cv-00713. Defendants intend

to move to dismiss the amended complaint in April 2023, and briefing on that motion is expected to be completed in July 2023. The Company believes that the case is without merit and intends to defend it vigorously. Due to the early stage of the case, neither the likelihood that a loss, if any, will be realized, nor an estimate of the possible loss or range of loss, if any, can be determined.

The Company has tendered defense of each of the foregoing claims under its Directors' and Officers' policy. The retention under this policy is \$20.0 million.

Indemnification Obligations to former Company Board Members

On May 20, 2022, a putative class action was filed in the Court of Chancery of the State of Delaware styled *Newbold v. McCaw et. al.*, Case No. 2022-0439 (the "Newbold Action"). The complaint alleges that Pendrell Corporation, X-icity Holdings Corporation f/k/a Pendrell Holicity Holdings and certain former officers, directors or controlling stockholders of Holicity, Inc. n/k/a Astra Space, Inc., breached their fiduciary duties to the Company in closing on the Business Combination. The complaint seeks unspecified damages on behalf of a purported class of stockholders of the Company's securities from June 28, 2021 through June 30, 2021.

Neither the Company nor any of its board members are parties in this action. The Company's former board member, Mr. McCaw, is a defendant in this action, but the allegations relate to periods prior to the Business Combination. Astra is obligated to indemnify certain of the defendants in the Newbold Action. The Company has tendered defense of this action under its Directors' and Officers' Policy. The Company also tendered defense of this claim under the tail policy it was required to purchase in connection with the Business Combination. The retention under the tail policy is \$1.5 million. Due to the early stage of this case, neither the likelihood that a loss, if any, will be realized, nor an estimate of the possible loss or range of loss, if any, can be determined.

Purchase Commitments

In order to reduce manufacturing lead times and to have access to an adequate supply of components, the Company enters into agreements with certain suppliers to procure component inventory based on the Company's production needs. A significant portion of the Company's purchase commitments arising from these agreements consist of firm and non-cancelable commitments. As of December 31, 2022, the Company had \$28.4 million outstanding purchase commitments whose terms run through May 2026. Payments will be made against these supplier contracts as deliveries occur throughout the term.

Note 12 — Convertible Preferred Stock

Convertible Preferred Stock

From pre-combination Astra's inception until the consummation of the Business Combination, approximately \$100.2 million of cash capital contributions were raised, net of issuance costs, through the issuance of three rounds of convertible preferred equity.

The three classes of convertible preferred stock of pre-combination Astra were: Series A convertible preferred stock, Series B convertible preferred stock and Series C convertible preferred stock (collectively, the "Convertible Preferred Stock"). Immediately before the consummation of the Business Combination, the Convertible Preferred Stock of pre-combination Astra consisted of:

Series	Shares Outstanding (pre- combination Astra)	Liquidation Price Per Share	Conversion Price Per Share	Annual Noncumulative Dividend Rights Per Share
A	65,780,540	\$ 0.243233	\$ 0.243233	\$ 0.019459
B	70,713,123	1.333008	1.333008	0.106640
C	50,483,785	6.620970	6.620970	0.529680
Total	186,977,448			

On January 28, 2021, concurrent with Series C Financing, the Company amended its certificate of incorporation to add a merger with a special purpose acquisition company ("SPAC Transaction") as one of the defined Deemed Liquidation events. In addition, upon triggering of the Deemed Liquidation events, the holders of the Convertible Preferred Stock were entitled to receive the greater of their liquidation preference per share and the as converted value per share. As of March 31, 2021, the Company assessed the probability of a SPAC Transaction to be probable and therefore, the Convertible Preferred Stock were considered probable of becoming redeemable.

Subsequent measurement of Convertible Preferred Stock was then required for the three months ended March 31, 2021. The Company elected to apply the current redemption value method to measure the redeemable Convertible Preferred Stock. Under the method, changes in the redemption value were recognized immediately as they occurred and the carrying value of the Convertible Preferred Stock was adjusted to the redemption value at the end of each reporting date. In the absence of retained earnings, adjustments to redemption value were recorded against additional paid-in capital, if any, and then to accumulated deficit. As of March 31, 2021, adjustments to the carrying amount of the Convertible Preferred Stock of \$1.1 billion, reflecting the estimated redemption value of \$7.18 per share, were treated as deemed dividends and were recognized against additional paid-in capital and accumulated deficit on the consolidated balance sheet.

On the Closing Date of the Business Combination, all outstanding Convertible Preferred Stock converted into Class A common stock of the Company, therefore, the Company applied conversion accounting to derecognize the existing carrying amount of the Convertible Preferred Stock and increased additional paid-in capital as of June 30, 2021.

Upon the consummation of the Business Combination in June 2021, 186,977,448 shares of Convertible Preferred Stock (pre-combination Astra) converted into 124,340,003 shares of Class A common stock of the Company. The Company no longer had Convertible Preferred Stock authorized, issued or outstanding subsequent to the close of Business Combination in June 2021.

Note 13 — Stockholders' Equity

Common and Preferred Stock

As of December 31, 2022, the Company had authorized a total of 466,000,000 shares of stock, consisting of (i) 400,000,000 shares of Class A common stock, par value \$0.0001 per share ("Class A common stock"), (ii) 65,000,000 shares of Class B common stock, par value \$0.0001 per share ("Class B common stock"), and (iii) 1,000,000 shares of preferred stock, par value \$0.0001 per share ("Preferred Stock"). As of December 31, 2022, the Company had 213,697,468 and 55,539,188 shares of Class A and Class B common stock issued and outstanding, respectively. There were no shares of preferred stock outstanding as of December 31, 2022.

Holders of the Class A and Class B common stock have identical distribution rights, except that holders of the Class A common stock are entitled to one vote per share and holders of the Class B common stock are entitled to ten votes per share. Each share of Class B common stock can be converted into one share of Class A common stock at any time at the option of the stockholder and automatically converts upon sale or transfer, except for certain transfers specified in the Company's amended and restated certificate of incorporation.

Founders Convertible Preferred Stock

The Company issued 18,500,000 shares of pre-combination Astra's Founders Convertible Preferred Stock in 2016. Upon vesting, the compensation expense associated with the Founders Convertible Preferred Stock was recorded as stock-based compensation based on the fair value of the Founders Convertible Preferred Stock on the grant date fair value. Immediately before the closing of the Business Combination, 10,870,562 shares of pre-combination Astra's Founders Convertible Preferred Stock were outstanding. In connection with the Business Combination, the Company's executive officers and founders, Chris Kemp and Adam London, converted an aggregate 10,870,562 shares of Founders Preferred Stock and an aggregate 3,599,647 shares of Class A common stock of pre-combination Astra, which were entitled to one vote per share, into 9,622,689 shares of Class B common stock of the Company, which are entitled to 10 votes per share. Refer to Note 3 – Acquisitions.

Common Stock Purchase Agreement

On August 2, 2022, the Company entered into a Common Stock Purchase Agreement and a Registration Rights Agreement (the "Registration Rights Agreement") with B. Riley. Pursuant to the Purchase Agreement, the Company will have the right to sell to B. Riley up to the lesser of (i) \$100.0 million of newly issued shares (the "Shares") of the Class A Common Stock, and (ii) 53,059,650 Shares of Class A common stock, which number of shares is equal to 19.99% of the sum of Class A common stock and Class B common stock issued and outstanding immediately prior to the execution of the Purchase Agreement (subject to certain conditions and limitations), from time to time during the term of the Purchase Agreement. However, the Purchase Agreement prohibits the Company from issuing or selling any shares of Class A common stock to B. Riley if such a sale, when aggregated with all other shares of Class A common stock then beneficially owned by B. Riley and its affiliates, would result in B. Riley beneficially owning more than 4.99% of the outstanding shares of Class A common stock.

Sales of the Shares pursuant to the Purchase Agreement, and the timing of any sales, are solely at the option of the Company over the 24-month period from the date of initial satisfaction of the conditions to B. Riley set forth in the Purchase Agreement. This includes an effective registration statement and a final prospectus are filed with the Securities and Exchange Commission (the "SEC") registering the resale by B. Riley of the Class A common stock under the Securities Act that may be sold to B. Riley by the Company under the Purchase Agreement. Actual sales of Shares to B. Riley under the Purchase Agreement will depend on a variety of factors to be determined by the Company including, among other things: market conditions, the trading price of the Class A common stock, and determinations by the Company as to the appropriate sources of funding for the Company and its operations.

The purchase price of the Class A common stock that the Company may sell to B. Riley pursuant to the Purchase Agreement will be 97% of the average of the volume weighted average price of the Company's Class A common stock as calculated per the terms set forth in the Purchase Agreement. The net proceeds from sales, if any, under the Purchase Agreement, will depend on the frequency and prices at which the Company sells the Shares of Class A common stock. To the extent the Company sells the Shares of Class A common stock under the Purchase Agreement, the Company currently plans to use any proceeds for working capital and general corporate purposes.

The right to sell Shares under the Common Stock Purchase Agreement is classified as a financial instrument and is measured at fair value. The fair value of the financial instrument at execution date and as of December 31, 2022 was not significant. Upon execution of the Purchase Agreement, the Company issued 359,098 shares of Class A common stock to B. Riley as consideration for its irrevocable commitment to purchase shares of our Class A common stock from time to time.

For the year ended December 31, 2022, no shares were sold to B. Riley and there remains \$100.0 million available under the Purchase Agreement, subject to certain limitations described above. The Company recognized \$0.6 million of issuance costs related to the Purchase Agreement within general and administrative expenses in the consolidated statements of operations.

Note 14 — Stock-based Compensation

Stock-based incentive awards are provided to employees under the terms of various Astra equity incentive plans.

2021 Omnibus Incentive Plan

In June 2021, the Board of Directors approved the 2021 Omnibus Incentive Plan (the “2021 Plan”), which reserved 36.8 million shares of Class A common stock for issuance for awards in accordance with the terms of the 2021 Plan. On January 1, 2022, pursuant to the terms of the 2021 Plan, the number of shares of Class A common stock available for issuance under the 2021 Plan increased by 13.1 million. Similarly, the share reserve increases on January 1 of each year from 2023 to 2031 by the lesser of (i) 5% of the sum of number of shares of (x) Class A common stock and (y) Class B common stock outstanding as of the close of business on the immediately preceding December 31 and (ii) the number of shares of Class A common stock as determined by the Board. On June 1, 2022, the shareholders of the Company approved the amendment of 2021 Plan to increase the Class A common stock available for issuance under the 2021 plan by 6 million. The purpose of the 2021 Plan is to advance the Company’s interests by providing for the grant to employees, directors, consultants and advisors of stock and stock-based awards. As of December 31, 2022, 21.8 million shares remain available for issuance under the plan.

2021 Employee Stock Purchase Plan

In June 2021, the Board of Directors approved the 2021 Employee Stock Purchase Plan (the “2021 ESPP”) to reserve 5.0 million shares of Class A common stock for issuance for awards in accordance with the terms of the ESPP. On January 1, 2022, pursuant to the terms of the 2021 ESPP, the number of shares of Class A common stock available for issuance under the 2021 ESPP increased by 2.6 million. Similarly, the number of shares of Class A common stock reserved for issuance under the 2021 ESPP will ultimately increase on January 1 of each year from 2023 to 2031 by the lesser of (i) 1% of the sum of number of shares of Class A common stock and Class B common stock outstanding as of the close of business on the immediately preceding December 31 and (ii) the number of shares of Class A common stock as determined by the Board. The purpose of the 2021 ESPP is to enable eligible employees to use payroll deductions to purchase shares of Class A common stock and thereby acquire an interest in the company. Eligible employees are offered shares through a 24-month offering period, which consists of four consecutive 6-month purchase periods. Employees may purchase a limited amount of shares of the Company’s stock at a discount of up to 15% of the lesser of the fair market value at the beginning of the offering period or the end of each 6-month purchase period. 0.5 million shares were issued under the Employee Stock Purchase Plan during the year ended December 31, 2022. No shares were issued under the Employee Stock Purchase Plan during the year ended December 31, 2021. As of December 31, 2022, 7.2 million shares remain available for issuance under the 2021 ESPP. As of December 31, 2022, the Company had \$0.9 million of unrecognized stock-based compensation expense related to the 2021 ESPP, which is expected to be recognized over a weighted-average period of 0.75 years.

2016 Equity Incentive Plan

In 2016, pre-combination Astra adopted the 2016 Equity Incentive Plan (the “2016 Plan”). Under this Plan, the Board of Directors or a committee appointed by the Board of Directors is authorized to provide stock-based compensation in the form of stock options, stock appreciation rights, restricted stock, and other performance or value-based awards within parameters set forth in the Plan to employees, directors, and non-employee consultants.

In connection with the Business Combination, the Company assumed the 2016 Plan upon closing. Each outstanding and unexercised option (“Astra Option”) was converted, at the exchange ratio established in the BCA, into an option (“New Astra Option”) to acquire shares of the Company’s Class A common stock with the same terms and conditions as applicable to the Astra Option immediately prior to the Business Combination. As of December 31, 2022, there were no shares available for issuance under this plan and there were no awards outstanding under this plan.

The following table summarizes stock-based compensation expense that the Company recorded in the consolidated statements of operations for the years ended December 31, 2022 and 2021, respectively:

<i>in thousands</i>	For The Year Ended December 31,	
	2022	2021
Cost of revenues	\$ 806	\$ —
Research and development	15,832	12,930
Sales and marketing	5,899	220
General and administrative	33,367	26,593
Stock-based compensation expense	<u>\$ 55,904</u>	<u>\$ 39,743</u>

As of December 31, 2022, there was less than \$0.1 million stock-based compensation capitalized in inventories. As of December 31, 2021, there was \$0.3 million of stock-based compensation capitalized in inventories.

On November 22, 2021, under the 2021 Plan, the Company's compensation committee issued 1,047,115 PSUs to the employees of Apollo who joined Astra. PSUs are subject to certain performance-based and service-based vesting conditions and would vest over four years with 25% of awards vesting on July 1, 2022, and the remaining 75% vesting quarterly over the remaining 12 quarters beginning on November 15, 2022, only for the portion of PSUs that is eligible to become vested which will be determined based upon timely satisfaction of performance conditions. The number of PSUs vested is determined by multiplying the total number of PSUs granted by the percentage of milestones achieved and by the percentage of PSUs that satisfy the time-based vesting condition on such time-vesting date.

Certain performance conditions for PSUs are subjective and the number of PSUs related to these performance conditions did not meet the criteria for the grant date. Accordingly, 523,557 PSUs and 52,355 PSUs related to the performance conditions that are not subjective were considered granted as of November 22, 2021 and January 21, 2022, respectively.

In July 2022, the PSU agreements were amended to remove the performance-based vesting conditions and only retain the time-based vesting condition. Accordingly, 292,145 PSUs related to the milestones that previously did not meet the criteria for the grant date were considered granted as of July 1, 2022. Therefore, the Company recognized \$1.1 million and \$0.5 million compensation costs related to PSUs for the year ended December 31, 2022 and 2021, respectively, to reflect the PSUs that satisfied the time-based vesting condition on the time-vesting dates.

On September 20, 2021, under the 2021 Plan, the Company's compensation committee granted 3,972,185 restricted stock units ("RSUs"), 3,426,094 time-based stock options and 13,016,178 performance stock options ("PSOs") to its executive officers. RSUs and time-based stock options granted have service-based vesting conditions only. The service conditions vary for each executive officer and is based on their continued service to the Company. Option holders have a 10-year period to exercise their options before options expire. Forfeitures are recognized in the period of occurrence and stock-based compensation costs are recognized based on grant-date fair value as RSUs and time-based stock options vest.

PSOs, only eligible to the executive officers of the Company, are subject to performance conditions as follows, and the milestones do not need to be achieved in any specific order or sequence:

Milestone A: The Company has had a successful orbital delivery.

Milestone B: The Company has had six orbital launches during a six consecutive month period.

Milestone C: The Company has completed a prototype for a spacecraft that has achieved an orbital launch.

Milestone D: The Company has conducted twenty-six orbital launches during a six consecutive month period.

Milestone E: The Company has achieved an orbital launch for an aggregate of 100 spacecraft.

These PSOs also require the volume weighted average share price for a period of thirty trading days meet share price thresholds of \$15.00, \$20.00, \$30.00, \$40.00 and \$50.00 following the achievement of the first milestone, second milestone, third milestone, fourth milestone and fifth milestone, respectively, before a milestone will be deemed achieved. After each milestone is achieved, 20% of the PSOs will vest on the vesting date immediately following the date at which the price thresholds are met. For this purpose, a "vesting date" is February 15, May 15, August 15 and November 15 of any applicable year. The milestones must be achieved over a period of approximately five years, with the earliest vesting date of November 15, 2022, and the last vesting date no later than November 15, 2026, if all vesting conditions are met. No unvested portion of the PSOs shall vest after November 15, 2026. As of December 31, 2022, the share price requirements have not been met. Further, as of December 31, 2022, the Company assessed the probability of success for the five milestones mentioned above and determined that at least one milestone has been achieved and it is probable that another milestone will be achieved within the requisite period. Therefore, the Company recognized \$13.8 million and \$5.6 million compensation costs related to PSOs for the year ended December 31, 2022 and 2021, respectively. As of December 31, 2022, the Company had unrecognized stock-based compensation expense of \$24.6 million for the milestones that were not considered probable of achievement.

In April 2021, the Board of Directors approved the acceleration of the vesting of 1,900,000 pre-combination Astra stock options issued to two executive officers: Kelyn Brannon and Martin Attiq, on December 27, 2020. The Company recognized the remaining stock-based compensation expense of \$7.2 million on its consolidated statements of operations for the year ended December 31, 2021.

In February 2021, the Board of Directors approved the acceleration in vesting of 206,250 pre-combination Astra stock options that were issued to one employee on May 15, 2020. The remaining unvested options were fully vested upon acceleration. The Company recorded a \$1.4 million stock-based compensation expense related to the modification for the year ended December 31, 2021.

As of December 31, 2022, the Company had \$63.9 million of unrecognized stock-based compensation expense related to all of the outstanding stock-based awards. This cost is expected to be recognized over a weighted-average period of 3.1 years.

Secondary Sales

In January 2021, concurrent with Series C Financing, two executive officers, Chris Kemp, founder and Chief Executive Officer (“CEO”), and Adam London, founder and Chief Technology Officer (“CTO”), entered into stock purchase agreements with certain investors including ACME SPV AS, LLC to sell 3,775,879 and 2,265,529 shares, respectively, of Founders Convertible Preferred Stock at purchase prices in excess of the estimated fair value at the time of the transactions (“January 2021 Secondary Sales”) to certain investors. Upon the sale, the Founders Convertible Preferred Stock automatically converted into Series C Convertible Preferred Stock. The Company’s board member, Scott Stanford, is a member of ACME SPV AS, LLC and the Company facilitated the January 2021 Secondary Sales. As a result, for the year ended December 31, 2021, the Company recorded a total of \$8.2 million in stock-based compensation expense for the difference between the price paid by these investors and the estimated fair value of the Founders Convertible Preferred Stock on the date of the transaction.

In April 2021, four executive officers, Chris Kemp, CEO, Adam London, CTO, Kelyn Brannon, Chief Financial Officer (“CFO”), and Martin Attiq, Chief Business Officer (“CBO”), entered into stock purchase agreements with new investors to sell 2,534,793, 865,560, 1,500,000 and 400,000 shares, respectively, of Class A common stock of pre-combination Astra, at a purchase price per share of \$5.66 (“April 2021 Secondary Sales”). No additional stock-based compensation expense was recognized for the year ended December 31, 2021, as the purchase price was below fair market value of Class A common stock of pre-combination Astra at the time of the sales.

Stock Options Awards

The following is a summary of stock option activity for the years ended December 31, 2022 and 2021:

	No. of Options	Weighted-Average Exercise Price	Weighted-Average Remaining Term (in Years)	Aggregate Intrinsic Value
Outstanding – December 31, 2020	8,546,017	\$ 0.85	8.6	\$ 52,120,105
Granted	16,442,272	9.04	9.7	
Exercised	(3,883,523)	0.50	5.1	
Forfeited	(736,533)	1.08	—	
Expired	(41,849)	0.52	—	
Outstanding - December 31, 2021	20,326,384	\$ 7.52	9.4	\$ 22,782,654
Granted	1,992,027	3.22	7.5	
Exercised	(786,703)	0.45	1.3	
Forfeited	(4,536,520)	8.19	—	
Expired	(746,587)	8.02	—	
Outstanding – December 31, 2022	16,248,601	\$ 7.11	8.4	\$ 9,630
Unvested – December 31, 2022	13,272,145	\$ 8.00	8.7	\$ 1,110
Exercisable – December 31, 2022	2,976,456	\$ 3.13	7.1	\$ 8,520

Total intrinsic value of options exercised during the years ended December 31, 2022 and 2021 was approximately \$1.2 million and \$35.6 million respectively.

The Company uses the Black-Scholes option pricing-model to calculate the grant date fair value of time-based options and the Monte Carlo simulation model to calculate the grant date fair value of the PSOs. The following table summarizes the assumptions used in estimating the fair value of options granted in the years ended December 31, 2022 and 2021:

	Time Based Stock Options		Performance Based Stock Options	
	2022	2021	2022	2021
Expected terms (years) ⁽¹⁾	5.81 - 6.03	6.00	—	2.50 - 4.40
Expected volatility ⁽²⁾	68.9% - 100.4%	68.8%	—	68.9%
Risk-free interest rate ⁽³⁾	1.7% - 4.4%	0.98%	—	1.31%
Expected dividend rate ⁽⁴⁾	—	—	—	—
Grant-date fair value	\$.32 - \$.62	\$ 5.52	—	\$ 4.66

⁽¹⁾ The expected term is the length of time the grant is expected to be outstanding before it is exercised or terminated. This number is calculated as the midpoint between the vesting term and the original contractual term (contractual period to exercise). If the option contains graded vesting, then the vesting term would be based on the vesting pattern.

⁽²⁾ Expected volatility, or the standard deviation of annualized returns, was calculated based on comparable companies' reported volatilities.

⁽³⁾ Risk-free interest was obtained from US treasury notes for the expected terms noted as of the valuation date.

⁽⁴⁾ The Company has assumed a dividend yield of zero as it has no plans to declare dividends in the foreseeable future.

Restricted Stock Units Awards

The following is a summary of restricted stock units for the years ended December 31, 2022 and 2021:

	Number of RSUs Outstanding	Weighted-Average Grant Date Fair Value Per Share
Outstanding – December 31, 2020	—	\$ —
Granted	11,421,216	9.20
Vested	(585,623)	9.20
Forfeited	(156,775)	9.08
Outstanding - December 31, 2021	10,678,818	\$ 9.20
Granted	17,337,752	2.12
Vested	(4,640,946)	8.24
Forfeited	(7,253,780)	5.82
Outstanding – December 31, 2022	16,121,844	\$ 3.35

Total fair value as of the respective vesting dates of restricted stock units vested for the year ended December 31, 2022 was approximately \$7.8 million. As of December 31, 2022, the aggregate intrinsic value of unvested restricted stock units was \$7.0 million.

Note 15 — Loss per Share

The Company computes earnings per share of Common Stock using the two-class method required for participating securities and does not apply the two-class method in periods of net loss. Basic and diluted earnings per share were the same for the periods presented as the inclusion of all potential Common Stock outstanding would have been anti-dilutive. Earnings per share calculations for all periods prior to the Business Combination have been retrospectively restated to the equivalent number of shares reflecting the exchange ratio established in the BCA. Subsequent to the Business Combination, earnings per share was calculated based on weighted average number of shares of common stock then outstanding.

Founders Convertible Preferred Stock and Convertible Preferred Stock were participating securities in periods of income, as the Founders Convertible Preferred Stock and Convertible Preferred Stock participated in undistributed earnings on an as-if-converted or as-vested basis. However, the Founders Convertible Preferred Stock and Convertible Preferred Stock, did not share in losses.

The following tables set forth the computation of basic and diluted loss for the years ended December 31, 2022 and 2021:

	For The Year Ended December 31,			
	2022		2021	
	Class A Common	Class B Common	Class A Common	Class B Common
<i>(in thousands, except share and per share amounts)</i>				
Net loss attributed to common stockholders	\$ (325,441)	\$ (85,997)	\$ (175,951)	\$ (81,831)
Adjustment to redemption value on Convertible Preferred Stock	—	—	(690,559)	(321,167)
Net loss attributed to common stockholders	\$ (325,441)	\$ (85,997)	\$ (866,510)	\$ (402,998)
Basic weighted average common shares outstanding	210,177,911	55,539,188	110,837,016	51,548,314
Dilutive weighted average common shares outstanding	210,177,911	55,539,188	110,837,016	51,548,314
Loss per share attributable to common stockholders:				
Basic and Diluted loss per share	\$ (1.55)	\$ (1.55)	\$ (7.82)	\$ (7.82)

There were no preferred dividends declared or accumulated as of December 31, 2022 and 2021. The following Class A securities were not included in the computation of diluted shares outstanding because the effect would be anti-dilutive:

	As Of December 31,	
	2022	2021
	Class A Common	Class A Common
Stock options	6,486,468	7,310,199
RSUs	16,121,844	10,678,818
Total	22,608,312	17,989,017

There were no Class B securities that were excluded in the computation of diluted shares outstanding for the years ended December 31, 2022 and 2021.

Note 16 — Segment Information

The Company reports segment information based on a “management” approach to reflect the operating segments for which the Company’s Chief Executive Officer, as the CODM, makes decisions and assesses performance. Prior to the third quarter of 2022, the Company had a single operating and reportable segment. Following commencement of revenue-generating activities for Space Products (as defined below) during the third quarter of 2022, the Company restructured the management, operations, and periodic management and internal reporting packages to report the space products business to the CODM separate from the launch services business. As a result of these changes, the Company now operates under two operating and reportable segments: Launch Services and Space Products. The Company revised prior period information related to the change in segments, however, there were no revenues or cost of revenues associated to these segments in 2021.

The *Launch Services* segment consists of Launch Services the Company provides to satellite operators and governments in partnership with third-party spaceport providers globally, including complementary services that are not part of the Company's fixed pricing.

Space Products consist of designing and providing Space Products based on the customers' needs for a successful satellite launch and other products that the Company may sell in the future.

The accounting policies of the segments are the same as those described in Note 1 – Description of Business, Basis of Presentation and Significant Accounting Policies.

The following table shows revenue by reportable segment for the years ended December 31, 2022 and 2021:

<i>(in thousands)</i>	Year Ended December 31,	
	2022	2021
Revenues:		
Launch services	\$ 5,899	\$ —
Space products	3,471	—
Total revenues:	\$ 9,370	\$ —
Cost of revenues:		
Launch services	28,193	—
Space products	1,337	—
Total cost of revenues:	\$ 29,530	\$ —
Gross profit (loss):		
Launch services	(22,294)	—
Space products	2,134	—
Total gross profit (loss):	\$ (20,160)	\$ —

The Company evaluates the performance of its reportable segments based on segment gross profit. Segment gross profit is segment revenue less segment cost of revenue. Unallocated expenses include operating expenses related to research and development, selling and marketing and general and administrative expenses as they are not considered when management evaluates segment performance.

The following table reconciles segment gross profit to loss before income taxes for the years ended December 31, 2022 and 2021:

<i>(in thousands)</i>	Year Ended December 31,	
	2022	2021
Gross profit (loss)	\$ (20,160)	\$ —
Research and development	140,666	80,398
Selling and marketing	17,401	4,111
General and administrative	85,285	74,752
Impairment expense	76,889	—
Goodwill impairment	58,251	—
Loss (gain) on change in fair value of contingent consideration	20,200	(4,700)
Interest (income) expense, net	(1,748)	1,169
Other expense (income), net	(5,666)	(31,346)
Loss on extinguishment of convertible notes	—	131,908
Loss on extinguishment of convertible notes attributable to related parties	—	1,875
Loss before taxes	\$ (411,438)	\$ (258,167)

The Company does not evaluate performance or allocate resources based on reporting segment's total assets or operating expenses, and therefore this information is not presented.

All of the Company's long-lived assets are located in the United States. The Company is subject to International Traffic in Arms Regulations ("ITAR") and generates all of its revenue in the United States.

For the year ended December 31, 2022, one customer accounted for 37% of the Company's total revenues, which pertained to the revenues within the Space Products segment. In addition, a second customer accounted for 59% of the Company's total revenues for the year ended December 31, 2022, which pertained to the revenues within the Launch Services segment. The Company did not generate revenue in the year ended December 31, 2021.

Note 17 — Related Party Transactions

Cue Health, Inc.

In August 2021, the Company entered into a six-month subscription arrangement with Cue Health Inc. for the purchase of COVID-19 test readers and the related test cartridges. Under Cue Health Inc.'s standard subscription arrangement, the Company receives a twenty percent (20%) discount on each Cue Reader and fourteen percent (14%) discount on each test cartridge. Mr. Stanford, a member of the Board and the Company's Lead Director, served on the board of directors of Cue Health Inc. at that time. Funds affiliated with ACME Capital collectively beneficially own 10.3% of the outstanding common stock of Cue Health Inc. Mr. Stanford was not involved in the negotiation of the Company's arrangement with Cue Health Inc. The Company conducted its independent evaluation of Cue's services

and determined in its sole judgment Cue's product and services were the best option for the Company to ensure it could maintain a safe and productive work environment. The Company made purchases of \$1.0 million and \$0.9 million during the years ended December 31, 2022 and December 31, 2021 respectively. The agreement was terminated in the fourth quarter of 2022.

Convertible Promissory Notes

In June 2019, the Company issued promissory convertible notes to A/NPC Holdings LLC and Sherpa Ventures Fund, II LP for gross proceeds of \$10.0 million and \$0.6 million, respectively. In November 2020, the Company issued promissory convertible notes to Sherpa Ventures Fund II, LP and Eagle Creek Capital LLC, for gross proceeds of \$0.2 million and \$0.5 million, respectively. Some of the Company's board members at that time were or are related parties of these entities. Nomi Bergman, who was serving as the Company's Director when the promissory convertible notes were issued, is a principal of A/NPC Holdings LLC and Scott Stanford, who serves as the Company's Lead Director, is a principal of Sherpa Ventures Fund II, LP and a member of Eagle Creek Capital, LLC. In all instances the terms of these transactions were the same as third-party investors.

On January 28, 2021, the Company settled the promissory convertible notes through the issuance of Series C convertible preferred stock. 7,819,887 and 469,193 shares of Series C convertible preferred stock were issued to A/NPC Holdings LLC and Sherpa Ventures Fund II, LP at a per share price of \$1.33 to settle \$10.4 million and \$0.6 million outstanding principal and accrued interest, respectively. Additionally, 264,928 and 115,771 shares of Series C convertible preferred stock were issued to Eagle Creek Capital, LLC and Sherpa Ventures Fund II, LP at a per share price of \$1.71 to settle \$0.5 million and \$0.2 million outstanding principal and accrued interest, respectively. See Note 6 — Long-Term Debt for mechanism of settlement.

On November 9, 2021, the Company granted 33,000 restricted stock units (the "RSUs") to the spouse of its chairman, chief executive officer and founder, Chris Kemp ("Ms. Kemp") as compensation for investor relations and marketing services Ms. Kemp provided to the Company as a consultant. The RSUs vest in one installment on November 15, 2021. The value of the RSUs was \$0.3 million, which is based on the closing per share price of the Company's Class A common stock on November 9, 2021. The Company recorded stock-based compensation expense of \$0.3 million for the year ended December 31, 2021. Ms. Kemp's consulting agreement was ratified, and the grant of RSUs was approved, under the Company's related party transaction policy.

Note 18 — Subsequent Events

Issuance of Warrants to Shareholder Intelligence Services

On February 3, 2023, the Company issued 25,000 warrants with a term of five years to Shareholder Intelligence Services, LLC ("ShareIntel") through the execution of a Class A Common Stock Purchase Warrant (the "ShareIntel Warrant"). Each warrant entitles ShareIntel, as the holder of the warrants, to purchase one share of the Company's Class A common stock at an exercise price of \$0.67 per share. The warrants were issued in connection with services that were provided to the Company by ShareIntel.

Court Approval of Petition relating to Amendment to Increase Authorized Shares

On March 1, 2023, the Company filed a petition in the Delaware Court of Chancery (the "Court of Chancery") seeking validation of the amendment of its certificate of incorporation in connection with the Business Combination to increase its authorized shares of Common Stock (the "Charter Amendment") as a result of uncertainty regarding the validity of such amendment given a recent decision of the Court of Chancery. On March 14, 2023, the Court of Chancery validated and declared effective the Charter Amendment, increasing the Company's authorized Common Stock from 220,000,000 to 465,000,000, thereby permitting the Company to issue additional shares of Class A and Class B common stock in connection with the Business Combination and thereafter.

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

None.

ITEM 9A. CONTROLS AND PROCEDURES.

Evaluation of disclosure controls and procedures

We maintain disclosure controls and procedures (as that term is defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) that are designed to ensure that information required to be disclosed in our reports filed or submitted under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to our management, including our Chief Executive Officer, who serves as our principal executive officer, and Chief Financial Officer, who serves as our principal financial officer, as appropriate, to allow for timely decisions regarding required disclosures. In designing and evaluating our disclosure controls and procedures, 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.

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, evaluated, as of the end of the period covered by this annual report on Form 10-K, the effectiveness of our disclosure controls and procedures. Based on that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were not effective as of December 31, 2022, due to the material weaknesses in our internal control over financial reporting described below.

Management's Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act). Management, with the participation of our Chief Executive Officer and Chief Financial Officer, has assessed the effectiveness of our internal control over financial reporting as of December 31, 2022 based on the criteria described in *Internal Control – Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (“COSO”). Based on this assessment, management has concluded that our internal control over financial reporting as of December 31, 2022 was not effective due to the material weaknesses identified below. A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected on a timely basis. Specifically, material weaknesses identified are:

Control Environment

We did not design and maintain an effective control environment to enable the identification and mitigation of risks of material misstatement which contributed to the following material weaknesses:

- We did not design and maintain effective information technology (“IT”) general controls for information technology systems that are relevant to the preparation of our financial statements. Specifically, we did not design and maintain:
 - o program change management controls to ensure that program and data changes are identified, tested, authorized and implemented appropriately,
 - o user access controls to ensure appropriate segregation of duties and to adequately restrict user and privileged access to appropriate personnel,
 - o computer operations controls to ensure that processing and transfer of data, and data backups and recovery are monitored, and
 - o program development controls to ensure that new software development is tested, authorized and implemented appropriately.
- We did not design and maintain effective controls over formalizing certain policies and procedures.
- We did not design and maintain effective controls over business processes related to and including the preparation and recording of journal entries within our accounting systems related thereto.
- We did not design and maintain effective controls over accounting for complex transactions and instruments, including, the inaccurate accounting for Public and Private Placement Warrants and the inaccurate application of conversion accounting related to our convertible instruments.

Risk Assessment

We did not design and maintain controls over an effective risk assessment, including: (i) identifying, assessing, and communicating appropriate objectives, (ii) identifying and analyzing risks to achieve these objectives, and (iii) identifying and assessing changes in the business that could impact our internal control over financial reporting.

Control Activities

We did not design and maintain effective control activities as the control activities did not adequately (i) address relevant risks, (ii) provide evidence of performance, (iii) provide appropriate segregation of duties, or (iv) operate at a sufficient level of precision.

Information and Communication

We did not design and maintain controls over information and communication relating to communicating accurate information internally and externally, including providing information pursuant to objectives, responsibilities, and functions of internal control.

Monitoring Activities

We did not design and maintain effective monitoring controls to ascertain whether the components of internal control are present and functioning.

These material weaknesses resulted in a restatement to additional paid-in-capital, accumulated deficit and adjustment to redemption value on convertible preferred stock for the quarterly period ended June 30, 2021. These material weaknesses also resulted in audit adjustments and immaterial errors to our accounts and disclosures, as of and for the years ended December 31, 2022 and 2021.

Additionally, these material weaknesses could result in a misstatement of substantially all of our account balances or disclosures that would result in a material misstatement to the annual or interim consolidated financial statements that would not be prevented or detected.

This Annual Report does not include an attestation report on internal control over financial reporting from our independent registered public accounting firm. Management's report was not subject to attestation by the company's independent registered public accounting firm pursuant to rules of the Securities and Exchange Commission that permit the company to provide only management's report in this Annual Report.

Remediation Plan

Our management, including our Chief Executive Officer and Chief Financial Officer continue to work to design and implement both a short- term and a long-term remediation plan to correct the material weaknesses in our internal control over financial reporting as described below. We are focused on enhancing the design and implementation of effective internal control measures to improve our internal control over financial reporting and remediate these material weaknesses.

To address the material weaknesses, management has completed, or is in the process of:

- Expanding the management and governance over IT system controls including the strengthening of;
 - o program change management controls to ensure that program and data changes are identified, tested, authorized and implemented appropriately and aligned with business and IT requirements,
 - o user access controls to ensure appropriate segregation of duties and to adequately restrict user and privileged access to appropriate personnel,
 - o computer operations controls to ensure that processing and transfer of data, and data backups and recovery are monitored, and
 - o program development controls to ensure that new software development is tested, authorized and implemented appropriately.
- We are in the process of formalizing accounting, and other key business process policies and procedures.
- We are implementing and enhancing comprehensive business process controls over the preparation and review of journal entries, including the recent deployment of a new ERP system in the third quarter of 2022, establishing additional controls to verify transactions are properly classified in the financial statements.
- We are enhancing our processes to identify and appropriately apply applicable accounting requirements to better evaluate and understand the nuances of the complex accounting standards for complex transactions and instruments as well as the hiring of additional experienced internal resources. We have provided enhanced access to accounting literature, research materials, and documents as well as increased communication with third party consultants and specialists with whom we consult regarding the application of accounting standards over complex transactions and instruments to supplement our internal resources.
- We are in the process of enhancing and have completed some enhancements to our implementation of all of the components of the “Internal Control—Integrated Framework (2013)” issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). This includes improvements to our Sarbanes-Oxley program, an overall Company-wide risk assessment process and assessing the effectiveness of control activities to contribute to the mitigation of risks and support achievement of objectives facilitated by Internal Audit. In addition, the Company has completed the assignment of responsibilities, internal and external, associated with the performance of internal controls over financial reporting and will continue to monitor the need to hire additional resources, contracting external resources, and continue providing additional training to existing resources as appropriate.

As we continue our evaluation and assess the effectiveness of our internal control over financial reporting going forward, management may modify the actions described above or identify and take additional measures to address control deficiencies. While we prioritize achieving the effectiveness of our internal control over financial reporting and disclosure controls and procedures, until our remediation efforts, including any additional measures management identifies as necessary, are completed, validated and tested over a sustained period, the material weaknesses described above will continue to exist and management will not be able to conclude that they are remediated. We are committed to continuous improvement and will continue to diligently review our internal control over financial reporting.

Changes in Internal Control over Financial Reporting

There have been no changes in our internal control over financial reporting (as that term is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) during the three months ended December 31, 2022 that have materially affected, or are 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.

Except as follows, the information required by Item 10 is incorporated herein by reference from sections entitled “Proposal 1 — Election of Directors” and “The Board of Directors and Certain Governance Matters” in our definitive Proxy Statement for our 2023 Annual Meeting of Stockholders. Our executive officers are listed in Item 1. People of this Annual Report on Form 10-K.

Code of Ethics

Astra has adopted a code of ethics entitled “Astra Space, Inc. Code of Conduct and Ethics” that applies to directors, officers and employees. It may be accessed through the “Governance” section of the Company’s website at <https://www.astra.com>. Astra also elects to disclose the information required by Form 8-K, Item 5.05, “Amendments to the Registrant’s Code of Ethics, or Waiver of a Provision of the Code of Ethics,” through the Company’s website, and such information will remain available on this website for at least a 12-month period. A copy of the “Astra Space, Inc. Code of Conduct and Ethics” is available in print to any stockholder who requests it in writing.

ITEM 11. EXECUTIVE COMPENSATION.

The information required by Item 11 is incorporated herein by reference from sections entitled “Director Compensation” and “Executive Compensation” in our definitive Proxy Statement for our 2023 Annual Meeting of Stockholders.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS.

The information required by Item 12. is incorporated herein by reference from section entitled “Security Ownership of Certain Beneficial Owners and Management” in our definitive Proxy Statement for our 2023 Annual Meeting of Stockholders, with the exception of the information regarding securities authorized for issuance under our equity compensation plans, which is set forth below.

Equity Compensation Plan Information

The following table sets forth information with respect to securities authorized for issuance under our equity compensation plans as of December 31, 2022:

	Number of Securities to be Issued Upon Exercise of Outstanding Options and Release of Nonvested RSUs	Weighted Average Exercise Price of Outstanding Options	Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in First Column)
Equity Compensation Plan Approved by Stockholders ⁽¹⁾	32,370,445	\$ 7.11	21,800,716
Equity Compensation Plans Not Approved by Stockholders ⁽²⁾	-	-	-
Total	32,370,445	\$ 7.11	21,800,716

⁽¹⁾ Consists of stock option and restricted stock unit awards granted under our 2021 Omnibus Incentive Plan, as well as outstanding and unexercised options that were issued under Legacy Astra’s 2016 Equity Incentive Plan and converted into options to purchase our Class A common stock under our 2021 Omnibus Incentive Plan. There are no options or restricted stock units available for issuance under the 2016 Equity Incentive Plan.

⁽²⁾ Our stockholders have previously approved our existing equity compensation plan.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE.

The information required by Item 13 is incorporated herein by reference from section entitled “Certain Relationships and Related Person Transactions” in our definitive Proxy Statement for our 2023 Annual Meeting of Stockholders.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES.

The information required by Item 14 is incorporated herein by reference from the section entitled “Proposal 2 — Ratification of the Appointment of Independent Registered Public Accounting Firm” in our definitive Proxy Statement for our 2023 Annual Meeting of Stockholders.

PART IV

ITEM 15. EXHIBIT AND FINANCIAL STATEMENT SCHEDULES.

(a) The following are filed as part of this Annual Report on Form 10-K:

1. Financial Statements

See Index to Financial Statements under Part II, Item 8 of this Annual Report on Form 10-K.

2. Financial Statement Schedules

Schedules not listed above have been omitted because they are not required, not applicable, or the required information is otherwise included

3. Exhibits

The exhibits listed below are filed as part of this Annual Report on Form 10-K or are incorporated herein by reference as indicated.

Exhibit Number	Description	Incorporated by Reference			
		Form	SEC File No.	Exhibit	Filing Date
3.1	Second Amended and Restated Certificate of Incorporation of Astra Space, Inc.	8-K	001-39426	3.1	July 1, 2021
3.2	Amended and Restated Bylaws of Astra Space, Inc.	8-K	001-39426	3.2	July 1, 2021
4.1*	Description of Securities				
4.2*+	Warrant Agreement, dated February 3, 2023, by and between Astra Space, Inc. and Shareintel-Shareholder Intelligence Services, LLC				
10.1+	Astra Space, Inc. 2021 Omnibus Incentive Plan.	424B3	333-255703	F	June 8, 2021
10.2+	Astra Space, Inc. 2021 Employee Stock Purchase Plan.	424B3	333-255703	G	June 8, 2021
10.3	Form of Indemnification Agreement.	8-K	001-39426	10.11	July 1, 2021
10.4+	Employment Agreement, dated February 1, 2021, by and between Astra Space, Inc. and Chris Kemp.	S-4	333-255703	10.8	May 3, 2021
10.5+	Employment Agreement, dated February 1, 2021, by and between Astra Space, Inc. and Adam London.	S-4	333-255703	10.9	May 3, 2021
10.6+	Employment Agreement, dated February 1, 2021, by and between Astra Space, Inc. and Martin Attiq.	S-4	333-255703	10.11	May 3, 2021
10.7+	First Amendment to Employment Agreement of Chris Kemp dated September 1, 2021.	8-K	001-39426	10.1	September 7, 2021
10.8+	First Amendment to Employment Agreement of Adam London dated September 1, 2021.	8-K	001-39426	10.2	September 7, 2021
10.9+	First Amendment to Employment Agreement of Martin Attiq dated September 1, 2021.	8-K	001-39426	10.4	September 7, 2021
10.10*+	Form of Stock Option Award				
10.11*+	Form of Restricted Stock Unit Award Agreement				
10.12+	Form of Performance Stock Option Award Agreement.	8-K	001-39426	10.1	September 7, 2021
10.13	Investors' Rights Agreement, dated February 2, 2020, by and among Holicity, Inc. Astra Space, Inc. and certain of its stockholders	S-4	333-255703	10.2	May 3, 2021
10.14	Standard Industrial/Commercial Single Lessee Lease Net with SS (Oakmead) LLC dated July 28, 2022	10-Q	001-39426	10.1	November 9, 2022

10.15	Common Stock Purchase Agreement, dated August 2, 2022, between Astra Space, Inc. and B. Riley Principal Capital II, LLC.	8-K	001-39426	10.1	August 2, 2022
10.16	Registration Rights Agreement, dated August 2, 2022, between Astra Space, Inc. and B. Riley Principal Capital II, LLC.	8-K	001-39426	10.2	August 2, 2022
10.17	Employment Agreement with Axel Martinez dated September 27, 2022	8-K	001-39426	10.1	September 30, 2022
10.18*	Severance Agreement and General Release, dated November 10, 2022, by and between Astra Space, Inc. and Kelyn Brannon.				
10.19	Lease Agreement by and between City of Alameda California and Astra Space Operations, Inc., dated December 6, 2022	8-K/A	001-39426	10.1	December 14, 2022
21.1*	Subsidiaries of Registrant				
23.1*	Consent of Grant Thornton LLP				
23.2*	Consent of PricewaterhouseCoopers LLP				
31.1*	Certification of Chief Executive Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.				
31.2*	Certification of Chief Financial Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.				
32.1**	Certification of Chief Executive Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.				
32.2**	Certification of Chief Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.				
101.INS	Inline XBRL Instance Document – the instance document does not appear in the Interactive Data File because XBRL tags are embedded within the Inline XBRL document.				
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 Label Linkbase Document				
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document				
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)				

* Filed herewith.

** Furnished herewith.

+ Indicates a management contract or compensatory plan, contract or arrangement in which directors or executive officers participate.

ITEM 16. FORM 10-K SUMMARY.

None.

SIGNATURES

Pursuant to the requirements 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.

Astra Space, Inc.

Date: March 30, 2023

By: /s/ Chris C. Kemp
Chris C. Kemp
Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Registrant and the capacities and on the dates indicated. Each person whose signature appears below constitutes and appoints Chris C. Kemp and Axel Martinez, and each or any of them, his or her true and lawful attorney-in-fact and agent, each acting alone, 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 sign any or all amendments or supplements (including post-effective amendments) to this report, and to file the same, with all exhibits thereto, and all documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact and agent, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent, or his or her substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Chris C. Kemp</u> Chris C. Kemp	Chief Executive Officer and Chairman of the Board (Principal Executive Officer)	March 30, 2023
<u>/s/ Axel Martinez</u> Axel Martinez	Chief Financial Officer (Principal Financial and Accounting Officer)	March 30, 2023
<u>/s/ Michèle Flournoy</u> Michèle Flournoy	Director	March 30, 2023
<u>/s/ Mike Lehman</u> Mike Lehman	Director	March 30, 2023
<u>/s/ Adam London</u> Adam London	Director	March 30, 2023
<u>/s/ Lisa Nelson</u> Lisa Nelson	Director	March 30, 2023
<u>/s/ Scott Stanford</u> Scott Stanford	Director	March 30, 2023
<u>/s/ Julie Cullivan</u>	Director	March 30, 2023

