



2022 Annual Report

MicroStrategy Incorporated



Dear Fellow Stockholder:

Most people have probably never heard of a *becker flap rudder*. But for the curious mind, it was a breakthrough in nautical engineering that changed the world. While it may not be the most sophisticated machinery, it is certainly one of the most elegant. The use of a hinged aft delivers efficiency and control previously unimaginable. The maneuverability opened new channels and rivers to exploration. Captains could change course on a dime—even propel vessels laterally into jetties. At its core, the becker flap is simply a rudder on a rudder. But viewed through a historical lens, it is the story of a relatively small component astutely harnessing the forces of nature to make an outsized impact.



For our customers, and the communities we support, MicroStrategy is built to deliver a similar narrative. The enterprise analytics software technology we innovate is a critical element in the complex apparatus of some of the world’s best brands. The bitcoin strategy we pursue is a pioneering force to reimagine monetary systems for the 21st century. Both of our missions are designed to catalyze positive change. And I could not be more excited to continue this journey in pursuit of them in the year ahead.

The enterprise analytics software technology we innovate is a critical element in the complex apparatus of some of the world’s best brands. The bitcoin strategy we pursue is a pioneering force to reimagine monetary systems for the 21st

We Remain Focused on BI & Analytics

Industry leaders trust our platform to serve their businesses with agility and speed—navigating evolving market landscapes with confidence. This past year was the third consecutive year that we’ve seen increasing renewal rates as organizations consolidate legacy tools in favor of the MicroStrategy platform. Our continued investment in research and development has enabled customers to transform how they do business, deploying low-code/no-code personalized applications for myriad use cases, such as retail store management, bank branch operations, and healthcare solutions. We continued to see increased adoption of *HyperIntelligence*[®], our innovative product that delivers answers directly onto websites and business applications. And our embedded analytics offering continued to expand thanks to our rich library of APIs and our stellar reputation as a partner organization.

Industry leaders trust our platform to serve their business with agility and speed—navigating evolving market landscapes with confidence.

Looking forward, the company is well positioned for growth. We continue to focus on streamlining processes, growing our sales pipeline, and increasing revenues. Following a pandemic-driven hiatus, we are eager to engage potential customers at in-person events and conferences, specifically on the advantages of our cloud offering. New customers are typically cloud-first organizations that can immediately reap the benefits of our managed service. Concurrently, more and more existing on-premises customers are migrating to the cloud and expanding their MicroStrategy usage to new user groups and departments.

We Continue to Embrace Bitcoin

In August of 2020, MicroStrategy officially adopted bitcoin as our primary treasury reserve asset as part of an innovative corporate treasury strategy. Since then, our commitment to bitcoin, and all that it represents, has not wavered. We have faced market volatility, but I am optimistic we are on the right path forward, and that regulators will reach the same conclusion we made in the summer of 2020: recognizing bitcoin as an open, secure protocol for an internet-native digital asset and a novel and much-needed addition to the financial ecosystem. To further educate the market, we will host our annual *Bitcoin & Lightning for Corporations* event this May, held alongside MicroStrategy World 2023 in Orlando, Florida. The in-person event is a dedicated opportunity for business leaders, financial executives, and technology innovators to hear directly from expert voices and experienced practitioners representing institutional-grade organizations.

Operating on top of the Bitcoin Network, the layer 2 Lightning Network is money-over-IP that offers a wide array of opportunities for product innovation and market disruption.

In addition to acquiring and holding bitcoin, we are pleased with the early results of our Lightning R&D effort. That is why we decided to host a *Lightning for Corporations* track alongside *Bitcoin for Corporations*. Operating on top of the Bitcoin Network, the layer 2 Lightning Network is money-over-IP that offers a wide array of opportunities for product innovation and market disruption. It's impressive what developers can now do with this technology, and it offers a clear solution to the primary criticism lobbied by bitcoin skeptics -- that a slow transaction rate on the base chain makes it difficult to envision how billions of individuals could ultimately be served by this technology.

Our Collective Future is Bright

I served as Chief Executive Officer since founding MicroStrategy in 1989 and taking it public a decade later. I led our company to effectively navigate a PC wave, an internet wave, a mobile wave, a cloud wave, and at present, a nascent blockchain wave that I believe is set to impact our society in the decade to come. To focus on this most recent wave, the Board of Directors and I made the decision last August to split the roles of Chairman and CEO. Doing so would allow me to dedicate my time and energy to the company's bitcoin acquisition strategy—focusing on advocacy, education, and innovation—while an operationally focused CEO would lead the day-to-day execution of the Company's corporate strategies and manage all business operations.

I am pleased to share that our recently appointed CEO Phong Le has been nothing less than a total success at taking the helm. Having previously served as Chief Financial Officer, Chief Operating Officer, and President (the latter a role he currently retains), there is no one better qualified to step into this position and lead the company on a day-to-day basis. Phong has my complete confidence, and I am excited to see the company grow under his stewardship.

The Year Ahead

Looking forward, I could not be more enthusiastic about the future for MicroStrategy, our partner organizations, our customers, and our employees. I strongly believe we have the right team of leaders and strategies in place to deliver incredible value to our customers and extraordinary financial results for our stockholders. Thank you for your continued support and confidence.

Very truly yours,

Michael J. Saylor
Executive Chairman

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

FORM 10-K

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

For the fiscal year ended December 31, 2022

OR

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

For the transition period from _____ to _____

Commission File Number 000-24435

MICROSTRATEGY INCORPORATED

(Exact Name of Registrant as Specified in Its Charter)

Delaware (State of Incorporation)	1850 Towers Crescent Plaza, Tysons Corner, VA 22182 (Address of Principal Executive Offices) (Zip Code)	51-0323571 (I.R.S. Employer Identification No.)
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Registrant's Telephone Number, Including Area Code: (703) 848-8600

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

Title of Each Class	Trading Symbol	Name of Each Exchange on which Registered
Class A common stock, par value \$0.001 per share	MSTR	The Nasdaq Global Select Market

Securities registered pursuant to Section 12(g) of the Act: Not applicable

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

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

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

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

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

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

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

Indicate by check mark whether the registrant 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 Act). Yes No

The aggregate market value of the voting and non-voting common equity held by non-affiliates of the registrant (based on the last reported sale price of the registrant's class A common stock on June 30, 2022 on the Nasdaq Global Select Market) was approximately \$1.533 billion.

As of February 2, 2023, the registrant had 9,584,732 and 1,964,025 shares of class A common stock and class B common stock outstanding, respectively.

Documents incorporated by reference: Portions of the definitive proxy statement for the 2023 Annual Meeting of Stockholders of the Registrant to be filed subsequently with the SEC are incorporated by reference into Part III of this Annual Report on Form 10-K to the extent indicated herein.

Auditor Firm Id: 185 Auditor Name: KPMG LLP Auditor Location: McLean, Virginia

MICROSTRATEGY INCORPORATED

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The trademarks and registered trademarks of MicroStrategy Incorporated and its subsidiaries referred to herein include, but are not limited to, MicroStrategy, Intelligence Everywhere, HyperIntelligence, MicroStrategy Consulting, MicroStrategy Education, Dossier, MicroStrategy Cloud, Enterprise Semantic Graph, MicroStrategy Services, Global Delivery Center, and Intelligent Enterprise. Third-party product and company names mentioned herein may be the trademarks of their respective owners.

CERTAIN DEFINITIONS

All references in this Annual Report on Form 10-K (“Annual Report”) to “MicroStrategy,” the “Company,” “we,” “us,” and “our” refer to MicroStrategy Incorporated and its consolidated subsidiaries (unless the context otherwise indicates).

FORWARD-LOOKING INFORMATION AND RISK FACTOR SUMMARY

This Annual Report contains forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”). For this purpose, any statements contained herein that are not statements of historical fact, including, without limitation, certain statements under “Item 1. Business,” “Item 1A. Risk Factors,” and “Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations” and located elsewhere herein concerning our plans, objectives, goals, beliefs, business strategies, future events, business conditions, results of operations, financial position, business outlook, business trends and other information, may be forward-looking statements. Without limiting the foregoing, words such as “might,” “will,” “may,” “should,” “estimates,” “expects,” “continues,” “contemplates,” “anticipates,” “projects,” “plans,” “potential,” “predicts,” “intends,” “believes,” “forecasts,” “future,” “targeted,” “goal” and variations of such words or similar expressions are intended to identify forward-looking statements. The forward-looking statements are not historical facts, and are based upon our current expectations, beliefs, estimates and projections, and various assumptions, many of which, by their nature, are inherently uncertain and beyond our control. Our expectations, beliefs, estimates and projections are expressed in good faith and we believe there is a reasonable basis for them. However, there can be no assurance that management’s expectations, beliefs, estimates and projections will be achieved and actual results may vary materially from what is expressed in or indicated by the forward-looking statements.

There are a number of risks, uncertainties and other important factors, many of which are beyond our control, that could cause our actual results to differ materially from the forward-looking statements contained herein and presented elsewhere by management from time to time. These principal risks, uncertainties and other important factors are discussed more fully under “Item 1A. Risk Factors” and include, but are not limited to, the following:

Risks Related to Our Business in General

- Our quarterly operating results, revenues, and expenses may fluctuate significantly, which could have an adverse effect on the market price of our stock;

Risks Related to Our Bitcoin Acquisition Strategy and Holdings

- Our bitcoin acquisition strategy exposes us to various risks associated with bitcoin;
- The price of bitcoin may be influenced by legal, commercial, technical and industry factors that are highly uncertain, and fluctuations in the price of bitcoin are likely to influence our financial results and the market price of our class A common stock;
- Our historical financial statements do not reflect the potential variability in earnings that we may experience in the future relating to our bitcoin holdings;
- Changes in securities regulations, or the adoption of new laws or regulations, relating to bitcoin could adversely affect the price of bitcoin or our ability to transact in or own bitcoin, which may adversely impact the market price of our class A common stock;
- Our bitcoin acquisition strategy subjects us to enhanced regulatory oversight;
- The concentration of our bitcoin holdings enhances the risks inherent in our bitcoin acquisition strategy;
- Our bitcoin holdings are less liquid than our existing cash and cash equivalents and may not be able to serve as a source of liquidity for us to the same extent as cash and cash equivalents;
- If we or our third-party service providers experience a security breach or cyberattack and unauthorized parties obtain access to our bitcoin, or if our private keys are lost or destroyed, or other similar circumstances or events occur, we may lose some or all of our bitcoin and our financial condition and results of operations could be materially adversely affected;
- Our bitcoin acquisition strategy exposes us to risk of non-performance by counterparties;

Risks Related to Our Enterprise Analytics Software Business Strategy

- We depend on revenue from a single software platform and related services as well as revenue from our installed customer base;
- As our customers increasingly shift from a product license model to a cloud subscription model, we could face higher future rates of attrition, and such a shift could continue to affect the timing of revenue recognition or reduce product licenses and product support revenues, which could materially adversely affect our operating results;
- We use channel partners and if we are unable to maintain successful relationships with them, our business, operating results, and financial condition could be materially adversely affected;
- Our recognition of deferred revenue and advance payments is subject to future performance obligations and may not be representative of revenues for succeeding periods;
- Our results in any particular period may depend on the number and volume of large transactions in that period and these transactions may involve lengthier, more complex, and more unpredictable sales cycles than other transactions;

Risks Related to Our Technology and Intellectual Property

- If we are unable to develop and release new offerings and software enhancements to respond to rapid technological change, new customer requirements, or evolving industry standards in a timely and cost-effective manner, our business, operating results, and financial condition could be materially adversely affected;
- The nature of our software makes it particularly susceptible to undetected errors, bugs, or security vulnerabilities, which could cause problems with how the software performs and, in turn, reduce demand for our software, reduce our revenue, and lead to litigation claims against us;

Risks Related to Our Operations

- Business disruptions, including interruptions, delays, or failures of our systems, third-party data center hosting facility, or other third-party services, as a result of geopolitical tensions, acts of terrorism, natural disasters, pandemics (like the novel coronavirus (“COVID-19”) pandemic), and similar events, could materially adversely affect our operating results or result in a material weakness in our internal controls that could adversely affect the market price of our stock;
- Our international operations are complex and expose us to risks that could have a material adverse effect on our business, operating results, and financial condition;
- We face a variety of risks in doing business with U.S. and foreign federal, state, and local governments and government agencies, including risks related to the procurement process, budget constraints and cycles, termination of contracts, and compliance with government contracting requirements;
- Changes in laws or regulations relating to privacy or the collection, processing, disclosure, storage, localization, or transmission of personal data, or any actual or perceived failure by us or our third-party service providers to comply with such laws and regulations, contractual obligations, or applicable privacy policies, could materially adversely affect our business;
- If we or our third-party service providers experience a disruption due to a cybersecurity attack or security breach and unauthorized parties obtain access to our customers’, prospects’, vendors’, or channel partners’ data, our data, our networks or other systems, or the cloud environments we manage, our offerings may be perceived as not being secure, our reputation may be harmed, demand for our offerings may be reduced, our operations may be disrupted, we may incur significant legal and financial liabilities, and our business could be materially adversely affected;

Risks Related to Our Class A Common Stock

- The market price of our class A common stock has been and may continue to be volatile;
- Because of the rights of our two classes of common stock and because we are controlled by Michael J. Saylor, who beneficially owns the majority of our class B common stock, Mr. Saylor could transfer control of MicroStrategy to a third party without the approval of our Board of Directors or our other stockholders, prevent a third party from acquiring us, or limit the ability of our other stockholders to influence corporate matters;
- Future sales, or the perception of future sales, of our class A common stock, convertible debt instruments or other convertible securities could depress the price of our class A common stock;

Risks Related to Our Outstanding and Potential Future Indebtedness

- Our level and terms of indebtedness could adversely affect our ability to raise additional capital to further execute on our bitcoin acquisition strategy, fund our enterprise analytics software operations, and take advantage of new business opportunities;
- We may be unable to service our indebtedness, which could cause us to default on our debt obligations and could force us into bankruptcy or liquidation;
- We may be required to repay the 2028 Secured Notes prior to their stated maturity date, if the springing maturity feature is triggered;
- We may not have the ability to raise the funds necessary to settle for cash conversions of the Convertible Notes (as defined below); and
- The conditional conversion feature of the Convertible Notes, if triggered, may adversely affect our financial condition and operating results.

We caution you that the foregoing list of important factors may not contain all of the material factors that are important to you. In addition, in light of these risks and uncertainties, the matters referred to in the forward-looking statements contained herein may not in fact occur. The forward-looking statements made herein relate only to events as of the date on which the statements were made. Except as may be required by law, we undertake no obligation to update our forward-looking statements to reflect events and circumstances after the date on which the statements were made or to reflect the occurrence of unanticipated events.

PART I

Item 1. Business

Overview

MicroStrategy® pursues two corporate strategies in the operation of its business. One strategy is to acquire and hold bitcoin and the other strategy is to grow our enterprise analytics software business. We believe that undertaking these two, interdependent corporate strategies serves as a key differentiator for our business, as our bitcoin acquisition strategy has raised our profile with potential software customers while our enterprise analytics software business has provided stable cash flows that allow us to acquire and hold bitcoin for the long-term.

Our bitcoin acquisition strategy generally involves acquiring bitcoin with our liquid assets that exceed working capital requirements, and from time to time, subject to market conditions, issuing debt or equity securities or engaging in other capital raising transactions with the objective of using the proceeds to purchase bitcoin. We have not set any specific target for the amount of bitcoin we seek to hold, and we will continue to monitor market conditions in determining whether to engage in additional financings to purchase additional bitcoin.

We believe that bitcoin is attractive because it can serve as a store of value, supported by a robust and public open-source architecture, that is untethered to sovereign monetary policy. We also believe that, due to its limited supply, bitcoin offers the opportunity for appreciation in value if its adoption increases and has the potential to serve as a hedge against inflation in the long-term. In addition, we believe that our bitcoin acquisition strategy is complementary to our enterprise analytics software business, as we believe that our bitcoin and related activities in support of the bitcoin network enhance awareness of our brand. We are also exploring opportunities to apply bitcoin and lightning network-related technologies into our software offerings.

MicroStrategy is also a global leader in enterprise analytics software and services. Since our founding in 1989, we have focused on empowering organizations to leverage the immense value of data. Our vision is to enable Intelligence Everywhere™ by providing world-class software and services that provide enterprise users with actionable insights.

The MicroStrategy Platform is an enterprise analytics software platform that incorporates a comprehensive suite of software offerings that are packaged and configured to meet customer requirements. The MicroStrategy Platform empowers organizations to leverage the immense value of their data. The platform enables users to connect to, sort and cleanse a wide variety of data. Sitting at the top of a technology stack, it can blend a myriad of sources to provide organizations with a comprehensive view of their business.

Bitcoin Acquisition Strategy

In September 2020, our Board of Directors adopted a Treasury Reserve Policy (as amended to date, the “Treasury Reserve Policy”) that updated our treasury management and capital allocation strategies, under which our treasury reserve assets will consist of:

- cash and cash equivalents and short-term investments (“Cash Assets”) held by us that exceed working capital requirements; and
- bitcoin held by us, with bitcoin serving as the primary treasury reserve asset on an ongoing basis, subject to market conditions and anticipated needs of the business for Cash Assets.

In the first quarter of 2021, we adopted, in addition to and in conjunction with our Treasury Reserve Policy, a corporate strategy of acquiring and holding bitcoin, and from time to time, subject to market conditions, issuing debt or equity securities or engaging in other capital raising transactions with the objective of using the proceeds to purchase bitcoin. As part of our bitcoin acquisition strategy, we also periodically engage in activities to educate the market regarding bitcoin.

Our bitcoin acquisition strategy generally involves acquiring bitcoin with our liquid assets that exceed working capital requirements, and from time to time, subject to market conditions, issuing debt or equity securities or engaging in other capital raising transactions with the objective of using the proceeds to purchase bitcoin. We view our bitcoin holdings as long-term holdings and expect to continue to accumulate bitcoin. We have not set any specific target for the amount of bitcoin we seek to hold, and we will continue to monitor market conditions in determining whether to engage in additional financings to purchase additional bitcoin. This overall strategy also contemplates that we may (i) periodically sell bitcoin for general corporate purposes, including to generate cash for treasury management or in connection with strategies that generate tax benefits in accordance with applicable law, (ii) enter into additional capital raising transactions that are collateralized by our bitcoin holdings, and (iii) consider pursuing additional strategies to create income streams or otherwise generate funds using our bitcoin holdings.

Our Bitcoin Holdings

During 2022, we purchased a total of approximately 8,813 bitcoins at an aggregate purchase price of approximately \$287.9 million for an average purchase price of approximately \$32,670 per bitcoin, inclusive of fees and expenses, and sold a total of approximately 704 bitcoins for cash proceeds of approximately \$11.8 million at an average sale price of approximately \$16,786 per bitcoin, net of fees and expenses. During 2021, we purchased a total of approximately 53,922 bitcoins at an aggregate purchase price of approximately \$2.627 billion for an average purchase price of approximately \$48,710 per bitcoin, inclusive of fees and expenses. We did not sell any bitcoin during 2021. We did not purchase or sell any bitcoins during the period between January 1, 2023 and February 15, 2023. Refer to the “Our Bitcoin Acquisition Strategy” section under “Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations” for further information regarding our bitcoin purchases, including the source of capital used to purchase bitcoin.

At December 31, 2022, we carried \$1.840 billion of digital assets on our balance sheet, consisting of approximately 132,500 bitcoins and reflecting \$2.153 billion in cumulative impairment losses attributable to bitcoin trading price fluctuations, and held \$43.8 million in cash and cash equivalents. At December 31, 2021, we carried \$2.850 billion of digital assets on our balance sheet, consisting of approximately 124,391 bitcoins and reflecting \$901.3 million in cumulative impairment losses attributable to bitcoin trading price fluctuations, and held \$63.4 million in cash and cash equivalents.

As of February 15, 2023, we held approximately 132,500 bitcoins that were acquired at an aggregate purchase price of \$3.993 billion and an average purchase price of approximately \$30,137 per bitcoin, inclusive of fees and expenses. As of February 15, 2023, at 4:00 p.m. Eastern Time, the market price of one bitcoin reported on the Coinbase exchange (our principal market) was \$24,163.86.

Overview of the Bitcoin Industry and Market

Bitcoin is a digital asset that is issued by and transmitted through an open-source protocol, known as the Bitcoin protocol, collectively maintained by a peer-to-peer network of decentralized user nodes. This network hosts a public transaction ledger, known as the Bitcoin blockchain, on which bitcoin holdings and all validated transactions that have ever taken place on the Bitcoin network are recorded. Balances of bitcoin are stored in individual “wallet” functions, which associate network public addresses with one or more “private keys” that control the transfer of bitcoin. The Bitcoin blockchain can be updated without any single entity owning or operating the network. The Bitcoin blockchain can also support smart contract implementations, such as the lightning network, which is a decentralized second-layer payment protocol built atop of the Bitcoin blockchain and that is intended to enable fast and less costly transactions.

Creation of New Bitcoin and Limits on Supply

New bitcoin is created and allocated by the Bitcoin protocol through a “mining” process that rewards users that validate transactions in the Bitcoin blockchain. Validated transactions are added in “blocks” approximately every 10 minutes. The mining process serves to validate transactions and secure the Bitcoin network. Mining is a competitive and costly operation that requires a large amount of computational power to solve complex mathematical algorithms. This expenditure of computing power is known as “proof of work.” To incentivize miners to incur the costs of mining bitcoin, the Bitcoin protocol rewards miners that successfully validate a block of transactions with newly generated bitcoin.

The Bitcoin protocol limits the total number of bitcoin that can be generated over time to 21 million. The current reward for miners that successfully validate a block of transactions is 6.25 bitcoin per mined block. The reward is expected to decrease by half to 3.125 bitcoin per mined block in early-to-mid-2024. This decrease in mining reward is referred to as a bitcoin halving, and it occurs after every 210,000 blocks are mined, which currently occurs approximately every four years.

Modifications to the Bitcoin Protocol

Bitcoin is an open-source network that has no central authority, so no one person can unilaterally make changes to the software that runs the network. However, there is a core group of developers that maintain the code for the Bitcoin protocol, and they can propose changes to the source code and release periodic updates and other changes. Unlike most software that has a central entity that can push updates to users, bitcoin is a peer-to-peer network in which individual network participants, called nodes, decide whether to upgrade the software and accept the new changes. As a practical matter, a modification becomes part of the Bitcoin protocol only if the proposed changes are accepted by participants collectively having the most processing power, known as hash rate, on the network. If a certain percentage of the nodes reject the changes, then a “fork” takes place and participants can choose the version of the software they want to run.

Forms of Attack Against the Bitcoin Network and Wallets

Blockchain technology has many built-in security features that make it difficult for hackers and other malicious actors to corrupt the protocol or blockchain. However, as with any computer network, the Bitcoin network may be subject to certain attacks. Some forms of attack include unauthorized access to wallets that hold bitcoin and direct attacks, like “51% attacks” or “denial-of-service attacks” on the Bitcoin protocol.

Bitcoin is controllable only by the possessor of both the unique public key and private key(s) relating to the local or online digital wallet in which the bitcoin is held. Private keys used to access bitcoin balances are not widely distributed and are typically held on hardware (which can be physically controlled by the holder or by a third party such as a custodian) or via software programs on third-party servers. One form of obtaining unauthorized access to a wallet occurs following a phishing attack where the attacker deceives the victim and manipulates them into sharing their private keys for their digital wallet or other sensitive information. Other similar attacks may also result in the loss of private keys and the inability to access, and effective loss of, the corresponding bitcoin. See “Item 1A. Risk Factors – Risks Related to Our Bitcoin Acquisition Strategy and Holdings – The loss or destruction of a private key required to access our bitcoin may be irreversible. If we are unable to access our private keys or if we experience a cyberattack or other data loss relating to our bitcoin, our financial condition and results of operations could be materially adversely affected.”

A “51% attack” may occur when a group of miners attain more than 50% of the Bitcoin network’s mining power, thereby enabling them to control the Bitcoin network and protocol and manipulate the blockchain. A “denial-of-service attack” occurs when legitimate users are unable to access information systems, devices, or other network resources due to the actions of a malicious actor flooding the network with traffic until the network is unable to respond or crashes. The Bitcoin network has been, and can be in the future, subject to denial-of-service attacks, which can result in temporary delays in block creation and in the transfer of bitcoin. “See “Item 1A. Risk Factors – Risks Related to Our Bitcoin Acquisition Strategy and Holdings – The price of bitcoin may be influenced by legal, commercial, technical and industry factors that are highly uncertain, and fluctuations in the price of bitcoin are likely to influence our financial results and the market price of our class A common stock.”

Bitcoin Industry Participants

The primary Bitcoin industry participants are miners, investors and traders, digital asset exchanges and service providers, including custodians, brokers, payment processors, wallet providers and financial institutions.

Miners. Miners range from bitcoin enthusiasts to professional mining operations that design and build dedicated mining machines and data centers, including mining pools, which are groups of miners that act cohesively and combine their processing power to mine bitcoin blocks. See “—Creation of New Bitcoin and Limits on Supply” above.

Investors and Traders. Bitcoin investors and traders include individuals and institutional investors who purchase and sell bitcoin or bitcoin-based derivatives.

Digital Asset Exchanges. Bitcoin can be converted to fiat currencies, such as the U.S. dollar, at rates of exchange determined by market forces on bitcoin trading platforms, which operate 24 hours a day, 7 days a week and are not regulated in as comprehensive a manner as traditional securities exchanges. In addition to these platforms, over-the-counter markets and derivatives markets for bitcoin also exist. For a discussion of risks associated with digital asset exchanges, see “Item 1A. Risk Factors—Risks Related to Our Bitcoin Acquisition Strategy and Holdings— Due to the unregulated nature and lack of transparency surrounding the operations of many bitcoin trading venues, bitcoin trading venues may experience greater fraud, security failures or operational problems than trading venues for more established asset classes, which may result in a loss of confidence in bitcoin trading venues and adversely affect the value of our bitcoin.”

Service providers. Service providers offer a multitude of services to other participants in the Bitcoin industry, including custodial and trade execution services, commercial and retail payment processing, loans secured by bitcoin collateral, and financial advisory services. While certain of these services are provided by recently formed entities that do not have significant operational experience, others are provided by traditional financial institutions. In recent years, there has been an expansion of the number and type of services offered to the Bitcoin industry by traditional financial institutions, and we believe that this trend will continue if bitcoin becomes more widely adopted.

Other Digital Assets

As of the date of this Annual Report, bitcoin was the largest digital asset by market capitalization. However, there are numerous alternative digital assets and many entities, including consortia and financial institutions, are researching and investing resources into private or permissioned blockchain platforms or digital assets that do not use proof-of-work mining like the Bitcoin network. For example, in late 2022, the Ethereum network transitioned to a “proof-of-stake” mechanism for validating transactions that requires significantly less computing power than proof-of-work mining. Other alternative digital assets that compete with bitcoin in certain ways include “stablecoins,” which are designed to maintain a constant price because of their issuers’ promise to hold high-quality liquid assets (such as U.S. dollar deposits and short-term U.S. treasury securities) equal to the total value of stablecoins in circulation. Stablecoins have grown rapidly as an alternative to bitcoin and other digital assets as a medium of exchange and store of value, particularly on cryptocurrency trading platforms. As of the date of this Annual Report, three of the seven largest digital assets by market capitalization are U.S. dollar-backed stablecoins. Additionally, central banks in some countries have started to introduce digital forms of legal tender. For example, China’s central bank digital currency (“CBDC”) project was made available to consumers in January 2022, and governments including the United States and the European Union have been discussing the potential creation of new CBDCs. For a discussion of risks relating to the emergence of other digital assets, see “Item 1A. Risk Factors – Risks Related to Our Bitcoin Acquisition Strategy and Holdings—The emergence or growth of other digital assets, including those with significant private or public sector backing, could have a negative impact on the price of Bitcoin and adversely affect our business.”

Custody of our Bitcoin

We hold substantially all of our bitcoin in custody accounts at U.S.-based, institutional-grade custodians that have demonstrated records of regulatory compliance and information security. As a result, the primary counterparty risk we are exposed to with respect to our bitcoin is performance obligations under the various custody arrangements into which we have entered. We custody our bitcoin across multiple custodians to diversify our potential risk exposure to any one custodian. As of December 31, 2022, approximately half of our bitcoin was held with a single custodian; however, our custodial services contracts do not restrict our ability to reallocate our bitcoin among our custodians and, in light of the significant amount of bitcoin we hold, we continually seek to engage additional digital asset custodians to further diversify the custody of our bitcoin.

We carefully select the custodians that custody our bitcoin after undertaking a due diligence process. As part of our custodian selection process, we evaluate for and select custodians that can demonstrate that they operate with strict security protocols, including multifactor authentication procedures designed to safekeep our bitcoin. In addition, our custodial services agreements generally specify that the private keys that control our bitcoin will be held in offline or “cold” storage, which is designed to mitigate risks that a system may be susceptible to when connected to the internet, including the risks associated with unauthorized network access and cyberattacks. We also negotiate liability provisions in our custodial contracts, pursuant to which our custodians are held liable for their failure to safekeep our bitcoin. In addition to our custodial arrangements, we also utilize some of the entities that provide custodial services to us to process trade transactions on our behalf. We use the due diligence we conduct in connection with our custodial arrangements as part of our due diligence process for such parties that execute transactions for us.

We also conduct due diligence reviews during the custodial relationship to monitor the safekeeping of our bitcoin. As part of our process, we obtain and perform a comprehensive review of all available Services Organization Controls (“SOC”) 1 and SOC 2 reports that we receive from custodians. We are also contractually entitled to perform audits of the custodians’ relevant internal controls through a variety of methods. We have in the past conducted, and may conduct in the future, additional due diligence when we believe it is warranted by market circumstances or otherwise. For example, we have obtained supporting documentation to verify certain factual information, including documentation and analysis regarding financial solvency, exposure to troubled exchanges, regulatory compliance, security protocols and our ownership of our bitcoin.

We negotiate specific contractual terms and conditions with our custodians that we believe will help establish, under existing law, that our property interest in the bitcoin held by our custodians is not subject to the claims of the custodian’s creditors in the event the custodian enters bankruptcy, receivership or similar insolvency proceedings. Additionally, all of our custodians are New York Department of Financial Services (“NYDFS”) regulated custodians. On January 23, 2023, the NYDFS released “Guidance on Custodial Structures for Customer Protection in the Event of Insolvency” with the stated purpose of helping to protect customers in the event that a custodian enters bankruptcy, receivership or similar insolvency proceedings. Among other things, the guidance provides that NYDFS-regulated custodial entities (“VCE Custodians”) must (1) separately account for and segregate customer assets from proprietary assets, (2) avoid comingling customer virtual currency with any of the VCE Custodian’s own virtual currency or with any other non-customer virtual currency, (3) take possession of customer assets only for the limited purpose of carrying out custody and safekeeping services, (4) treat customer virtual currency in its possession and control as belonging solely to customers and not employ customer virtual currency for the VCE Custodian’s own use, (5) be prepared at all times to demonstrate reconciliation between the VCE Custodian’s books and records and on-chain activity upon request from the NYDFS, and (6) provide clear disclosure to customers regarding its custodial terms and services. We believe that existing law and the terms and conditions of our contractual arrangements with our custodians would not result in the bitcoin held by our custodians on our behalf being considered part of a custodian’s bankruptcy estate were one or more of our custodians to file for bankruptcy. For a discussion of risks relating to the custody of our bitcoin, see “Item 1A. Risk Factors – Risks Related to Our Bitcoin Acquisition Strategy and Holdings - Our bitcoin acquisition strategy exposes us to various risks associated with bitcoin,” and “—Our bitcoin acquisition strategy exposes us to risk of non-performance by counterparties.”

Potential Advantages and Disadvantages of Holding Bitcoin

We believe that bitcoin is attractive because it can serve as a store of value, supported by a robust and public open-source architecture, that is untethered to sovereign monetary policy. We also believe that, due to its limited supply, bitcoin offers the opportunity for appreciation in value if its adoption increases and has the potential to serve as a hedge against inflation in the long-term.

Bitcoin exists entirely in electronic form, as virtually irreversible public transaction ledger entries on the blockchain, and transactions in bitcoin are recorded and authenticated not by a central repository, but by a decentralized peer-to-peer network. This decentralization mitigates the risks of certain threats common to centralized computer networks, such as denial-of-service attacks, and reduces the dependency of the bitcoin network on any single system. The decentralization of user nodes and miners also mitigates the risk of a 51% attack, which would be very costly and difficult to execute with respect to a digital asset such as bitcoin, with such an expansive and robust network. However, while the Bitcoin network as a whole is decentralized, the private keys used to access bitcoin balances are not widely distributed and are susceptible to phishing and other attacks designed to obtain sensitive information or gain access to password-protected systems. Loss of such private keys can result in an inability to access, and effective loss of, the corresponding bitcoin. Consequently, bitcoin holdings are susceptible to all of the risks inherent in holding any electronic data, such as power failure, data corruption, security breach, communication failure and user error, among others. These risks, in turn, make bitcoin substantially

more susceptible to theft, destruction, or loss of value from hackers, corruption, viruses and other technology-specific factors as compared to conventional fiat currency or other conventional financial assets. See “Item 1A. Risk Factors – Risks Related to Our Bitcoin Acquisition Strategy and Holdings – The loss or destruction of a private key required to access our bitcoin may be irreversible. If we are unable to access our private keys or if we experience a cyberattack or other data loss relating to our bitcoin, our financial condition and results of operations could be materially adversely affected.”

In addition, the Bitcoin network relies on open-source developers to maintain and improve the Bitcoin protocol. Accordingly, bitcoin may be subject to protocol design changes, governance disputes such as “forked” protocols, competing protocols, and other open source-specific risks that do not affect conventional proprietary software.

We believe that in the context of the economic uncertainty precipitated by the persistence of COVID-19 infections, escalating geopolitical tensions and central banks having adopted inflationary measures at various times in recent history, as well as the breakdown of trust in and between political institutions and political parties in the United States and globally, bitcoin represents an attractive store of value, and that opportunity for appreciation in the value of bitcoin exists in the event that such factors lead to more widespread adoption of the use and acceptance of bitcoin and the adoption of bitcoin as a treasury reserve alternative by businesses.

Government Regulation

Activities involving bitcoin and other digital assets may fall within the jurisdiction of more than one financial regulator and are subject to U.S. federal, state and local laws, as well as laws of foreign jurisdictions where applicable. Businesses that are engaged in the transmission and custody of bitcoin and other digital assets, including brokers and custodians, can be subject to U.S. Treasury Department regulations as money services businesses as well as state money transmitter licensing requirements. Bitcoin and other digital assets are subject to anti-fraud regulations under federal and state commodity laws, and digital asset derivative instruments are substantively regulated by the U.S. Commodity Futures Trading Commission. Certain jurisdictions, including, among others, New York and a number of countries outside the United States, have developed regulatory requirements that specifically address digital assets and companies that transact in them. To the extent that we enter into bitcoin-related transactions beyond simply acquiring and holding bitcoin, such transactions may subject us to additional regulatory compliance requirements.

In addition, since transactions in bitcoin provide a degree of anonymity, they are susceptible to misuse for criminal activities, such as money laundering. This misuse, or the perception of such misuse, could lead to greater regulatory oversight of bitcoin and Bitcoin platforms, and there is the possibility that law enforcement agencies could close Bitcoin platforms or other bitcoin-related infrastructure with little or no notice and prevent users from accessing or retrieving bitcoin held via such platforms or infrastructure. For example, in her January 2021 nomination hearing before the Senate Finance Committee, Treasury Secretary Janet Yellen noted that cryptocurrencies have the potential to improve the efficiency of the financial system but that they can be used to finance terrorism, facilitate money laundering, and support malign activities that threaten U.S. national security interests and the integrity of the U.S. and international financial systems. Accordingly, Secretary Yellen expressed her view that federal regulators needed to look closely at how to encourage the use of cryptocurrencies for legitimate activities while curtailing their use for malign and illegal activities.

As noted above, activities involving bitcoin and other digital assets may fall within the jurisdiction of more than one financial regulator and various courts and such laws and regulations are rapidly evolving and increasing in scope. On March 9, 2022, President Biden signed an executive order relating to cryptocurrencies. While the executive order did not mandate the adoption of any specific regulations, it instructed various federal agencies to consider potential regulatory measures, including the evaluation of the creation of a U.S. CBDC. On September 16, 2022, the White House released a framework for digital asset development, based on reports from various government agencies, including the U.S. Department of Treasury, the Department of Justice, and the Department of Commerce. Among other things, the framework encourages regulators to pursue enforcement actions, issue guidance and rules to address current and emergent risks, support the development and use of innovative technologies by payment providers to increase access to instant payments, consider creating a federal framework to regulate nonbank payment providers, and evaluate whether to call upon Congress to amend the Bank Secrecy Act and laws against unlicensed money transmission to apply explicitly to digital asset service providers.

Enterprise Analytics Software Strategy

The MicroStrategy Platform

MicroStrategy is a global leader in enterprise analytics software and services. Since our founding in 1989, we have focused on empowering organizations to leverage the immense value of data. Our vision is to enable Intelligence Everywhere™ by providing world-class software and services that empower enterprise users with actionable insights.

The MicroStrategy Platform is an enterprise analytics software platform that incorporates a comprehensive suite of software offerings that are packaged and configured to meet customer requirements. The MicroStrategy Platform empowers organizations to leverage the immense value of their data. The platform enables users to connect to, sort and cleanse a wide variety of data. Sitting at the top of a technology stack, it can blend a myriad of sources to provide organizations with a comprehensive view of their business.

In addition, the platform elevates an organization’s relationship with data so they can build high-performance, governed, and secure applications at scale. The platform enables users to create visualizations, customize apps, and embed analytics directly into workflows

to unlock insights and promote a culture of data. Users can access insights via a web or mobile client, desktop applications, and cards that instantly surface contextual information on top of a web browser or web application.

Our customers benefit from a variety of powerful platform services. These include access to in-memory cubes of data—increasing application performance and expanding analytical capabilities. Users can also subscribe to and receive reports, dossiers, or alerts, directly to screens or devices based on customized thresholds or specified parameters. And to enhance collaboration, users can exchange messages, tag individuals, and share pre-filtered views via a chat function in a dossier.

With 200+ connectors to popular drivers and gateways to enterprise data sources on premise and in the cloud, the platform provides the open architecture and flexibility necessary to stay agile in a rapidly changing business landscape. In addition, organizations can utilize a library of comprehensive APIs that streamline embedding the platform into packaged and custom applications, workflows, and devices.

MicroStrategy Cloud

The MicroStrategy Cloud Environment (“MCE” or “MCE Service”) is a Platform-as-a-Service delivery model designed to allow businesses to leverage the MicroStrategy platform in a single tenant architecture. MCE offers a distributed computing architecture using various components provided by the cloud infrastructure vendors of either Microsoft Azure or AWS.

At its core are components that provide organizations with a secure, scalable, and resilient business intelligence enterprise application platform. It also includes elements required to operate, access, and manage the intelligence architecture. Users are provisioned with their own dedicated intelligence architecture based on a predefined configuration. Once provisioned, users can develop, tailor, and manage the application components to meet their respective needs.

Based on this operating model, customers control their analytics application stack, while MicroStrategy maintains supporting infrastructure.

FedRAMP Authorization

On November 29, 2022, the MicroStrategy Cloud for Government service (“MCG Service”) received authorization to operate under the Federal Risk and Authorization Management Program (“FedRAMP”) guidelines. MicroStrategy continues to strengthen its cloud footprint and commitment to the public sector with this designation, which certifies compliance with essential cloud security and data protection standards set by the U.S. federal government. MicroStrategy achieved this milestone through ongoing collaboration with the U.S. Department of Health and Human Services.

MCG Service is a managed software-as-a-service solution built on a high-performance cloud-native architecture. It is designed to deliver on sophisticated security and data privacy requirements across the public and private sectors. The solution offers always-on threat monitoring across expert-managed environments and enables rapid analytics development and deployment. Designed to take data to all edges of the organization, we believe the capabilities of MCG Service are not only fit for federal agencies in the U.S., but also governments and financial institutions worldwide with complex requirements and regulations.

Core Competencies

The confluence of MicroStrategy clients, servers, drivers and gateways, and options for platform deployment (cloud, on-premises, or hybrid) is designed to achieve Intelligence Everywhere™ for customers by delivering on key core competencies. These can be divided into two groups: data creativity and data horsepower. The former describes the array of options to distribute and consume intelligence; the latter consists of proprietary technology built to ensure performance, security, and integrity. Bringing together the best of both, the MicroStrategy platform addresses each.

Data Creativity: personalized experiences for everyone.

1. Compelling stories that impact the business. We provide technology to accelerate analytics adoption and increase data literacy. *MicroStrategy Dossier*®, our dashboarding and data-visualization tool, enables users with the formatting, layout, and input controls needed to quickly build low-code/no-code solutions, from infographic-style reports to high-impact productivity apps.
2. Dynamic workspaces to enable collaboration and iteration without lag. *MicroStrategy Library*™ empowers users to design and deploy personalized experiences with low-code/no-code development. Our platform enables highly customized web and mobile apps that leverage the full breadth of the platform for teams, departments, and organizations.
3. Embed intelligence with toolkits for data infusion. Inject and extend insights across existing ecosystems to elevate decision making, across applications. Users may select lightweight embedding options such as *HyperIntelligence*® or use Embedding SDK to integrate an analytics portal into existing products.

4. Deliver insights to any user at an organization's edge with proactive answers. *HyperIntelligence* incorporates actionable analytics based on keywords. MicroStrategy empowers developers to quickly build and deploy cards that are viewed on web apps.
5. Anticipate future operations and workflows with augmented analytics, guided machine learning, and artificial intelligence. In an evolving business landscape, organizations can find new ways to adopt and transform. Working in the background, MicroStrategy Insights™ provides automated alerts based on machine learning models and user patterns to proactively detect trends, outliers, and anomalies.

Data Horsepower: the foundation for governance and performance at scale.

6. Maintain a single version of the truth and commit to comprehensive data integrity. Using our proprietary Enterprise Semantic Graph™, organizations can leverage a powerful metadata layer to build applications on a foundation of secure and reliable building blocks.
7. Enforce governance and privacy protections with a platform designed for security. Our platform includes comprehensive administrative, security, and architecture features.
8. Stay flexible with cloud agility and avoid getting locked into a specific technology stack. Customers can choose how to deploy our fully featured platform: on premises, their own cloud environment, or the MicroStrategy Cloud Environment.
9. Support high performance with analytics at scale. Our platform powers some of the largest analytics and business intelligence deployments in the world. The platform is architected to scale efficiently to hundreds of thousands of users, with millions of personalized queries, across hundreds of applications, built on top of large datasets.
10. Accelerate workflows through automation. We embrace an agile approach to development and innovation. Our platform integrates with common applications including Excel, Power BI, Tableau, RStudio, and Jupyter. Developers can leverage scripts, APIs, and 200+ connectors (local and cloud) to embed the platform or build predictive, machine learning-enhanced data models on top of a secure and trusted foundation.

MicroStrategy Services™

Through our MicroStrategy Support, MicroStrategy Consulting, and MicroStrategy Education services, we help customers better leverage our platform by offering a comprehensive set of innovative services to deploy, optimize, and maintain their business intelligence platform and applications.

MicroStrategy Support

Our global network of MicroStrategy-certified support experts brings a wealth of experience and knowledge to help customers achieve their system availability and uptime goals and to improve the overall customer experience through highly responsive troubleshooting and proactive technical product support. Standard Support is included in each customer's maintenance plan. For additional services, customers can choose one of our three premium support options: Extended Support, Premier Support, or Elite Support. With these premium support options, customers can receive extended coverage and enhanced service at each touchpoint.

MicroStrategy Consulting

Our consulting services materially complement our software by increasing analytics adoption and helping our customers achieve returns on investment derived from better understanding their data. Many companies lack the internal expertise to define requirements and deliver solutions in a timely and high-quality manner. MicroStrategy Consulting provides customers with architecture and implementation services to help them quickly realize results. Our consultants serve as critical resources for operations, maintenance, and end-to-end lifecycle projects that develop and deploy customers' business intelligence environments. With thousands of successful projects delivered to customers worldwide spanning all major industries, our consultants apply industry best practices to guide our customers in defining, developing, and delivering business analytics solutions. MicroStrategy Consulting operates across North America, Latin America, South America, Europe, the Middle East, Africa, and the Asia Pacific region, with consultants from our local offices and our Global Delivery Center™ in Warsaw, Poland.

MicroStrategy Education

We believe the path to the Intelligent Enterprise™ involves skill-specific paths of learning. To help organizations maximize the utility, adoption, and performance of their MicroStrategy deployments, MicroStrategy Education offers free and paid learning options. MicroStrategy Education is available worldwide in multiple languages and a variety of formats—both live and on-demand.

Sales and Marketing

Sales and Services

MicroStrategy sells its platform in two ways. The first is to sell product licenses to customers for them to deploy the platform on their infrastructure either on premises or in the customer's cloud environment. The second is through MCE and MCG, which are fully managed and hosted cloud subscription services that allow customers to access our software in a cloud environment designed to deliver a myriad of business benefits. Although cloud subscription sales have increased as a percentage of our overall sales, the majority of our sales are product licenses sold to customers for them to deploy the platform on their infrastructure either on premises or in the customer's cloud environment. Revenues from product license sales comprise product licenses revenues, and revenues from cloud subscriptions comprise subscription services revenues.

MicroStrategy sells through our dedicated enterprise sales force and channel partners to increase market coverage in both domestic and international markets. We provide financial incentives for our channel partners to market and distribute our offerings. In addition, we offer a wide range of services that provide support in the discovery, planning, development, and deployment stages of a MicroStrategy offering.

Dedicated Sales Force

We market our offerings chiefly through our direct sales force. We have sales offices in locations throughout the world and use channel partners in several countries where we do not have sales offices.

Channel Partners

We have established strategic alliances with third-party vendors to help ensure the success of our customers' enterprise intelligence initiatives. Our channel partners are system integrators, consulting firms, resellers, solution providers, managed service providers, original equipment manufacturers ("OEMs"), and technology companies. These firms utilize the MicroStrategy platform for a variety of commercial purposes, and our agreements with them generally provide non-exclusive rights to market our offerings and allow access to our marketing materials, product training, and direct sales force for field-level assistance.

We make significant commitments to our channel partners, including technical training, certifications, pre-sales and sales enablement, and marketing programs. Through our joint efforts, we believe customers are able to minimize their risk and maximize the return on their business intelligence projects. Our channel partners allow us to leverage sales and service resources and marketing and industry-specific expertise to expand our user base and increase our market coverage.

Marketing

Our marketing programs target the following principal constituencies:

- our historical base of enterprise-wide operational and technology executives and departmental buyers across large global enterprises;
- corporate and departmental technology buyers in mid-sized enterprises;
- government technology buyers and the vendors to the government community;
- independent software vendors that want to embed our technology tools in their solutions; and
- system integrators that have technology relationships with large enterprises, governments, and information-intensive businesses.

As MicroStrategy continues to gain visibility due to our corporate strategy of acquiring and holding bitcoin, we continually seek to increase brand market awareness by focusing messaging on the possibilities for value creation, the benefits of using our platform, and competitive differentiators. The channels we use to communicate with prospective constituencies include digital and social media, advertising, free and evaluation software, events, media coverage, channel partners, and word-of-mouth and peer references.

Customers

Our customers include leading companies from a wide range of industries, including retail, banking, technology, consulting, manufacturing, insurance, healthcare, telecommunications, as well as the public sector.

Competition

The analytics market is highly competitive and subject to rapidly changing technology. Within the analytics space, we compete with many different software vendors, including IBM, Microsoft, Oracle, Qlik, Salesforce, and SAP. Our future success depends on our ability to differentiate our offerings and successfully compete across analytics implementation projects of varying sizes. Our ability to compete successfully depends on a number of factors, both within and outside of our control. Some of these factors include software deployment options; analytical, mobility, data discovery, visualization, artificial intelligence, and machine learning capabilities; performance and scalability; the quality and reliability of our customer service and support; and brand recognition. Failure to compete successfully in any one of these or other areas may reduce the demand for our offerings and materially adversely affect our revenue from both existing and prospective customers.

Key Differentiators

- A comprehensive, modern, and open enterprise analytics platform uniquely featuring HyperIntelligence, embedded analytics, transformational mobility, and federated analytics.
- Our exclusive and patented HyperIntelligence capabilities that inject contextual analytics into existing tools, websites, and online workflows.
- Our proprietary Enterprise Semantic Graph.
- Over 200 connectors to popular drivers and gateways to enterprise data sources on premise and in the cloud.
- A comprehensive set of REST APIs that makes it easy to embed the platform in packaged and custom applications, workflows, and devices.
- Flexible deployment methods that allow our customers to deploy our platform efficiently and securely using their own hardware or in a cloud environment they manage or via our fully managed and hosted cloud subscription service.
- Comprehensive platform administration, security, and architecture, including role-based access to both row and column data.
- A platform that is designed to scale with large datasets and deliver rapid response times.
- The MCG Service operates under FedRAMP guidelines—public sector agencies can now access the platform.

Government Regulation

Aspects of our business involve collecting, processing, disclosing, storing, and transmitting personal data, which are subject to certain privacy policies, contractual obligations, and U.S. and foreign laws, regulations, and directives relating to privacy and data protection. We store a substantial amount of customer and employee data, including personal data, on our networks and other systems and the cloud environments we manage. In addition, the types of data subject to protection as personal data in the European Union, the United States, and elsewhere have been expanding. In recent years, the collection and use of personal data by companies have come under increased regulatory and public scrutiny, especially in relation to the collection and processing of sensitive data, such as healthcare, biometric, genetic, financial services, and children's data, precise location data, and data regarding a person's race or ethnic origins, political opinions, or religious beliefs. For example, in the United States, protected health information is subject to the Health Insurance Portability and Accountability Act of 1996 ("HIPAA"), which can provide for civil and criminal penalties for noncompliance. Entities (such as us) that engage in creating, receiving, maintaining, or transmitting protected health information provided by covered entities and other business associates are subject to enforcement under HIPAA. Our access to protected health information triggers obligations to comply with certain privacy rules and data security requirements under HIPAA.

There are a broad variety of other data protection laws in the United States that are applicable to our activities, and a wide range of enforcement agencies at both the state and federal levels that can review companies for privacy and data security concerns based on general consumer protection laws. The Federal Trade Commission and state Attorneys General all are aggressive in reviewing privacy and data security protections for consumers. New laws also are being considered at both the state and federal levels. A broad range of legislative measures also have been introduced at the federal level. Accordingly, failure to comply with federal and state laws (both those currently in effect and future legislation) regarding privacy and security of personal information could expose us to fines and penalties under such laws. In the event of a security breach, we also may have obligations to notify our customers or other parties or individuals about this breach, and this can lead to significant costs and the risk of potential enforcement and/or litigation. There is also a threat of consumer class actions related to these laws and the overall protection of personal data. Even if we are not determined to have violated these laws, government investigations into these issues typically require the expenditure of significant resources and generate negative publicity, which could harm our reputation and our business.

In the European Union, the General Data Protection Regulation (“GDPR”) imposes requirements regarding the handling and security of personal data, requires disclosure of data breaches to individuals, customers, and data protection authorities in certain circumstances, requires companies to honor data subjects’ requests relating to their personal data, permits regulators to impose fines of up to €20,000,000 or 4% of global annual revenue, whichever is higher, and establishes a private right of action. Furthermore, a new ePrivacy Regulation, regulating electronic communications, was proposed in 2017 and is under consideration by the European Commission, the European Parliament, and the European Council. More recently, the Court of Justice of the European Union (“CJEU”) invalidated the U.S.-EU Privacy Shield in July 2020. The U.S.-EU Privacy Shield provided a mechanism to lawfully transfer personal data from the European Union to the United States and certain other countries. In the wake of the invalidation of the U.S.-EU Privacy Shield, we have transitioned to reliance on the EU Standard Contractual Clauses (“SCCs”) to lawfully transfer certain personal data from the European Union to the United States. The rules involving this alternative data transfer option are also undergoing revision and this transfer mechanism may also be declared invalid (or require us to change our business practices) in the future, requiring us to provide an alternative means of data transfer.

In June 2021, the European Data Protection Board (“EDPB”) issued formal recommendations on measures to ensure compliance with the EU data protection requirements when transferring personal data outside of the European Economic Area (the “EDPB Recommendations”). In summary, if “problematic legislation” or practices are identified in the destination country which impinge on the effectiveness of the appropriate safeguards of the transfer tool(s), the EDPB now recommends the data exporter to consider whether the laws/practices will be applied in practice to the relevant data, taking into account the importer’s experience and sector.

In addition, the EDPB issued a new set of SCCs in June 2021, which were required to be adopted for new transfers of personal data from September 2021 and replace those used for existing transfers of personal data by December 2022. The new SCCs place obligations on us as a data importer in relation to government authorities’ access requests in respect of personal data transferred under the SCCs. The EDPB Recommendations are designed to be read in tandem with the new SCCs and set out requirements for organizations to assess third countries and identify appropriate data protection supplementary measures to be implemented on a case-by-case basis where needed.

The rules involving this alternative SCC data transfer option are continually undergoing revision and this transfer mechanism may also be declared invalid (or require us to change our business practices) in the future, requiring us to provide an alternative means of data transfer or implement significant changes in our data security and protection practices.

As with other issues related to the withdrawal of the United Kingdom from the European Union, commonly referred to as “Brexit,” there are open questions about how personal data will be protected in the UK and whether personal information can transfer from the EU to the UK. Following the withdrawal of the UK from the EU, the UK Data Protection Act of 2018 applies to the processing of personal data that takes place in the UK and includes parallel obligations to those set forth by GDPR. While the Data Protection Act of 2018 in the United Kingdom that “implements” and complements GDPR achieved Royal Assent on May 23, 2018, and is now effective in the United Kingdom, it is still unclear whether transfer of data from the European Economic Area, or EEA, to the United Kingdom will remain lawful under GDPR. The United Kingdom government has already determined that it considers all European Union and EEA member states to be adequate for the purposes of data protection, ensuring that data flows from the United Kingdom to the European Union/EEA remain unaffected. In addition, a recent decision from the European Commission appears to deem the UK as being “essentially adequate” for purposes of data transfer from the EU to the UK, although this decision may be reevaluated in the future.

Brazil also enacted the Lei Geral de Proteção de Dados (the Brazilian General Data Protection Law), which became effective in August 2020 and imposes requirements largely similar to GDPR on products and services offered to users in Brazil. We may also be subject in China to the Cybersecurity Law that went into effect in June 2017 and a revision of the Personal Information Security Specification that went into effect in October 2020, which have uncertain but broad application and impose a number of new privacy and data security obligations. In the summer of 2021, China passed the Data Security Law of the P.R.C (“DSL”), which came into effect on September 1, 2021. China also passed the Personal Information Protection Law of the P.R.C. (“PIPL”), which came into effect on November 1, 2021. The PIPL resembles GDPR in many aspects but will create new and challenging obligations for companies doing business in China. Under these new regulations, if an entity operating in China violates the law, regulators may order it to take corrective actions, issue warnings, confiscate illegal income, suspend services, revoke operating permits or business licenses, or issue a fine. The fine can be up to ¥50 million or 5 percent of an organization’s annual revenue for the prior financial year. A broad range of other countries continue to explore either new privacy and data security laws or changes to existing laws.

In addition to these specific laws, we also are subject to other privacy, security, and data protection laws around the world. In addition to the laws in place already, other countries are also considering new or expanded laws governing privacy and data security that may impact our business practices. These laws may impact our ongoing business activities and our relationships with our business partners, customers and service providers.

In the United States there also are specific state laws that may impact our business activities. For example, the state of California adopted a comprehensive privacy law, the California Consumer Privacy Act (“CCPA”), which took effect in January 2020 and became enforceable in July 2020. We have been and will continue to be required to devote substantial resources to implement and maintain compliance with the CCPA, and noncompliance could result in regulatory investigations and fines or private litigation. Moreover, in November 2020, California voters approved a privacy law, the California Privacy Rights Act (“CPRA”), which amends the CCPA to

create privacy rights and obligations in California. In addition, other states, including Virginia, Colorado, Connecticut and Utah, already have passed similar state privacy laws. Additional states will be considering these laws in the future which may impact our business activities and our relationships with business partners, customers and service providers.

Furthermore, the U.S. Congress is considering comprehensive privacy legislation. At this time, it is unclear whether Congress will pass such a law and if so, when and what it will require and prohibit. Moreover, it is not clear whether any such legislation would give the Federal Trade Commission (“FTC”) any new authority to impose civil penalties for violations of the Federal Trade Commission Act in the first instance, whether Congress will grant the FTC rulemaking authority over privacy and information security, or whether Congress will vest some or all privacy and data security regulatory authority and enforcement power in a new agency, akin to EU data protection authorities.

Employees

As of December 31, 2022, we had a total of 2,152 employees, of whom 719 were based in the United States and 1,433 were based internationally. None of our employees in the United States is represented by a labor union; however, employees of certain of our foreign subsidiaries are members of trade or local unions. For example, in France, our employees are represented by a works council as required by local law. We have not experienced any work stoppages and generally consider our relations with our employees to be good.

The following table summarizes employee headcount as of the dates indicated:

	December 31, 2022	December 31, 2021	December 31, 2020
Subscription services	110	72	49
Product support	183	174	154
Consulting	447	413	393
Education	16	36	37
Sales and marketing	434	470	479
Research and development	688	699	642
General and administrative	274	257	243
Total headcount	<u>2,152</u>	<u>2,121</u>	<u>1,997</u>

We recognize and value the contribution of all our employees. Due to their dedication, hard work, loyalty, and commitment, we have had continued success as a company. Our philosophy is to create an agile, evolving environment that allows all of our employees to grow and thrive, with initiatives and platforms that reward and recognize employees for their hard work and commitment to delivering personal excellence and creativity at MicroStrategy.

Our human capital management objectives are to attract, retain, and develop leading talent to deliver on our business strategies. To accomplish these objectives, we constantly strive to understand the drivers of talent attraction, retention, and sustainable engagement with our employees in each of the geographies in which we operate. As part of this process, we regularly benchmark the benefits we offer our employees against those offered within our industry generally and the local markets in which we operate. During 2022, we continued to expand our equity compensation programs worldwide to provide our employees with greater opportunities to share in any appreciation of our class A common stock. In addition, we pride ourselves on preparing a highly skilled workforce through technical boot camps, regular training workshops, and a variety of other learning experiences. Our initiative-driven teams work with a modern technology stack, and they meet and learn from some of the most experienced innovators in their field. Through these efforts we seek to create an environment in which our employees can flourish, respond quickly to client demand and enhance their connections with colleagues and towards the communities they are a part of globally.

Available Information

Our website is located at www.microstrategy.com. We make available free of charge, on or through the Investor Relations section of our website (<http://ir.microstrategy.com>), our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and all amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act, as soon as reasonably practicable after electronically filing or furnishing such reports with the Securities and Exchange Commission (“SEC”). Information found on our website is not part of this Annual Report or any other report filed with the SEC. The SEC maintains an Internet site that contains reports, proxy and information statements, and other information regarding issuers, including us, that file or furnish electronically with the SEC at www.sec.gov.

Item 1A. Risk Factors

You should carefully consider the risks described below before making an investment decision. The risks and uncertainties described below are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also impair our business operations.

If any of the following risks occur, our business, financial condition, or results of operations could be materially adversely affected. In such case, the market price of our class A common stock could decline, and you may lose all or part of your investment.

Risks Related to Our Business in General

Our quarterly operating results, revenues, and expenses may fluctuate significantly, which could have an adverse effect on the market price of our stock

For many reasons, including those described below, our operating results, revenues, and expenses have varied in the past and may vary significantly in the future from quarter to quarter. These fluctuations could have an adverse effect on the market price of our class A common stock.

Fluctuations in Quarterly Operating Results. Our quarterly operating results may fluctuate, in part, as a result of:

- fluctuations in the price of bitcoin, of which we have significant holdings and with respect to which we expect to continue to make significant future purchases, and potential material impairment charges that may be associated therewith;
- any sales by us of our bitcoin at prices above their then-current carrying costs, which would result in our recording gains upon sale of our digital assets;
- regulatory, commercial, and technical developments related to bitcoin or the bitcoin blockchain;
- the size, timing, volume, and execution of significant orders and deliveries;
- the mix of our offerings ordered by customers, including product licenses and cloud subscriptions, which can affect the extent to which revenue is recognized immediately or over future quarterly periods;
- the timing of the release or delivery of new or enhanced offerings and market acceptance of new and enhanced offerings;
- the timing of announcements of new offerings by us or our competitors;
- changes in our pricing policies or those of our competitors;
- the length of our sales cycles;
- seasonal or other buying patterns of our customers;
- changes in our operating expenses;
- the impact of COVID-19 and its variants, or other future infectious diseases, on the global economy and on our customers, suppliers, employees, and business;
- the timing of research and development projects;
- utilization of our consulting and education services, which can be affected by delays or deferrals of customer implementation of our software;
- fluctuations in foreign currency exchange rates;
- bilateral or multilateral trade tensions, which could affect our offerings in particular foreign markets;
- our profitability and expectations for future profitability and their effect on our deferred tax assets and net income for the period in which any adjustment to our net deferred tax asset valuation allowance may be made;
- increases or decreases in our liability for unrecognized tax benefits; and
- changes in customer decision-making processes or customer budgets.

Limited Ability to Adjust Expenses. We base our operating expense budgets on expected revenue trends and strategic objectives. Many of our expenses, such as interest expense on our long-term debt, office leases and certain personnel costs, are relatively fixed. We may be unable to adjust spending quickly enough to offset any unexpected revenue shortfall or impairment losses related to our digital assets. Accordingly, any shortfall in revenue from our enterprise analytics software business or impairment losses related to our digital assets may cause significant variation in operating results in any quarter.

Based on the above factors, we believe quarter-to-quarter comparisons of our operating results are not a good indication of our future performance. It is possible that in one or more future quarters, our operating results may be below the expectations of public market analysts and investors. In that event, the market price of our class A common stock may fall.

We may not be able to regain profitability in the future

We generated a net loss for the fiscal year ended December 31, 2022, primarily due to digital asset impairment losses, and we may not be able to regain profitability on a quarterly or annual basis in the future. If our revenues are not sufficient to offset our operating expenses, we are unable to adjust our operating expenses in a timely manner in response to any shortfall in anticipated revenue, or we incur additional significant impairment losses related to our digital assets, we may incur operating losses in future periods, our profitability may decrease, or we may cease to be profitable. As a result, our business, results of operations, and financial condition may be materially adversely affected.

As of December 31, 2022, we had \$188.2 million of deferred tax assets, which reflects a \$511.4 million valuation allowance. The largest deferred tax asset relates to the impairment on our bitcoin holdings. Changes to the valuation allowance against the deferred tax asset are largely dependent on the change in the market value of bitcoin from the previous reporting date. If the market value of bitcoin at a future reporting date is less than the market value of bitcoin at the previous reporting date, we may be required to increase further the valuation allowance against the deferred tax asset. Additionally, if we are unable to regain profitability in the future, we may also be required to increase the valuation allowance against the remaining deferred tax assets. A significant increase in the valuation allowance could result in a charge that would materially adversely affect net income in the period in which the charge is incurred.

We may have exposure to greater than anticipated tax liabilities

We are subject to income taxes and non-income taxes in a variety of domestic and foreign jurisdictions. Our future income tax liability could be materially adversely affected by earnings that are lower than anticipated in jurisdictions where we have lower statutory rates, earnings that are higher than anticipated in jurisdictions where we have higher statutory rates, changes in the valuation of our deferred tax assets and liabilities, changes in the amount of our unrecognized tax benefits, or changes in tax laws, regulations, accounting principles, or interpretations thereof. In addition, if we sold any of our bitcoin at prices greater than the cost basis of the bitcoin sold, we would incur a tax liability with respect to any gain recognized, and such tax liability could be material.

Changes in the tax laws of foreign jurisdictions could arise, including as a result of the project undertaken by the Organisation for Economic Co-operation and Development (“OECD”) to combat base erosion and profit shifting (“BEPS”). The OECD, which represents a coalition of member countries, has issued recommendations that, in some cases, make substantial changes to numerous long-standing tax positions and principles. These changes, many of which have been adopted or are under active consideration by OECD members and/or other countries, could increase tax uncertainty and may adversely affect our provision for income taxes.

After enactment of the U.S. Tax Cuts and Jobs Act, most of our income is taxable in the U.S. with a significant portion taxable under the Global Intangible Low-Taxed Income (“GILTI”) regime. Beginning in fiscal year 2027, the deduction allowable under the GILTI regime will decrease from 50% to 37.5%, which will increase the effective tax rate imposed on our income. The U.S. also enacted the Inflation Reduction Act of 2022 (“IRA”) in August 2022. The IRA applies to tax years beginning after December 31, 2022 and introduces a 15% corporate alternative minimum tax for corporations whose average annual adjusted financial statement income for any consecutive three-tax-year period preceding the tax year exceeds \$1 billion and a 1% excise tax on certain stock repurchases made by publicly traded US corporations after December 31, 2022. If we are subject to these new taxes under the IRA, it could materially affect our financial results, including our earnings and cash flow.

Our determination of our tax liability is subject to review by applicable domestic and foreign tax authorities. Any adverse outcome of such reviews could have an adverse effect on our operating results and financial condition. The determination of our worldwide provision for income taxes and other tax liabilities requires significant judgment and there are many transactions and calculations, including in respect of transactions involving bitcoin, where the ultimate tax determination is uncertain. Moreover, as a multinational business, we have subsidiaries that engage in many intercompany transactions in a variety of tax jurisdictions where the ultimate tax determination is uncertain.

We also have contingent tax liabilities that, in management’s judgment, are not probable of assertion. If such unasserted contingent liabilities were to be asserted, or become probable of assertion, we may be required to record significant expenses and liabilities in the period in which these liabilities are asserted or become probable of assertion.

As a result of these and other factors, the ultimate amount of tax obligations owed may differ from the amounts recorded in our financial statements and any such difference may materially affect our financial results in future periods in which we change our estimates of our tax obligations or in which the ultimate tax outcome is determined.

Risks Related to Our Bitcoin Acquisition Strategy and Holdings

Our bitcoin acquisition strategy exposes us to various risks associated with bitcoin

Our bitcoin acquisition strategy exposes us to various risks associated with bitcoin, including the following:

Bitcoin is a highly volatile asset. Bitcoin is a highly volatile asset that has traded below \$20,000 per bitcoin and above \$45,000 per bitcoin on the Coinbase exchange (our principal market for bitcoin) in the 12 months preceding the date of this Annual Report. During the year ended December 31, 2022, the significant decrease in the trading price of bitcoin significantly reduced the value of the bitcoin we hold.

Bitcoin does not pay interest or dividends. Bitcoin does not pay interest or other returns and so our ability to generate cash from our bitcoin holdings depends on sales or implementing strategies that we may consider to create income streams or otherwise generate cash by using our bitcoin holdings. Even if we pursue any such strategies, we may be unable to create income streams or otherwise generate cash from our bitcoin holdings, and any such strategies may subject us to additional risks.

Our bitcoin holdings significantly impact our financial results. If we continue to increase our overall holdings of bitcoin in the future, our bitcoin holdings will have a greater impact on our financial results and the market price of our class A common stock. See “Risks Related to Our Bitcoin Acquisition Strategy and Holdings – Our historical financial statements do not reflect the potential variability in earnings that we may experience in the future relating to our bitcoin holdings.”

Our bitcoin acquisition strategy has not been tested over an extended period of time or under different market conditions. We are continually examining the risks and rewards of our bitcoin acquisition strategy. This strategy has not been tested over an extended period of time or under different market conditions. For example, although we believe bitcoin, due to its limited supply, has the potential to serve as a hedge against inflation in the long term, the short-term price of bitcoin has declined in recent periods even as the inflation rate increased. Some investors and other market participants may disagree with our bitcoin acquisition strategy or actions we undertake to implement it. If bitcoin prices continue to fall or our bitcoin acquisition strategy otherwise proves unsuccessful, our financial condition, results of operations, and the market price of our class A common stock would be materially adversely impacted.

We are subject to counterparty risks, including in particular risks relating to our custodians. Although we have implemented various measures that are designed to mitigate our counterparty risks, including by storing substantially all of the bitcoin we own in custody accounts at U.S.-based, institutional-grade custodians and negotiating contractual arrangements intended to establish that our property interest in custodially-held bitcoin is not subject to claims of the custodian’s creditors, applicable insolvency law is not fully developed with respect to the holding of digital assets in custodial accounts. If our custodially-held bitcoin were nevertheless considered to be the property of our custodian’s estate in the event that the custodian enters bankruptcy, receivership or similar insolvency proceedings, we could be treated as a general unsecured creditor of the custodian, inhibiting our ability to exercise ownership rights with respect to such bitcoin and this may ultimately result in the loss of the value related to some or all of such bitcoin. Even if we are able to prevent our bitcoin from being considered the property of the custodian’s bankruptcy estate as part of an insolvency proceeding, it is possible that we would still be delayed or may otherwise experience difficulty in accessing our bitcoin held by the affected custodian during the pendency of the insolvency proceedings. Any such outcome could have a material adverse effect on our financial condition and the market price of our class A common stock.

The broader digital assets industry is subject to counterparty risks, which could adversely impact the adoption rate and use of bitcoin. A series of recent high-profile bankruptcies relating to companies operating in the digital asset industry and certain of their affiliates, including Three Arrows Capital, Celsius Network, Voyager Digital, FTX Trading and Genesis Global Capital, have highlighted the counterparty risks applicable to digital asset ownership and trading. Such developments have, in the short-term, likely negatively impacted the adoption rate of bitcoin and additional bankruptcies in the future may further negatively impact the adoption rate and use of bitcoin.

Changes in our ownership of bitcoin could have accounting, regulatory and other impacts. While our bitcoin is currently owned directly by us or our wholly owned subsidiaries, we may investigate other potential approaches to owning bitcoin, including indirect ownership (for example, through ownership interests in a fund that owns bitcoin). If we were to own all or a portion of our bitcoin indirectly, the accounting treatment for our bitcoin, our ability to use our bitcoin as collateral for additional borrowings, and the regulatory requirements to which we are subject, may correspondingly change.

Changes in the accounting treatment of our bitcoin holdings could have significant accounting impacts, including increasing the volatility of our results. A change in the accounting treatment of our bitcoin holdings could have a material impact on our results of operations in future periods and could increase the volatility of our reported results of operations as well as affect the carrying value of our bitcoin on our balance sheet, which in turn could have a material adverse effect on our financial results and the market price of our class A common stock. For example, at its October 12, 2022 meeting, the Financial Accounting Standards Board announced it intends to issue an exposure draft for comment that would cause in-scope crypto assets (such as bitcoin) to be measured at fair value, with fair value changes recorded in current period earnings. If the new standards are adopted, the change in presentation could increase the volatility of our reported results of operations as well as affect the carrying value of our bitcoin on our balance sheet.

The broader digital assets industry, including the technology associated with digital assets, the rate of adoption and development of, and use cases for, digital assets, market perception of digital assets, and the legal, regulatory, and accounting treatment of digital assets are constantly developing and changing, and there may be additional risks in the future that are not possible to predict.

The price of bitcoin may be influenced by legal, commercial, technical and industry factors that are highly uncertain, and fluctuations in the price of bitcoin are likely to influence our financial results and the market price of our class A common stock

Fluctuations in the price of bitcoin have in the past and are likely to continue to influence our financial results and the market price of our class A common stock. Our financial results and the market price of our class A common stock would be adversely affected, and our business and financial condition would be negatively impacted, if the price of bitcoin decreased substantially (as it has in the past, including during 2022), including as a result of:

- decreased user and investor confidence in bitcoin;
- investment and trading activities of highly active retail and institutional users, speculators, miners and investors;
- negative publicity or events relating to bitcoin, including potential public backlash against bitcoin to the extent the public views bitcoin as a vehicle that may be used to circumvent sanctions, including the recent sanctions imposed on Russia related to the ongoing conflict between Russia and Ukraine;
- negative or unpredictable media or social media coverage of bitcoin or the digital asset industry, including in connection with bankruptcy proceedings of industry participants;
- negative public sentiment related to the actual or perceived environmental impact of bitcoin and related activities, including environmental concerns raised by private individuals, governmental, non-governmental organizations, and other actors related to the energy resources consumed in the bitcoin mining process;
- changes in consumer preferences and the perceived value or prospects of bitcoin;
- competition from other digital assets that exhibit better speed, security, scalability, or energy efficiency, that feature other more favored characteristics, that are backed by governments, including the U.S. government, or reserves of fiat currencies, or that represent ownership or security interests in physical assets;
- a decrease in the price of other digital assets, including stablecoins, or the crash or unavailability of stablecoins that are used as a medium of exchange for bitcoin purchase and sale transactions, such as the crash of the stablecoin Terra USD in 2022, to the extent the decrease in the price of such other digital assets or the unavailability of such stablecoins may cause a decrease in the price of bitcoin or adversely affect investor confidence in digital assets generally;
- the identification of Satoshi Nakamoto, the pseudonymous person or persons who developed bitcoin, or the transfer of substantial amounts of bitcoin from bitcoin wallets attributed to Mr. Nakamoto;
- interruptions in service or failures of the principal markets for bitcoin, for example the announcement by the digital asset exchange FTX Trading that it would freeze withdrawals and transfers from its accounts and subsequent filing for bankruptcy protection;
- the filing for bankruptcy protection by, liquidation of, or market concerns about the financial viability of digital asset custodians, trading venues, lending platforms, investment funds, or other digital asset industry participants, such as the filing for bankruptcy protection by digital asset trading venues FTX Trading and BlockFi and digital asset lending platforms Celsius Network and Voyager Digital Holdings in 2022, and the ordered liquidation of the digital asset investment fund Three Arrows Capital in 2022;
- regulatory, legislative, enforcement and judicial actions that adversely affect the price, ownership, transferability, legality or public perception of bitcoin, or that adversely affect the operations of digital asset custodians or trading venues;
- further reductions in mining rewards of bitcoin, including block reward halving events, which are events that occur after a specific period of time that reduce the block reward earned by “miners” who validate bitcoin transactions;
- transaction congestion and fees associated with processing transactions on the bitcoin network;
- macroeconomic changes, such as changes in the level of interest rates and inflation, fiscal and monetary policies of governments, trade restrictions, and fiat currency devaluations;

- developments in mathematics or technology, including in digital computing, algebraic geometry and quantum computing, that could result in the cryptography being used by bitcoin becoming insecure or ineffective; and
- changes in national and international economic and political conditions, including, without limitation, the adverse impact attributable to the economic and political instability caused by the current conflict between Russia and Ukraine and the economic sanctions adopted in response to the conflict.

In addition, bitcoin and other digital assets are relatively novel and are subject to various risks and uncertainties that may adversely impact their price. The application of securities laws and other laws and regulations to such assets is unclear in certain respects, and it is possible that regulators in the United States or foreign countries may interpret or apply existing laws and regulations in a manner that adversely affects the price of bitcoin.

The U.S. federal government, states, regulatory agencies, and foreign countries may also enact new laws and regulations that could materially impact the price of bitcoin or the ability of individuals or institutions such as us to own or transfer bitcoin. For example:

- On March 9, 2022, President Biden signed an executive order relating to cryptocurrencies. While the executive order did not mandate the adoption of any specific regulations, it instructed various federal agencies to consider potential regulatory measures, including the evaluation of the creation of a U.S. CBDC. On September 16, 2022, the White House released a framework for digital asset development, based on reports from various government agencies, including the U.S. Department of Treasury, the Department of Justice, and the Department of Commerce. Among other things, the framework encourages regulators to pursue enforcement actions, issue guidance and rules to address current and emergent risks, support the development and use of innovative technologies by payment providers to increase access to instant payments, consider creating a federal framework to regulate nonbank payment providers, and evaluate whether to call upon Congress to amend the Bank Secrecy Act and laws against unlicensed money transmission to apply explicitly to digital asset service providers.
- On September 8, 2022, the White House Office of Science and Technology Policy issued a report in coordination with other federal agencies relating to the climate and energy implications of digital assets, including bitcoin, in the United States. Among its findings are that digital assets are energy intensive and drive significant environmental impacts, and the report recommends further study of the environmental impact of digital assets and the development of environmental performance regulations for digital asset miners, which may include limiting or eliminating digital assets that use high energy intensity consensus mechanisms, including the proof-of-work consensus mechanisms on which the Bitcoin blockchain is based.
- On April 4, 2022, SEC Chair Gary Gensler announced that he has asked SEC staff to work (i) to register and regulate digital asset platforms like securities exchanges; (ii) with the Commodities Futures Trading Commission on how to jointly address digital asset platforms that trade both securities and non-securities; (iii) on segregating out digital asset platforms' custody of customer assets, if appropriate; and (iv) on segregating out the market making functions of digital asset platforms, if appropriate. Similarly, foreign government authorities have recently expanded their efforts to restrict certain activities related to bitcoin and other digital assets.
- In the European Union, in October 2022, the Council of the EU agreed to the full legal text of legislation known as the Markets in Crypto Assets Regulation ("MiCA"), which contains provisions which will regulate the use of digital assets, like bitcoin. While MiCA still requires approval from the European Parliament, the legislation approved by the Council of the EU included provisions that will require the European Commission (i) to provide a report on the environmental impact of crypto-assets and (ii) based upon such report, introduce mandatory minimum sustainability standards for consensus mechanisms, including the proof-of-work consensus mechanisms on which the Bitcoin blockchain is based.
- In the United Kingdom, in February 2023, His Majesty's Treasury issued its first comprehensive set of rules designed to regulate digital assets. Of note, (i) digital assets firms, including exchanges and custodians, operating in or providing services to the United Kingdom would need a license to operate and would be required to comply with minimum capital and liquidity requirements, and (ii) the proposed rules would impose issuer liability on exchanges that permit the trading of decentralized digital assets, including bitcoin. The current proposed rules are subject to a comment and review period that is open until April 30, 2023, after which the government will consider the feedback and prepare its response.
- In China, the People's Bank of China and the National Development and Reform Commission have outlawed cryptocurrency mining and declared all cryptocurrency transactions illegal within the country.

Moreover, the risks of engaging in a bitcoin acquisition strategy are relatively novel and have created, and may create further, complications due to the lack of experience that third parties have with companies engaging in such a strategy, such as the unavailability on acceptable terms, or increased cost, of director and officer liability insurance.

The growth of the digital assets industry in general, and the use and acceptance of bitcoin in particular, may also impact the price of bitcoin and is subject to a high degree of uncertainty. The pace of worldwide growth in the adoption and use of bitcoin may depend, for instance, on public familiarity with digital assets, ease of buying and accessing bitcoin, institutional demand for bitcoin as an investment asset, the participation of traditional financial institutions in the digital assets industry, consumer demand for bitcoin as a means of

payment, and the availability and popularity of alternatives to bitcoin. Even if growth in bitcoin adoption occurs in the near or medium-term, there is no assurance that bitcoin usage will continue to grow over the long-term.

Because bitcoin has no physical existence beyond the record of transactions on the Bitcoin blockchain, a variety of technical factors related to the Bitcoin blockchain could also impact the price of bitcoin. For example, malicious attacks by miners, inadequate mining fees to incentivize validating of bitcoin transactions, hard “forks” of the Bitcoin blockchain into multiple blockchains, and advances in digital computing, algebraic geometry, and quantum computing could undercut the integrity of the Bitcoin blockchain and negatively affect the price of bitcoin. The liquidity of bitcoin may also be reduced and damage to the public perception of bitcoin may occur, if financial institutions were to deny or limit banking services to businesses that hold bitcoin, provide bitcoin-related services or accept bitcoin as payment, which could also decrease the price of bitcoin.

Our historical financial statements do not reflect the potential variability in earnings that we may experience in the future relating to our bitcoin holdings

Our historical financial statements do not fully reflect the potential variability in earnings that we may experience in the future from holding or selling significant amounts of bitcoin.

The price of bitcoin has historically been subject to dramatic price fluctuations and is highly volatile. As explained more fully in Note 2(g) to our consolidated financial statements for the year ended December 31, 2022 included in this Annual Report, we determine the fair value of our bitcoin based on quoted (unadjusted) prices on the Coinbase exchange (our principal market for bitcoin). We perform an analysis each quarter to identify whether events or changes in circumstances, principally decreases in the quoted (unadjusted) prices on the active exchange, indicate that it is more likely than not that any of our bitcoin assets are impaired. In determining if an impairment has occurred, we consider the lowest price of one bitcoin quoted on the active exchange at any time since acquiring the specific bitcoin held. If the carrying value of a bitcoin exceeds that lowest price at any time during the quarter, an impairment loss is deemed to have occurred with respect to that bitcoin in the amount equal to the difference between its carrying value and such lowest price, and subsequent increases in the price of bitcoin will not affect the carrying value of our bitcoin. Gains (if any) are not recorded until realized upon sale, at which point they would be presented net of any impairment losses. In determining the gain to be recognized upon sale, we calculate the difference between the sale price and carrying value of the specific bitcoin sold immediately prior to sale.

As a result, any decrease in the fair value of bitcoin below our carrying value for such assets at any time since their acquisition requires us to incur an impairment charge, and such charge could be material to our financial results for the applicable reporting period, which may create significant volatility in our reported earnings and decrease the carrying value of our digital assets, which in turn could have a material adverse effect on the market price of our class A common stock. Conversely, any sale of bitcoins at prices above our carrying value for such assets creates a gain for financial reporting purposes even if we would otherwise incur an economic or tax loss with respect to such transaction, which also may result in significant volatility in our reported earnings.

At December 31, 2022, we carried \$1.840 billion of digital assets on our balance sheet, consisting of approximately 132,500 bitcoins and reflecting \$2.153 billion in cumulative impairment losses attributable to bitcoin trading price fluctuations, and held \$43.8 million in cash and cash equivalents, compared to a carrying value of \$2.850 billion of digital assets, consisting of approximately 124,391 bitcoins, and \$63.4 million in cash and cash equivalents at December 31, 2021. Digital asset impairment losses, net of gains on sale, of \$1.286 billion incurred during the year ended December 31, 2022 represented 76.9% of our operating expenses, compared to \$830.6 million in digital asset impairment losses representing 69.0% of our operating expenses in the year ended December 31, 2021, contributing to our net loss of \$1.470 billion for the year ended December 31, 2022 compared to net loss of \$535.5 million for the year ended December 31, 2021.

Because we intend to purchase additional bitcoin in future periods and increase our overall holdings of bitcoin, we expect that the proportion of our total assets represented by our bitcoin holdings will increase in the future. As a result, volatility in our earnings in future periods may be significantly more than what we experienced in prior periods.

Changes in securities regulations, or the adoption of new laws or regulations, relating to bitcoin could adversely affect the price of bitcoin or our ability to transact in or own bitcoin, which may adversely impact the market price of our class A common stock

Although bitcoin and other digital assets have experienced a surge of investor attention since bitcoin was invented in 2008, investors in the United States currently have limited means to gain direct exposure to bitcoin through traditional investment channels, and instead generally must hold bitcoin through “hosted” wallets provided by digital asset service providers or through “unhosted” wallets that expose the investor to risks associated with loss or hacking of their private keys. Given the relative novelty of digital assets, general lack of familiarity with the processes needed to hold bitcoin directly, as well as the potential reluctance of financial planners and advisers to recommend direct bitcoin holdings to their retail customers because of the manner in which such holdings are custodied, some investors have sought exposure to bitcoin through investment vehicles that hold bitcoin and issue shares representing fractional undivided interests

in their underlying bitcoin holdings. Although a number of investment vehicles currently offer this exposure to bitcoin, none of these investment vehicles currently offers its shares directly to the public in the United States, and such shares are offered only to “accredited investors” on a private placement basis. Investors who are not eligible to participate in these private placements may nevertheless purchase shares of these investment vehicles in the over-the-counter market, where such shares have in the past traded at a premium to the net asset value (“NAV”) of the underlying bitcoin. These premiums have at times been substantial, although such vehicles have recently traded at a discount to NAV.

One reason that such vehicles have in the past traded at substantial premium to NAV may be because of the relative scarcity of traditional investment vehicles providing investment exposure to bitcoin. To the extent investors view the value of our class A common stock as providing such exposure, it is possible that the value of our class A common stock may also include a premium over the value of our bitcoin. Any such premium may increase or decrease in different market conditions and the value of our class A common stock could also trade at a discount relative to the value of our bitcoin.

Another reason for the substantial premium to NAV exhibited in the past by the trading prices of shares of some bitcoin investment vehicles is that such vehicles operate in a manner similar to closed-end investment funds as opposed to exchange-traded funds (“ETFs”) and therefore do not continuously offer to create and redeem their shares at NAV in exchange for bitcoin. Although several bitcoin investment vehicles have attempted to list their shares on a U.S. national securities exchange to permit them to function in the manner of an ETF with continuous share creation and redemption at NAV, the SEC has generally declined to approve any such listing, citing concerns over the surveillance of trading in markets for the underlying bitcoin as well as concerns about fraud and manipulation in bitcoin trading markets. Most recently, in June 2022 the SEC denied proposals from NYSE Arca, Inc. to convert Grayscale Bitcoin Trust into a spot bitcoin ETF and to list and trade shares of the Bitwise Bitcoin ETF. However, in October 2021, the SEC permitted the listing of ETFs that invest primarily in bitcoin futures contracts. It is unclear as to whether or to what extent the existence of ETFs that invest in bitcoin futures contracts will have on any premium over the value of our bitcoin holdings that may be included in the value of our class A common stock.

If the SEC were to further resolve its concerns regarding surveillance of and the existence of fraud and manipulation in the bitcoin trading markets, it is possible that the SEC would permit the listing of ETFs specializing in the direct acquisition and holding of bitcoin, allowing these funds to offer their shares directly to the public. In addition to greatly simplifying the task of gaining investment exposure to bitcoin, the listing of a bitcoin ETF with continuous share creation and redemption at NAV would be expected to eliminate the NAV premiums currently exhibited by shares of investment vehicles that trade in the over-the-counter market. To the extent that our class A common stock is viewed as an alternative-to-bitcoin investment vehicle and trades at a premium to the value of our bitcoin holdings, that premium may also be eliminated, causing the price of our class A common stock to decline.

In addition, the introduction of the bitcoin futures focused ETFs and any future bitcoin focused ETFs on U.S. national securities exchanges may be viewed by investors as offering “pure play” exposure to bitcoin that would generally not be subject to federal income tax at the entity level as we are.

As a result of the foregoing factors, to the extent investors view our class A common stock as linked to the value of our bitcoin holdings, the introduction of bitcoin ETFs on U.S. national securities exchanges could have a material adverse effect on the market price of our class A common stock.

Our bitcoin acquisition strategy subjects us to enhanced regulatory oversight

As noted above, several bitcoin investment vehicles have attempted to list their shares on a U.S. national securities exchange to permit them to function in the manner of an ETF with continuous share creation and redemption at NAV. To date the SEC has declined to approve any such listing, citing concerns over the surveillance of trading in markets for the underlying bitcoin as well as concerns about fraud and manipulation in bitcoin trading markets. Even though we do not function in the manner of an ETF and do not offer continuous share creation and redemption at NAV, it is possible that we nevertheless could face regulatory scrutiny from the SEC due to our bitcoin holdings.

In addition, there has been increasing focus on the extent to which digital assets can be used to launder the proceeds of illegal activities, fund criminal or terrorist activities, or circumvent sanctions regimes, including those sanctions imposed in response to the ongoing conflict between Russia and Ukraine. While we have implemented and maintain policies and procedures reasonably designed to promote compliance with applicable anti-money laundering and sanctions laws and regulations and take care to only acquire our bitcoin through entities subject to anti-money laundering regulation and related compliance rules in the United States, if we are found to have purchased any of our bitcoin from bad actors that have used bitcoin to launder money or persons subject to sanctions, we may be subject to regulatory proceedings and any further transactions or dealings in bitcoin by us may be restricted or prohibited.

We have entered into a bitcoin-collateralized loan and may consider issuing additional debt or other financial instruments that may be collateralized by our bitcoin holdings. We may also consider pursuing strategies to create income streams or otherwise generate funds using our bitcoin holdings. These types of bitcoin-related transactions are the subject of enhanced regulatory oversight. These and any other bitcoin-related transactions we may enter into, beyond simply acquiring and holding bitcoin, may subject us to additional regulatory compliance requirements and scrutiny, including under federal and state money services regulations, money transmitter licensing requirements and various commodity and securities laws and regulations.

In addition, private actors that are wary of bitcoin or the regulatory concerns associated with bitcoin have in the past taken and may in the future take further actions that may have an adverse effect on our business or the market price of our class A common stock. For example, an affiliate of HSBC Holdings has prohibited customers of its HSBC InvestDirect retail investment platform from buying shares of our class A common stock after determining that the value of our stock is related to the performance of bitcoin, indicating that it did not want to facilitate exposure to virtual currencies.

Due to the unregulated nature and lack of transparency surrounding the operations of many bitcoin trading venues, bitcoin trading venues may experience greater fraud, security failures or operational problems than trading venues for more established asset classes, which may result in a loss of confidence in bitcoin trading venues and adversely affect the value of our bitcoin

Bitcoin trading venues are relatively new and, in many cases, unregulated. Furthermore, there are many bitcoin trading venues which do not provide the public with significant information regarding their ownership structure, management teams, corporate practices and regulatory compliance. As a result, the marketplace may lose confidence in bitcoin trading venues, including prominent exchanges that handle a significant volume of bitcoin trading and/or are subject to regulatory oversight, in the event one or more bitcoin trading venues experience fraud, security failures or operational problems.

For example, in 2019 there were reports claiming that 80-95% of bitcoin trading volume on trading venues was false or non-economic in nature, with specific focus on unregulated exchanges located outside of the United States. Such reports may indicate that the bitcoin market is significantly smaller than expected and that the United States makes up a significantly larger percentage of the bitcoin market than is commonly understood. Any actual or perceived false trading in the bitcoin market, and any other fraudulent or manipulative acts and practices, could adversely affect the value of our bitcoin.

Negative perception, a lack of stability in the broader bitcoin markets and the closure, temporary shutdown or operational disruption of bitcoin trading venues, lending institutions, institutional investors, institutional miners, custodians, or other major participants in the bitcoin ecosystem, due to fraud, business failure, hackers or malware, government-mandated regulation, bankruptcy, or for any other reason, may reduce confidence in bitcoin and the broader bitcoin ecosystem and may result in greater volatility in the price of bitcoin. For example, in 2022, each of Celsius Networks, Voyager Digital Holdings, Three Arrows Capital, FTX, and BlockFi filed for bankruptcy, following which the market prices of bitcoin and other digital assets significantly declined. To the extent investors view our class A common stock as linked to the value of our bitcoin holdings, the failure of a major participant in the bitcoin ecosystem could have a material adverse effect on the market price of our class A common stock.

The concentration of our bitcoin holdings enhances the risks inherent in our bitcoin acquisition strategy

As of February 15, 2023, we held approximately 132,500 bitcoins that were acquired at an aggregate purchase price of \$3.993 billion and we intend to purchase additional bitcoin and increase our overall holdings of bitcoin in the future. The concentration of our bitcoin holdings limits the risk mitigation that we could take advantage of by purchasing a more diversified portfolio of treasury assets, and the absence of diversification enhances the risks inherent in our bitcoin acquisition strategy. The price of bitcoin has recently experienced a significant decline, and this has had, and any further significant declines in the price of bitcoin would have, a more pronounced impact on our financial condition than if we used our cash to purchase a more diverse portfolio of assets.

The emergence or growth of other digital assets, including those with significant private or public sector backing, could have a negative impact on the price of Bitcoin and adversely affect our business

As a result of our bitcoin acquisition strategy, the majority of our assets are concentrated in our bitcoin holdings. Accordingly, the emergence or growth of digital assets other than bitcoin may have a material adverse effect on our financial condition. As of the date of this Annual Report, bitcoin was the largest digital asset by market capitalization. However, there are numerous alternative digital assets and many entities, including consortiums and financial institutions, are researching and investing resources into private or permissioned blockchain platforms or digital assets that do not use proof-of-work mining like the bitcoin network. For example, in late 2022, the Ethereum network transitioned to a “proof-of-stake” mechanism for validating transactions that requires significantly less computing power than proof-of-work mining. If the mechanisms for validating transactions in Ethereum and other alternative digital assets are perceived as superior to proof-of-work mining, those digital assets could gain market share relative to bitcoin. Other alternative digital assets that compete with bitcoin in certain ways include “stablecoins,” which are designed to maintain a constant price because

of their issuers' promise to hold high-quality liquid assets (such as U.S. dollar deposits and short-term U.S. treasury securities) equal to the total value of stablecoins in circulation. Stablecoins have grown rapidly as an alternative to bitcoin and other digital assets as a medium of exchange and store of value, particularly on cryptocurrency trading platforms. As of the date of this Annual Report, three of the seven largest digital assets by market capitalization are U.S. dollar-backed stablecoins. Additionally, central banks in some countries have started to introduce digital forms of legal tender. For example, China's CBDC project was made available to consumers in January 2022, and governments including the United States and the European Union have been discussing the potential creation of new CBDCs. Whether or not they incorporate blockchain or similar technology, CBDCs, as legal tender in the issuing jurisdiction, could also compete with, or replace, bitcoin and other digital assets as a medium of exchange or store of value. As a result, the emergence or growth of these or other digital assets could cause the market price of bitcoin to decrease, which could have a material adverse effect on our business, prospects, financial condition, and operating results.

Our bitcoin holdings are less liquid than our existing cash and cash equivalents and may not be able to serve as a source of liquidity for us to the same extent as cash and cash equivalents

In September 2020, we adopted bitcoin as our primary treasury reserve asset. Historically, the bitcoin markets have been characterized by more price volatility, less liquidity, and lower trading volumes compared to sovereign currencies markets, as well as relative anonymity, a developing regulatory landscape, susceptibility to market abuse and manipulation, and various other risks inherent in its entirely electronic, virtual form and decentralized network. During times of market instability, we may not be able to sell our bitcoin at reasonable prices or at all. For example, although the Coinbase exchange (our principal market for bitcoin) has, to date, not been impacted, a number of bitcoin trading venues recently have temporarily halted deposits and withdrawals. As a result, our bitcoin holdings may not be able to serve as a source of liquidity for us to the same extent as cash and cash equivalents. Further, our custodians (including Coinbase) are not banking institutions or otherwise members of the Federal Deposit Insurance Corporation ("FDIC") or the Securities Investor Protection Corporation ("SIPC") and, therefore, digital asset deposits held with those custodians are not subject to the protections enjoyed by depositors with FDIC or SIPC member institutions. Additionally, during times of market instability, including in particular at times when the price of bitcoin has materially declined, we may be unable to enter into term loans or other capital raising transactions collateralized by our unencumbered bitcoin or otherwise generate funds using our bitcoin holdings. If we are unable to sell our bitcoin, enter into additional capital raising transactions using bitcoin as collateral, or otherwise generate funds using our bitcoin holdings, or if we are forced to sell our bitcoin at a significant loss, in order to meet our working capital requirements, our business and financial condition could be negatively impacted.

If we or our third-party service providers experience a security breach or cyberattack and unauthorized parties obtain access to our bitcoin, or if our private keys are lost or destroyed, or other similar circumstances or events occur, we may lose some or all of our bitcoin and our financial condition and results of operations could be materially adversely affected

Substantially all of the bitcoin we own is held in custody accounts at institutional-grade digital asset custodians. Security breaches and cyberattacks are of particular concern with respect to our bitcoin. Bitcoin and other blockchain-based cryptocurrencies and the entities that provide services to participants in the bitcoin ecosystem have been, and may in the future be, subject to security breaches, cyberattacks, or other malicious activities. For example, in October 2021 it was reported that hackers exploited a flaw in the account recovery process and stole from the accounts of at least 6,000 customers of the Coinbase exchange (our principal market for bitcoin), although the flaw was subsequently fixed and Coinbase reimbursed affected customers. Similarly, in November 2022, hackers exploited weaknesses in the security architecture of the FTX Trading digital asset exchange and reportedly stole over \$400 million in digital assets from customers. A successful security breach or cyberattack could result in:

- a partial or total loss of our bitcoin in a manner that may not be covered by insurance or the liability provisions of the custody agreements with the custodians who hold our bitcoin;
- harm to our reputation and brand;
- improper disclosure of data and violations of applicable data privacy and other laws; or
- significant regulatory scrutiny, investigations, fines, penalties, and other legal, regulatory, contractual and financial exposure.

Further, any actual or perceived data security breach or cybersecurity attack directed at other companies with digital assets or companies that operate digital asset networks, whether or not we are directly impacted, could lead to a general loss of confidence in the broader bitcoin blockchain ecosystem or in the use of bitcoin networks to conduct financial transactions, which could negatively impact us.

Attacks upon systems across a variety of industries, including industries related to bitcoin, are increasing in frequency, persistence, and sophistication, and, in many cases, are being conducted by sophisticated, well-funded and organized groups and individuals, including state actors. The techniques used to obtain unauthorized, improper or illegal access to systems and information (including personal data and digital assets), disable or degrade services, or sabotage systems are constantly evolving, may be difficult to detect quickly, and often are not recognized or detected until after they have been launched against a target. These attacks may occur on our systems or those of our third-party service providers or partners. We may experience breaches of our security measures due to human error, malfeasance, insider threats, system errors or vulnerabilities or other irregularities. In particular, unauthorized parties have attempted, and we expect

that they will continue to attempt, to gain access to our systems and facilities, as well as those of our partners and third-party service providers, through various means, such as hacking, social engineering, phishing and fraud. In the past, hackers have successfully employed a social engineering attack against one of our service providers and misappropriated our digital assets, although, to date, such events have not been material to our financial condition or operating results. Threats can come from a variety of sources, including criminal hackers, hacktivists, state-sponsored intrusions, industrial espionage, and insiders. In addition, certain types of attacks could harm us even if our systems are left undisturbed. For example, certain threats are designed to remain dormant or undetectable, sometimes for extended periods of time, or until launched against a target and we may not be able to implement adequate preventative measures. Further, there has been an increase in such activities since the beginning of the COVID-19 pandemic. The risk of cyberattacks could also be increased by cyberwarfare in connection with the ongoing conflict between Russia and Ukraine or other future conflicts, including potential proliferation of malware into systems unrelated to such conflicts. Any future breach of our operations or those of others in the bitcoin industry, including third-party services on which we rely, could materially and adversely affect our business.

The loss or destruction of a private key required to access our bitcoin may be irreversible. If we are unable to access our private keys or if we experience a cyberattack or other data loss relating to our bitcoin, our financial condition and results of operations could be materially adversely affected

Bitcoin is controllable only by the possessor of both the unique public key and private key(s) relating to the local or online digital wallet in which the bitcoin is held. While the Bitcoin blockchain ledger requires a public key relating to a digital wallet to be published when used in a transaction, private keys must be safeguarded and kept private in order to prevent a third party from accessing the bitcoin held in such wallet. To the extent the private key(s) for a digital wallet are lost, destroyed, or otherwise compromised and no backup of the private key(s) is accessible, neither we nor our custodians will be able to access the bitcoin held in the related digital wallet. Furthermore, we cannot provide assurance that our digital wallets, nor the digital wallets of our custodians held on our behalf, will not be compromised as a result of a cyberattack. The bitcoin and blockchain ledger, as well as other digital assets and blockchain technologies, have been, and may in the future be, subject to security breaches, cyberattacks, or other malicious activities.

We hold our bitcoin with several regulated custodians that have duties to safeguard our private keys. As of December 31, 2022, one custodian held approximately half of our bitcoin, although our custodial agreements do not restrict us from reallocating our bitcoin holdings among our custodians. In light of the significant amount of bitcoin we hold, we are continuing to seek a greater degree of diversification in the use of custodial services as the extent of potential risk of loss is dependent, in part, on the degree of diversification. As of December 31, 2022, the insurance that covers losses of our bitcoin holdings covers only a small fraction of the value of the entirety of our bitcoin holdings, and there can be no guarantee that such insurance will be maintained as part of the custodial services we have or that such coverage will cover losses with respect to our bitcoin. Moreover, the use of custodians to hold our bitcoin exposes us to the risk that the bitcoin custodially-held on our behalf could be subject to insolvency proceedings and we could be treated as a general unsecured creditor of the custodian, inhibiting our ability to exercise ownership rights with respect to such bitcoin. Any loss associated with such insolvency proceedings is unlikely to be covered by any insurance coverage we maintain related to our bitcoin.

Regulatory change reclassifying bitcoin as a security could lead to our classification as an “investment company” under the Investment Company Act of 1940 and could adversely affect the market price of bitcoin and the market price of our class A common stock

While senior SEC officials have stated their view that bitcoin is not a “security” for purposes of the federal securities laws, the SEC has so far refused to permit the listing of any bitcoin-based ETFs, citing, among other things, concerns regarding bitcoin market integrity and custodial protections. It is possible that the SEC could take a contrary position to the one taken by its senior officials or a federal court could conclude that bitcoin is a security. Such a determination could lead to our classification as an “investment company” under the Investment Company Act of 1940, which would subject us to significant additional regulatory controls that could have a material adverse effect on our business and operations and also may require us to substantially change the manner in which we conduct our business.

In addition, if bitcoin is determined to constitute a security for purposes of the federal securities laws, the additional regulatory restrictions imposed by such a determination could adversely affect the market price of bitcoin and in turn adversely affect the market price of our class A common stock.

A significant decrease in the market value of our bitcoin holdings could adversely affect our ability to service our indebtedness

As a result of our bitcoin acquisition strategy and our Treasury Reserve Policy, the majority of our assets are concentrated in our bitcoin holdings. The concentration of our assets in bitcoin limits our ability to mitigate risk that could otherwise be achieved by purchasing a more diversified portfolio of treasury assets. Accordingly, a significant decline in the market value of bitcoin could have a material adverse effect on our financial condition. Any material adverse effect on our financial condition caused by a significant decline in the market value of our bitcoin holdings may create liquidity and credit risks for our business operations, as we would have limited means

to obtain cash beyond the revenues generated by our enterprise analytics software business. To the extent that the cash generated by our enterprise analytics software business is insufficient to satisfy our debt service obligations, and to the extent that the liquidation of our bitcoin holdings would be insufficient to satisfy our debt service obligations, we may be unable to make scheduled payments on our current or future indebtedness, which could cause us to default on our debt obligations. Any default on our current or future indebtedness may have a material adverse effect on our financial condition. See “Risks Related to Our Outstanding and Potential Future Indebtedness” for additional details about the risks which may impact us if we are unable to service our indebtedness.

Our bitcoin acquisition strategy exposes us to risk of non-performance by counterparties

Our bitcoin acquisition strategy exposes us to the risk of non-performance by counterparties, whether contractual or otherwise. Risk of non-performance includes inability or refusal of a counterparty to perform because of a deterioration in the counterparty’s financial condition and liquidity or for any other reason. For example, our execution partners, custodians, or other counterparties might fail to perform in accordance with the terms of our agreement with them, which could result in a loss of bitcoin, a loss of the opportunity to generate funds, or other losses.

Our primary counterparty risk with respect to our bitcoin is custodian performance obligations under the various custody arrangements we have entered into. A series of recent high-profile bankruptcies relating to companies operating in the digital asset industry and certain of their affiliates, including Three Arrows Capital, Celsius Network, Voyager Digital, FTX Trading and Genesis Global Capital, has highlighted the perceived and actual counterparty risk applicable to digital asset ownership and trading. Legal precedent created in these bankruptcy proceedings may increase the risk of future rulings adverse to our interests in the event one or more of our custodians becomes a debtor in a bankruptcy case or is the subject of other liquidation, insolvency or similar proceedings.

On January 23, 2023, the NYDFS released “Guidance on Custodial Structures for Customer Protection in the Event of Insolvency” with the stated purpose of helping to protect customers in the event that a custodian enters bankruptcy, receivership or similar insolvency proceedings. While all of our custodians are NYDFS-regulated custodians, no assurance can be provided that the stated guidance from the NYDFS will be followed or will not be changed or that custodially-held bitcoin will not become part of the custodian’s insolvency estate in the event one or more of our custodians enters bankruptcy, receivership or similar insolvency proceedings. Additionally, if we pursue any strategies to create income streams or otherwise generate funds using our bitcoin holdings, we would become subject to additional counterparty risks. Any significant non-performance by counterparties, including in particular the custodians with which we custody substantially all of our bitcoin, could have a material adverse effect on our business, prospects, financial condition, and operating results.

Risks Related to Our Enterprise Analytics Software Business Strategy

We depend on revenue from a single software platform and related services as well as revenue from our installed customer base

Our revenue is derived from sales of our analytics software platform and related services. Although demand for analytics software has continued to grow, the market for analytics offerings continues to evolve. Resistance from consumer and privacy groups to commercial collection, use, and sharing of personal data has grown in recent years and our customers, potential customers, or the general public may perceive that use of our analytics software could violate individual privacy rights. In addition, increasing government restrictions on the collection, use, and transfer of personal data could impair the further growth of the market for analytics software, especially in foreign markets. Because we depend on revenue from a single software platform and related services, our business could be harmed by a decline in demand for, or in the adoption or prices of, our platform and related services as a result of, among other factors, any change in our pricing or packaging model, increased competition, maturation in the markets for our platform, or other risks described in this Annual Report. In addition, the adoption of our bitcoin acquisition strategy and the recent increase in our indebtedness has caused and may in the future cause certain of our existing or prospective customers to form negative perceptions regarding our corporate risk profile or our financial viability as a commercial counterparty, and such negative perceptions could negatively impact sales of our analytics software platform and related services to current or prospective customers. Such risks can also be exacerbated if the price of bitcoin declines or by adverse developments in the digital assets industry including, for example, the high-profile bankruptcy filings by companies operating in that industry, such as the recent bankruptcy filings by Three Arrows Capital, Voyager Digital, BlockFi and FTX Trading. We also depend on our installed customer base for a substantial portion of our revenue. If our existing customers cancel or fail to renew their service contracts or fail to make additional purchases from us for any reason, including due to the risks inherent in our bitcoin acquisition strategy, our revenue could decrease and our operating results could be materially adversely affected.

As our customers increasingly shift from a product license model to a cloud subscription model, we could face higher future rates of attrition, and such a shift could continue to affect the timing of revenue recognition or reduce product licenses and product support revenues, which could materially adversely affect our operating results

We offer our analytics platform in the form of a product license or a cloud subscription. Given that it is relatively easy for customers to migrate on and off our cloud subscription platform, as we continue to shift our customers toward our cloud platform, we could face higher future rates of attrition among our customers. In addition, the payment streams and revenue recognition timing for our product licenses are different from those for our cloud subscriptions. For product licenses, customers typically pay us a lump sum soon after

entering into a license agreement, and we typically recognize product licenses revenue when control of the license is transferred to the customer. For cloud subscriptions, customers typically make periodic payments over the subscription period and we recognize subscription services revenues ratably over the subscription period. As a result, as our customers increasingly shift to, or new customers purchase, cloud subscriptions instead of product licenses, the resulting change in payment terms and revenue recognition may result in our recognizing less revenue in the reporting period in which the sale transactions are consummated than has been the case in prior periods, with more revenue being recognized in future periods. This change in the timing of revenue recognition could materially adversely affect our operating results and cash flows for the periods during which such a shift or change in purchasing occurs. Accordingly, in any particular reporting period, cloud subscription sales could negatively impact product license sales to our existing and prospective customers, which could reduce product licenses and product support revenues. Additionally, our ability to accelerate our cloud strategy could be negatively impacted by any inability to provide necessary sales and sales engineering support, including the support of channel partners, our internal sales team, and digital marketing. Finally, if we are not able to successfully grow sales of our cloud subscription platform, we may not be able to achieve the scale necessary to achieve increased operating margins.

We use channel partners and if we are unable to maintain successful relationships with them, our business, operating results, and financial condition could be materially adversely affected

In addition to our direct sales force, we use channel partners, such as system integrators, consulting firms, resellers, solution providers, managed service providers, OEMs, and technology companies, to license and support our offerings. For the year ended December 31, 2022, transactions by channel partners for which we recognized revenue accounted for 24.7% of our total product licenses revenues, and our ability to achieve revenue growth in the future will depend in part on our ability to maintain these relationships. Our channel partners may offer customers the products and services of several different companies, including competing offerings, and we cannot be certain that they will prioritize or devote adequate resources to selling our offerings. If we are unable to maintain our relationships with our channel partners, or if we experience a reduction in sales by our channel partners, our business, operating results, and financial condition could be materially adversely affected.

In addition, we rely on our channel partners to operate in accordance with applicable laws and regulatory requirements. If they fail to do so, we may need to incur significant costs in responding to investigations or enforcement actions or paying penalties assessed by the applicable authorities. We also rely on our channel partners to operate in accordance with the terms of their contractual agreements with us. For example, some of our agreements with our channel partners prescribe the terms and conditions pursuant to which they are authorized to resell or distribute our software and offer technical support and related services. If our channel partners do not comply with their contractual obligations to us, our business, operating results, and financial condition may be materially adversely affected.

Our recognition of deferred revenue and advance payments is subject to future performance obligations and may not be representative of revenues for succeeding periods

Our deferred revenue and advance payments totaled \$230.2 million as of December 31, 2022. The timing and ultimate recognition of our deferred revenue and advance payments depend on various factors, including our performance of various service obligations.

Because of the possibility of customer changes or delays in customer development or implementation schedules or budgets, and the need for us to satisfactorily perform product support and other services, deferred revenue and advance payments at any particular date may not be representative of actual revenue for any succeeding period.

In addition, we had \$94.6 million of other remaining performance obligations as of December 31, 2022, consisting of the portions of multi-year contracts that will be invoiced in the future that are not reflected on our balance sheet. As with deferred revenue and advance payments, these other remaining performance obligations at any particular date may not be representative of actual revenue for any succeeding period.

We may lose sales, or sales may be delayed, due to the long sales and implementation cycles of certain of our offerings, which could materially adversely affect our revenues and operating results

The decision to purchase our offerings typically requires our customers to invest substantial time, money, personnel, and other resources, which can result in long sales cycles that can exceed nine months. These long sales cycles increase the risk that intervening events, such as the introduction of new offerings and changes in customer budgets and purchasing priorities, will affect the size, timing, and completion of an order. Even if an order is completed, the time and resources required to implement and integrate our offerings vary widely depending on customer needs and the complexity of deployment. If we lose sales or sales are delayed due to these long sales and implementation cycles, our revenues and operating results for that period may be materially adversely affected.

Our results in any particular period may depend on the number and volume of large transactions in that period and these transactions may involve lengthier, more complex, and more unpredictable sales cycles than other transactions

Larger, enterprise-level transactions often require considerably more resources, are often more complex to implement, and typically require additional management approval, which may result in a lengthier, more complex, and less predictable sales cycle and may increase the risk that an order is delayed or not brought to completion. We may also encounter greater competition and pricing pressure on these larger transactions, and our sales and delivery efforts may be more costly. The presence or absence of one or more large transactions in a particular period may have a material effect on our revenues and operating results for that period and may result in lower estimated revenues and earnings in future periods. For the year ended December 31, 2022, our top three product licenses transactions with recognized revenue totaled \$13.1 million, or 15.1% of total product licenses revenues, compared to \$12.6 million, or 12.4% of total product licenses revenues, for the year ended December 31, 2021.

Our offerings face intense competition, which may lead to lower prices for our offerings, reduced gross margins, loss of market share, and reduced revenue

The analytics market is highly competitive and subject to rapidly changing technology. Within the analytics space, we compete with many different software vendors, including IBM, Microsoft, Oracle, Qlik, Salesforce, and SAP. Our future success depends on our ability to differentiate our offerings and successfully compete across analytics implementation projects of varying sizes. Our ability to compete successfully depends on a number of factors, both within and outside of our control. Some of these factors include software deployment options; analytical, mobility, data discovery, visualization, artificial intelligence, and machine learning capabilities; performance and scalability; the quality and reliability of our customer service and support; and brand recognition. Failure to compete successfully in any one of these or other areas may reduce the demand for our offerings and materially adversely affect our revenue from both existing and prospective customers.

Some of our competitors have longer operating histories, more focused business strategies and significantly greater financial, technical, and marketing resources than we do. As a result, they may be able to respond more quickly to new or emerging technologies and changes in customer requirements or devote greater resources to the development, promotion, sale, and marketing of their offerings than we can, such as offering certain analytics products free of charge when bundled with other products. In addition, many of our competitors have strong relationships with current and potential customers, extensive industry and specialized business knowledge, and corresponding proprietary technologies that they can leverage. As a result, they may be able to prevent us from penetrating new accounts or expanding existing accounts.

Increased competition may lead to price cuts, reduced gross margins, and loss of market share. The failure to compete successfully and meet the competitive pressures we face may have a material adverse effect on our business, operating results, and financial condition.

Current and future competitors may also make strategic acquisitions or establish cooperative relationships among themselves or with others. By doing so, these competitors may increase their ability to meet the needs of our potential customers by their expanded offerings and rapidly gain significant market share, which could limit our ability to obtain revenues from new customers and to sustain software maintenance revenues from our installed customer base. In addition, basic office productivity software suites, such as Microsoft Office, could evolve to offer advanced analysis and reporting capabilities that may reduce the demand for our analytics offerings.

Risks Related to Our Technology and Intellectual Property

If we are unable to develop and release new offerings and software enhancements to respond to rapid technological change, new customer requirements, or evolving industry standards in a timely and cost-effective manner, our business, operating results, and financial condition could be materially adversely affected

The market for our offerings is characterized by frequent new offerings and software enhancements in response to rapid technological change, new customer requirements, and evolving industry standards. The introduction of new or enhanced offerings can quickly make existing ones obsolete. We believe our future success depends largely on our ability to continue to support popular operating systems and databases, maintain and improve our current offerings, rapidly develop new offerings and software enhancements that achieve market acceptance, maintain technological competitiveness, and meet an expanding range of customer requirements.

Analytics applications are inherently complex, and research and development can be costly and time consuming. In addition, customers may delay their purchasing decisions because they anticipate that new or enhanced versions of our offerings will soon become available or because of concerns regarding the complexity of migration or performance issues related to new offerings. We cannot be sure that we will succeed in developing, marketing, and delivering, on a timely and cost-effective basis, new or enhanced offerings that will achieve market acceptance. Moreover, even if our new offerings achieve market acceptance, we may experience a decline in revenues of our existing offerings that is not fully matched by the new offering's revenue. This could result in a temporary or permanent revenue shortfall and materially adversely affect our business, operating results, and financial condition.

We depend on technology licensed to us by third parties, and changes in or discontinuances of such licenses could impair our software, delay implementation of our offerings, or force us to pay higher license fees

We license third-party technologies that are incorporated into or utilized by our existing offerings. These licenses may be terminated, or we may be unable to license third-party technologies for future offerings. In addition, we may be unable to renegotiate acceptable third-party license terms, or we may be subject to infringement liability if third-party technologies that we license are found to infringe intellectual property rights of others. Changes in or discontinuance of third-party licenses could lead to a material increase in our costs or to our offerings becoming inoperable or their performance being materially reduced. As a result, we may need to incur additional development costs to help ensure continued performance of our offerings, and we may experience a decreased demand for our offerings.

Changes in third-party software or systems or the emergence of new industry standards could materially adversely affect the operation of and demand for our existing software

The functionalities of our software depend in part on the ability of our software to interface with our customers' information technology ("IT") infrastructure and cloud environments, including software applications, network infrastructure, and end user devices, which are supplied to our customers by various other vendors. When new or updated versions of these third-party software or systems are introduced, or new industry standards in related fields emerge, we may be required to develop updated versions of or enhancements to our software to help ensure that it continues to effectively interoperate with our customers' IT infrastructure and cloud environments. If new or modified operating systems are introduced or new web standards and technologies or new standards in the field of database access technology emerge that are incompatible with our software, development efforts to maintain the interoperability of our software with our customers' IT infrastructure and cloud environments could require substantial capital investment and employee resources. If we are unable to update our software in a timely manner, cost-effectively, or at all, the ability of our software to perform key functions could be impaired, which may impact our customers' satisfaction with our software, potentially result in breach of warranty or other claims, and materially adversely affect demand for our software.

The nature of our software makes it particularly susceptible to undetected errors, bugs, or security vulnerabilities, which could cause problems with how the software performs and, in turn, reduce demand for our software, reduce our revenue, and lead to litigation claims against us

Despite extensive testing by us and our current and potential customers, we have in the past discovered software errors, bugs, or security vulnerabilities (including the log4j and SpringShell vulnerabilities which surfaced in December 2021 and March 2022, respectively, and affected companies worldwide) in our offerings after commercial shipments began and they may be found in future offerings or releases. This could result in lost revenue, damage to our reputation, or delays in market acceptance, which could have a material adverse effect on our business, operating results, and financial condition. We may also need to expend resources and capital to correct these defects if they occur.

Our customer agreements typically contain provisions designed to limit our exposure to product liability, warranty, and other claims. It is possible these provisions are unenforceable in certain domestic or international jurisdictions, and we may be exposed to such claims. A successful claim against us could have a material adverse effect on our business, operating results, and financial condition.

Our intellectual property is valuable, and any inability to protect it could reduce the value of our offerings and brand

Unauthorized third parties may try to copy or reverse engineer portions of our software or otherwise obtain and use our intellectual property. Copyrights, patents, trademarks, trade secrets, confidentiality procedures, and contractual commitments can only provide limited protection. Any intellectual property owned by us may be invalidated, circumvented, or challenged. Any of our pending or future intellectual property applications, whether or not currently being challenged, may not be issued with the scope we seek, if at all. Moreover, amendments to and developing jurisprudence regarding U.S. and international law may affect our ability to protect our intellectual property and defend against claims of infringement. In addition, although we generally enter into confidentiality agreements with our employees and contractors, the confidential nature of our intellectual property may not be maintained. Furthermore, the laws of some countries do not provide the same level of protection of our intellectual property as do the laws of the United States. If we cannot protect our intellectual property against unauthorized copying or use, we may not remain competitive.

Third parties may claim we infringe their intellectual property rights

We periodically receive notices from third parties claiming we are infringing their intellectual property rights. The number of such claims may increase as we expand our offerings and branding, the number of offerings and level of competition in our industry grow, the functionality of offerings overlaps, and the volume of issued patents, patent applications, and copyright and trademark registrations continues to increase. Responding to any infringement claim, regardless of its validity, could:

- be time-consuming, costly, and/or result in litigation;
- divert management's time and attention from developing our business;

- require us to pay monetary damages or enter into royalty or licensing agreements that we would normally find unacceptable;
- require us to stop selling certain of our offerings;
- require us to redesign certain of our offerings using alternative non-infringing technology or practices, which could require significant effort and expense;
- require us to rename certain of our offerings or entities; or
- require us to satisfy indemnification obligations to our customers or channel partners.

Additionally, while we monitor our use of third-party software, including open-source software, our processes for controlling such use in our offerings may not be effective. If we fail to comply with the terms or conditions associated with third-party software that we use, if we inadvertently embed certain types of third-party software into one or more of our offerings, or if third-party software that we license is found to infringe the intellectual property rights of others, we could subject ourselves to infringement liability and be required to re-engineer our offerings, discontinue the sale of our offerings, or make available to certain third parties or generally available, in source code form, our proprietary code, any of which could materially adversely affect our business, operating results, and financial condition.

If a successful infringement claim is made against us and we fail to develop or license a substitute technology or brand name, as applicable, our business, results of operations, financial condition, or cash flows could be materially adversely affected.

Risks Related to Our Operations

Business disruptions, including interruptions, delays, or failures of our systems, third-party data center hosting facility, or other third-party services, as a result of geopolitical tensions, acts of terrorism, natural disasters, pandemics (like the COVID-19 pandemic), and similar events, could materially adversely affect our operating results or result in a material weakness in our internal controls that could adversely affect the market price of our stock

A significant portion of our research and development activities or certain other critical business operations are concentrated in facilities in Northern Virginia, China, Argentina, and Poland. In addition, we serve our customers and manage certain critical internal processes using a third-party data center hosting facility located in the United States and other third-party services, including AWS, Azure, and other cloud services. Any disruptions or failures of our systems or the third-party hosting facility or other services that we use, including as a result of a natural disaster, fire, cyberattack (including the potential increase in risk for such attacks due to cyberwarfare in connection with the ongoing conflict between Russia and Ukraine), act of terrorism, geopolitical conflict (including due to the ongoing conflict between Russia and Ukraine and any potential conflict involving China and Taiwan), pandemic (including the ongoing COVID-19 pandemic), the effects of climate change, or other catastrophic event, as well as power outages, telecommunications infrastructure outages, a decision by one of our third-party service providers to close facilities that we use without adequate notice or to materially change the pricing or terms of their services, host country restrictions on the conduct of our business operations or the availability of our offerings, or other unanticipated problems with our systems or the third-party services that we use, such as a failure to meet service standards, could severely impact our ability to conduct our business operations or to attract new customers or maintain existing customers, or result in a material weakness in our internal control over financial reporting, any of which could materially adversely affect our future operating results.

Our international operations are complex and expose us to risks that could have a material adverse effect on our business, operating results, and financial condition

We receive a significant portion of our total revenues from international sales and conduct our business activities in various foreign countries, including some emerging markets where we have limited experience, where the challenges of conducting our business can be significantly different from those we have faced in more developed markets, and where business practices may create internal control risks. International revenues accounted for 40.2%, 44.0%, and 41.9% of our total revenues for the years ended December 31, 2022, 2021, and 2020, respectively. Our international operations require significant management attention and financial resources and expose us to additional risks, including:

- fluctuations in foreign currency exchange rates;
- new, or changes in, regulatory requirements;
- tariffs, export and import restrictions, restrictions on foreign investments, tax laws, sanctions, laws and policies that favor local competitors (such as mandatory technology transfers), and other trade barriers or protection measures;
- compliance with a wide variety of laws, including those relating to labor matters, antitrust, procurement and contracting, consumer and data protection, privacy, data localization, governmental access to data, network security, and encryption;
- costs of localizing offerings and lack of acceptance of localized offerings;
- difficulties in and costs of staffing, managing, and operating our international operations;

- economic weakness or currency-related crises;
- generally longer payment cycles and greater difficulty in collecting accounts receivable;
- weaker intellectual property protection;
- increased risk of corporate espionage or misappropriation, theft, or misuse of intellectual property, particularly in foreign countries where we have significant software development operations that have access to product source code, such as China;
- our ability to adapt to sales practices and customer requirements in different cultures;
- natural disasters, acts of war (including risks relating to the ongoing conflict between Russia and Ukraine and any potential conflict involving China and Taiwan), terrorism, or pandemics (including the ongoing COVID-19 pandemic); and
- political instability and security risks in the countries where we are doing business, including, without limitation, political and economic instability caused by the current conflict between Russia and Ukraine and economic sanctions adopted in response to the conflict.

Disruptions to trade, weakening of economic conditions, economic and legal uncertainties, or changes in currency rates may adversely affect our business, financial condition, operating results, and cash flows. The United States has put in place higher tariffs and other restrictions on trade with China, the European Union, Canada, and Mexico, among other countries, including limiting trade and/or imposing tariffs on imports from such countries. In addition, China, the European Union, Canada, and Mexico, among others, have either threatened or put into place retaliatory tariffs of their own. These tariffs and any further escalation of protectionist trade measures could adversely affect the markets in which we sell our offerings and, in turn, our business, financial condition, operating results, and cash flows. It is unclear whether and to what extent such measures will be reversed in the future or whether the Biden administration will make additional changes to U.S. trade policy that may result in further impacts on our business.

Changes to the U.S. taxation of our international income, or changes in foreign tax laws, could have a material effect on our future operating results. For example, the Tax Act led to corporate income tax rate changes, the modification or elimination of certain tax incentives, changes to the existing regime for taxing overseas earnings, and measures to prevent BEPS, and the United Kingdom adopted legislation imposing a tax related to offshore receipts in respect of intangible property held in low tax jurisdictions.

Moreover, compliance with foreign and U.S. laws and regulations that are applicable to our international operations is complex and may increase our cost of doing business in international jurisdictions. Our failure to comply with these laws and regulations has exposed, and may in the future expose, us to fines and penalties. These laws and regulations include anti-bribery laws, such as the U.S. Foreign Corrupt Practices Act, the UK Bribery Act, local laws prohibiting corrupt payments to government officials, and local laws relating to procurement, contracting, and antitrust. These laws and regulations also include import and export requirements and economic and trade sanctions administered by the Office of Foreign Assets Control and the U.S. Department of Commerce based on U.S. foreign policy and national security goals against targeted foreign states, organizations, and individuals. Although we have implemented policies and procedures designed to help ensure compliance with these laws, our employees, channel partners, and other persons with whom we do business may take actions in violation of our policies or these laws. For example, following an internal review initiated in 2018, we believe our Brazilian subsidiary failed or likely failed to comply with local procurement regulations in conducting business with certain Brazilian government entities and these matters are the subject of investigation by Brazilian authorities. Any violation of these laws could subject us to civil or administrative penalties, including substantial fines, prohibitions, or other limitations on our ability to sell our offerings to one or more countries, and could also materially damage our reputation and our brand.

These factors may have a material adverse effect on our future sales, business, operating results, and financial condition.

We face a variety of risks in doing business with U.S. and foreign federal, state, and local governments and government agencies, including risks related to the procurement process, budget constraints and cycles, termination of contracts, and compliance with government contracting requirements

Our customers include the U.S. government, state and local governments and government agencies. There are a variety of risks in doing business with government entities, including:

Procurement. Contracting with public sector customers is highly competitive and can be time-consuming and expensive, requiring us to incur significant up-front time and expense without any assurance that we will win a contract.

Budgetary Constraints and Cycles. Public sector funding reductions or delays adversely impact demand and payment for our offerings.

Termination of Contracts. Public sector customers often have contractual or other legal rights to terminate contracts for convenience or due to a default. If a contract is terminated for convenience, we may only be able to collect fees for software or services delivered prior to termination and settlement expenses. If a contract is terminated due to a default, we may not recover even those amounts, and we may be liable for excess costs incurred by the customer for procuring alternative software or services.

Compliance with Government Contracting Requirements. Government contractors are required to comply with a variety of complex laws, regulations, and contractual provisions relating to the formation, administration, or performance of government contracts that give public sector customers substantial rights and remedies, many of which are not typical for commercial contracts. These may include rights regarding price protection, the accuracy of information provided to the government, contractor compliance with socio-economic policies, and other terms unique to government contracts. Governments and government agencies routinely investigate and audit contractors for compliance with these requirements. If, as a result of an audit or review, it is determined that we have failed to comply with these requirements, we may be subject to civil and criminal penalties or administrative sanctions, including contract termination, forfeiture of profits, fines, and suspensions or debarment from future government business and we may suffer harm to our reputation.

Our customers also include foreign governments and government agencies. Similar procurement, budgetary, contract, and audit risks also apply to these entities. In addition, compliance with complex regulations and contracting provisions in a variety of jurisdictions can be expensive and consume significant management resources. In certain jurisdictions, our ability to win business may be constrained by political and other factors unrelated to our competitive position in the market. Each of these difficulties could materially adversely affect our business and results of operations.

If we are unable to recruit or retain skilled personnel, or if we lose the services of Michael J. Saylor, our business, operating results, and financial condition could be materially adversely affected

Our future success depends on our continuing ability to attract, train, assimilate, and retain highly skilled personnel. Competition for qualified employees in the technology industry has historically been high, and may be further amplified by evolving restrictions on immigration, travel, or availability of visas for skilled technology workers, including restrictions imposed in response to the COVID-19 pandemic. We may not be able to retain our current key employees or attract, train, assimilate, and retain other highly skilled personnel in the future. Our future success also depends in large part on the continued service of Michael J. Saylor, our Chairman of the Board of Directors and Executive Chairman. If we lose the services of Mr. Saylor, or if we are unable to attract, train, assimilate, and retain the highly skilled personnel we need, our business, operating results, and financial condition could be materially adversely affected.

Changes in laws or regulations relating to privacy or the collection, processing, disclosure, storage, localization, or transmission of personal data, or any actual or perceived failure by us or our third-party service providers to comply with such laws and regulations, contractual obligations, or applicable privacy policies, could materially adversely affect our business

Aspects of our business involve collecting, processing, disclosing, storing, and transmitting personal data, which are subject to certain privacy policies, contractual obligations, and U.S. and foreign laws, regulations, and directives relating to privacy and data protection. We store a substantial amount of customer and employee data, including personal data, on our networks and other systems and the cloud environments we manage. In addition, the types of data subject to protection as personal data in the European Union, China, the United States, and elsewhere have been expanding. In recent years, the collection and use of personal data by companies have come under increased regulatory and public scrutiny, especially in relation to the collection and processing of sensitive data, such as healthcare, biometric, genetic, financial services, and children's data, precise location data, and data regarding a person's race or ethnic origins, political opinions, or religious beliefs. For example, in the United States, protected health information is subject to the Health Insurance Portability and Accountability Act of 1996 ("HIPAA"), which can provide for civil and criminal penalties for noncompliance. Entities (such as us) that engage in creating, receiving, maintaining, or transmitting protected health information provided by covered entities and other business associates are subject to enforcement under HIPAA. Our access to protected health information triggers obligations to comply with certain privacy rules and data security requirements under HIPAA.

Any systems failure or security breach that results in the release of, or unauthorized access to, personal data, or any failure or perceived failure by us or our third-party service providers to comply with applicable privacy policies, contractual obligations, or any applicable laws or regulations relating to privacy or data protection, could result in proceedings against us by domestic or foreign government entities or others, including private plaintiffs in litigation. Such proceedings could result in the imposition of sanctions, fines, penalties, liabilities, government orders, and/or orders requiring that we change our data practices, any of which could have a material adverse effect on our business, operating results, reputation, and financial condition.

Various U.S. and foreign government bodies may enact new or additional laws or regulations, or issue rulings that invalidate prior laws or regulations, concerning privacy, data storage, data protection, and cross-border transfer of data that could materially adversely impact our business. In the European Union, the GDPR took effect in May 2018. GDPR establishes requirements regarding the handling and security of personal data, requires disclosure of data breaches to individuals, customers, and data protection authorities in certain circumstances, requires companies to honor data subjects' requests relating to their personal data, permits regulators to impose fines of up to €20,000,000 or 4% of global annual revenue, whichever is higher, and establishes a private right of action. Furthermore, a new ePrivacy Regulation, regulating electronic communications, was proposed in 2017 and is under consideration by the European Commission, the European Parliament, and the European Council. More recently, the Court of Justice of the European Union ("CJEU") invalidated the U.S.-EU Privacy Shield in July 2020. The U.S.-EU Privacy Shield provided a mechanism to lawfully transfer personal

data from the European Union to the United States and certain other countries. In the wake of the invalidation of the U.S.-EU Privacy Shield, we have transitioned to reliance on the EU Standard Contractual Clauses (“SCCs”) to lawfully transfer certain personal data from the European Union to the United States. The rules involving this alternative data transfer option are also undergoing revision and this transfer mechanism may also be declared invalid (or require us to change our business practices) in the future, requiring us to provide an alternative means of data transfer. In addition, the required terms for contracts containing SCCs along with recommended supplemental provisions are changing and may require us to assume additional obligations, otherwise inhibit or restrict our ability to undertake certain activities, or incur additional costs related to data protection.

In addition, in June 2021, the European Data Protection Board (“EDPB”) issued a new set of SCCs and formal recommendations on measures to ensure compliance with the EU data protection requirements when transferring personal data outside of the European Economic Area (the “EDPB Recommendations”). The new SCCs were required to be in place for new transfers of personal data as of September 27, 2021 and to replace those being used for existing transfers of personal data by December 27, 2022. The new SCCs place obligations on us in relation to government authorities’ access requests in respect of personal data transferred under the SCCs, and other obligations to bring the SCCs in line with the requirements of the GDPR. The EDPB Recommendations are designed to be read in tandem with the new SCCs and set out new requirements for organizations to assess third countries and identify appropriate supplementary data protection and security measures to be implemented on a case-by-case basis where needed.

Moreover, due to Brexit, the SCCs issued by the European Commission are no longer automatically adopted in the United Kingdom post-Brexit. In response, the UK’s Information Commissioner’s Office (“ICO”) published a template Addendum to the new EU SCCS which adapts the new EU SCCs for UK use. In the alternative, the ICO also published the international data transfer agreement (“IDTA”). The IDTA replaces the current set of SCCs being used in the UK. The UK SCCs Addendum and IDTA, after having been put before UK parliament, have been in force as of March 2022 and UK-based organizations were required to start using the UK IDTA or Addendum for new data transfer arrangements starting in September 2022.

The rules involving these alternative SCC data transfer options are continually undergoing revision and these transfer mechanisms may also be declared invalid (or require us to change our business practices) in the future, requiring us to provide an alternative means of data transfer or implement significant changes in our data security and protection practices. In addition, the required terms for contracts containing SCCs along with recommended supplemental provisions are changing and may require us to assume additional obligations, otherwise inhibit or restrict our ability to undertake certain activities, or incur additional costs related to data protection.

Similar requirements are also coming into force in other countries. Brazil enacted the Lei Geral de Proteção de Dados (the “Brazilian General Data Protection Law”), which became effective in August 2020 and imposes requirements largely similar to GDPR on products and services offered to users in Brazil. In China, we may also be subject to the Cybersecurity Law that went into effect in June 2017 and the revision of the Personal Information Security Specification that went into effect in October 2020, which have broad but uncertain application and impose a number of new privacy and data security obligations. China also adopted new legislation on the protection of privacy and personal data in November 2021, including the Personal Information Protection Law (“PIPL”) and Data Security Law that impose new data processing obligations on us. Under these new regulations, if an entity operating in China violates the law, regulators may order it to take corrective actions, issue warnings, confiscate illegal income, suspend services, revoke operating permits or business licenses, or issue a fine. The fine can be up to ¥50 million or 5 percent of an organization’s annual revenue for the prior financial year.

Further, in connection with cross-border transfer of personal information under the PIPL in China, China regulators published the Draft Rules on Standard Contracts Regarding Export of Personal Information and, under the PIPL, the adoption of standard contractual clauses between the data controller (the entity which transfers personal information to a location outside the PRC) and the offshore recipient is required to lawfully facilitate the offshore transfer of personal information from China. These requirements apply to companies operating in China and seeking to transfer personal data outside of China and organizations which do not satisfy these conditions may be required to satisfy additional regulatory requirements and/or be subject to penalties or fines.

Other countries are considering new or expanded laws governing privacy and data security that may impact our business practices. These developments, including in Brazil and China, may impact our activities with our customers, other MicroStrategy entities and vendors, and require us to take additional and appropriate steps in light of data transfers between the U.S. and the EU (and the UK), as well as transfers and onward transfers of personal data from the EU to other non-EU countries.

State privacy laws in the United States also may impact our business operations. The state of California has also adopted a comprehensive privacy law, the California Consumer Privacy Act (“CCPA”), which took effect in January 2020 and became enforceable in July 2020. We may be required to devote substantial resources to implement and maintain compliance with the CCPA, and noncompliance could result in regulatory investigations and fines or private litigation. Moreover, in November 2020, California voters approved a privacy law, the California Privacy Rights Act (“CPRA”), which amends the CCPA to create additional privacy rights and obligations in California, and went into effect on January 1, 2023. Virginia, Colorado, Utah, and Connecticut have passed laws similar to the CCPA, all of which go into effect in 2023, and several other states are considering bills similar to the CCPA or other generally applicable

privacy laws that may impose additional costs and obligations on us. In March 2022, the U.S. federal government also passed the Cyber Incident Reporting for Critical Infrastructure Act of 2022, which will require companies deemed to be part of U.S. critical infrastructure to report any substantial cybersecurity incidents or ransom payments to the federal government within 72 and 24 hours, respectively. The implementing regulations are not expected for another two-to-three years.

Furthermore, the U.S. Congress is considering comprehensive privacy legislation. At this time, it is unclear whether Congress will pass such a law and if so, when and what it will require and prohibit. Moreover, it is not clear whether any such legislation would give the Federal Trade Commission (“FTC”) any new authority to impose civil penalties for violations of the Federal Trade Commission Act in the first instance, whether Congress will grant the FTC rulemaking authority over privacy and information security, or whether Congress will vest some or all privacy and data security regulatory authority and enforcement power in a new agency, akin to EU data protection authorities.

Complying with these and other changing requirements could cause us or our customers to incur substantial costs or pay substantial fines or penalties, require us to change our business practices, require us to take on more onerous obligations in our contracts, or limit our ability to provide certain offerings in certain jurisdictions, any of which could materially adversely affect our business and operating results. New laws or regulations restricting or limiting the collection or use of mobile data could also reduce demand for certain of our offerings or require changes to our business practices, which could materially adversely affect our business and operating results.

If we or our third-party service providers experience a disruption due to a cybersecurity attack or security breach and unauthorized parties obtain access to our customers’, prospects’, vendors’, or channel partners’ data, our data, our networks or other systems, or the cloud environments we manage, our offerings may be perceived as not being secure, our reputation may be harmed, demand for our offerings may be reduced, our operations may be disrupted, we may incur significant legal and financial liabilities, and our business could be materially adversely affected

As part of our business, we process, store, and transmit our customers’, prospects’, vendors’, and channel partners’ data as well as our own, including in our networks and other systems and the cloud environments we manage. Security breaches may occur due to technological error, computer viruses, or third-party action, including intentional misconduct by computer hackers or state actors, physical break-ins, industrial espionage, fraudulent inducement of employees, customers, or channel partners to disclose sensitive information such as user names or passwords, and employee, customer, or channel partner error or malfeasance. A security breach could result in unauthorized access to or disclosure, modification, misuse, loss, or destruction of our customers’, prospects’, vendors’, or channel partners’ data, our data (including our proprietary information, intellectual property, or trade secrets), our networks or other systems, or the cloud environments we manage. Third parties may also conduct attacks designed to prevent access to critical data or systems through ransomware or temporarily deny customers access to our cloud environments.

We, and our service providers, may experience and have experienced attempts by third parties to identify and exploit software and service vulnerabilities, penetrate or bypass our security measures, and gain unauthorized access to our or our customers’ or service providers’ cloud environments, networks, and other systems. Security measures that we or our third-party service providers have implemented may not be effective against all current or future security threats, including any potential threats from the exploitation of the log4j or SpringShell vulnerabilities. Because there are many different security breach techniques and such techniques continue to evolve, we may be unable to anticipate, detect, or mitigate attempted security breaches and implement adequate preventative measures.

Any security breach, ransomware attack, or successful denial of service attack could result in a loss of customer confidence in the security of our offerings and damage to our brand, reduce the demand for our offerings, disrupt our normal business operations, require us to spend material resources to investigate or correct the breach, require us to notify affected customers or individuals and/or applicable regulators and others, provide identity theft protection services to individuals, expose us to legal liabilities, including litigation, regulatory enforcement, and indemnity obligations, and materially adversely affect our revenues and operating results. Our software operates in conjunction with and is dependent on third-party products and components across a broad ecosystem. If there is a security vulnerability in one of these products or components, and if there is a security exploit targeting it, we could face increased costs, liability claims, customer dissatisfaction, reduced revenue, or harm to our reputation or competitive position.

These risks will increase as we continue to grow the number and scale of our cloud subscriptions and process, store, and transmit increasingly large amounts of our customers’, prospects’, vendors’, channel partners’, and our own data. In particular, in connection with the COVID-19 pandemic and recent geopolitical conflicts, there has been an increase in cyberattacks and other malicious activities as remote working conditions have led businesses to increasingly rely on virtual environments and communication systems.

We face risks related to the COVID-19 pandemic that could significantly disrupt or materially adversely affect our business and operating results

The COVID-19 pandemic has had a significant adverse impact on global commercial activity and has created significant volatility in financial markets. Government recommendations and requirements may continue to change, and we may not be able to immediately respond to, meet or enforce all required health and safety measures or other government requirements in all of our locations. There is significant uncertainty around the impact of the COVID-19 pandemic, and the measures enacted to address it, on the global economy and consumer confidence. A resurgence of COVID-19 or its variants, and the implementation of new restrictions to address any such resurgence, could have a significant adverse impact on economic and market conditions and trigger a period of prolonged global economic slowdown, which could decrease technology spending, adversely affect demand for our offerings, and harm our business and operating results.

Although our total revenues for the year ended December 31, 2022 were not materially impacted by COVID-19, our revenues may be negatively impacted in future periods until the effects of the pandemic and the efforts to address it have fully subsided and the current macroeconomic environment has substantially recovered. The uncertainty related to COVID-19 may also result in increased volatility in the financial projections we use as the basis for estimates and assumptions used in our financial statements.

The full extent to which COVID-19 may impact our business and operating results will depend on future developments, including the potential reoccurrence of the COVID-19 pandemic, and the duration, spread, severity, and impact of such recurrence on our customers and our sales cycles, our ability to generate new business leads, our customer, employee, and industry events, and our vendors, all of which are highly uncertain and cannot be predicted.

Our having entered into indemnification agreements with Michael J. Saylor, our Chairman of the Board of Directors and Executive Chairman, that supplement our conventional director and officer liability insurance provided by third-party insurance carriers could negatively affect our business and the market price of our class A common stock

Due to market trends toward higher premiums and the novelty of our bitcoin acquisition strategy, we were unable to obtain our desired coverage level for director and officer liability insurance from commercial carriers on acceptable terms, and in lieu of such insurance from June 2021 through June 2022, and as a supplement to commercial carrier coverage we were able to obtain beginning in June 2022, we have entered into indemnification agreements with Michael J. Saylor, our Chairman of the Board of Directors and Executive Chairman, pursuant to which Mr. Saylor has agreed to personally indemnify our directors and officers with respect to claims and expenses substantially similar to those typically covered under conventional director and officer insurance policies to the extent such claims and expenses are not covered by insurance provided by commercial carriers, for which we agreed to pay Mr. Saylor applicable fees. Our having entered into such indemnification agreements with Mr. Saylor could have adverse effects on our business, including making it more difficult to attract and retain qualified directors and officers due to the unconventional nature of the arrangement and potential concerns that the indemnification arrangement might not provide the same level of protection that might otherwise be provided by coverage obtained entirely through conventional director and officer insurance. In addition, our indemnity arrangements with Mr. Saylor may result in some investors perceiving that our independent directors are not sufficiently independent from Mr. Saylor due to their entitlement to personal indemnification from him, which may have an adverse effect on the market price of our class A common stock.

Volatile and significantly weakened global economic conditions have in the past and may in the future adversely affect our industry, business and results of operations

Our overall performance depends in part on worldwide economic and geopolitical conditions. The United States and other key international economies have experienced significant economic and market downturns recently characterized by restricted credit, poor liquidity, reduced corporate profitability, volatility in credit, equity and foreign exchange markets, inflation, bankruptcies and overall uncertainty with respect to the economy. In addition, geopolitical and domestic political developments, such as existing and potential trade wars and other events beyond our control, such as conflict in the Ukraine, can increase levels of political and economic unpredictability globally and increase the volatility of global financial markets. Moreover, these conditions have affected and may continue to affect the rate of IT spending; could adversely affect our customers' ability or willingness to attend our events or to purchase our software and service offerings; have delayed and may delay customer purchasing decisions; have reduced and may in the future reduce the value and duration of customer subscription contracts; and we expect these conditions will adversely affect our customer attrition rates. All of these risks and conditions could materially adversely affect our future sales and operating results.

Risks Related to Our Class A Common Stock

The market price of our class A common stock has been and may continue to be volatile

The market price of our class A common stock has historically been volatile and this volatility has been significant in recent periods. Since August 11, 2020, the date on which we announced our initial purchase of bitcoin, the closing price of our class A common stock has increased from \$123.62 as of August 10, 2020, the last trading day before our announcement, to \$298.40 as of February 15, 2023. The market price of our class A common stock may fluctuate widely in response to various factors, some of which are beyond our control. These factors include, but are not limited to:

- fluctuations in the price of bitcoin, of which we have significant holdings, and in which we expect we will continue to make significant purchases and announcements about our transactions in bitcoin;
- changes to our bitcoin acquisition strategy;
- announcement of additional capital raising transactions;
- regulatory, commercial and technical developments related to bitcoin or the Bitcoin blockchain;
- quarterly variations in our results of operations or those of our competitors;
- announcements about our earnings that are not in line with analyst expectations, the likelihood of which may be enhanced because it is our policy not to give guidance relating to our anticipated financial performance in future periods;
- announcements by us or our competitors of acquisitions, dispositions, new offerings, significant contracts, commercial relationships, or capital commitments;
- our ability to develop, market, and deliver new and enhanced offerings on a timely basis;
- commencement of, or our involvement in, litigation;
- recommendations by securities analysts or changes in earnings estimates and our ability to meet those estimates;
- investor perception of our Company;
- announcements by our competitors of their earnings that are not in line with analyst expectations;
- the volume of shares of our class A common stock available for public sale;
- sales or purchases of stock by us or by our stockholders and issuances of awards under our stock incentive plan; and
- general economic conditions and slow or negative growth of related markets, including as a result of the COVID-19 pandemic.

In addition, the stock market and the markets for both bitcoin-influenced and technology companies have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of companies in those markets. These market and industry factors may seriously harm the market price of our class A common stock, regardless of our actual operating performance.

Because of the rights of our two classes of common stock and because we are controlled by Michael J. Saylor, who beneficially owns the majority of our class B common stock, Mr. Saylor could transfer control of MicroStrategy to a third party without the approval of our Board of Directors or our other stockholders, prevent a third party from acquiring us, or limit the ability of our other stockholders to influence corporate matters

We have two classes of common stock: class A common stock and class B common stock. Holders of our class A common stock generally have the same rights as holders of our class B common stock, except that holders of class A common stock have one vote per share while holders of class B common stock have ten votes per share. As of February 2, 2023, there are 1,964,025 shares of class B common stock outstanding, which accounts for approximately 67.2% of the total voting power of our outstanding common stock. As of February 2, 2023, Mr. Saylor, our Chairman of the Board of Directors and Executive Chairman, beneficially owned 1,961,668 shares of class B common stock, or 67.1% of the total voting power. Accordingly, Mr. Saylor can control MicroStrategy through his ability to determine the outcome of elections of our directors, amend our certificate of incorporation and by-laws, and take other actions requiring the vote or consent of stockholders, including mergers, going-private transactions, and other extraordinary transactions and their terms.

Our certificate of incorporation allows holders of class B common stock to transfer shares of class B common stock, subject to the approval of stockholders holding a majority of the outstanding class B common stock. Mr. Saylor could, without the approval of our Board of Directors or our other stockholders, transfer voting control of MicroStrategy to a third party. Such a transfer of control could have a material adverse effect on our business, operating results, and financial condition. Mr. Saylor could also prevent a change of control of MicroStrategy, regardless of whether holders of class A common stock might otherwise receive a premium for their shares over the then current market price. In addition, this concentrated control limits stockholders' ability to influence corporate matters and, as a result, we may take actions that our non-controlling stockholders do not view as beneficial or that conflict with their interests. As a result, the market price of our class A common stock could be materially adversely affected.

Our status as a “controlled company” could make our class A common stock less attractive to some investors or otherwise materially adversely affect our stock price

Because we qualify as a “controlled company” under Nasdaq corporate governance rules, we are not required to have independent directors comprise a majority of our Board of Directors. Additionally, our Board of Directors is not required to have an independent compensation or nominating committee or to have the independent directors exercise the nominating function. We are also not required to have the compensation of our executive officers be determined by a compensation committee of independent directors. In addition, we are not required to empower our Compensation Committee with the authority to engage the services of any compensation consultants, legal counsel, or other advisors, or to have the Compensation Committee assess the independence of compensation consultants, legal counsel, and other advisors that it engages.

In light of our status as a controlled company, our Board of Directors has determined not to establish an independent nominating committee or have its independent directors exercise the nominating function and has elected instead to have the Board of Directors be directly responsible for nominating members of the Board. A majority of our Board of Directors is currently comprised of independent directors, and our Board of Directors has established a Compensation Committee comprised entirely of independent directors. The Compensation Committee determines the compensation of our Chief Executive Officer and will also determine the compensation of our Executive Chairman. However, our Board of Directors has authorized our Chief Executive Officer to determine the compensation of executive officers other than himself and the Executive Chairman, except that equity-based compensation is determined by the Compensation Committee. Awards made to directors and officers subject to Section 16 of the Exchange Act under the 2013 Equity Plan are also approved by the Compensation Committee. Additionally, while our Compensation Committee is empowered with the authority to retain and terminate outside counsel, compensation consultants, and other experts or consultants, it is not required to assess their independence.

Although currently a majority of our Board of Directors is comprised of independent directors and the Compensation Committee is comprised entirely of independent directors, we may elect in the future not to have independent directors constitute a majority of the Board of Directors or the Compensation Committee, our Executive Chairman’s and Chief Executive Officer’s compensation determined by a compensation committee of independent directors, or a compensation committee of the Board of Directors at all.

Accordingly, should the interests of our controlling stockholder differ from those of other stockholders, the other stockholders may not have the same protections that are afforded to stockholders of companies that are required to follow all of the Nasdaq corporate governance rules. Our status as a controlled company could make our class A common stock less attractive to some investors or otherwise materially adversely affect our stock price.

Future sales, or the perception of future sales, of our class A common stock, convertible debt instruments or other convertible securities could depress the price of our class A common stock

We may issue and sell additional shares of class A common stock, convertible notes, or other securities in subsequent offerings to raise capital or issue shares for other purposes, including in connection with the acquisition of additional bitcoin. For example, through the date of this report we have sold \$46.6 million of shares of class A common stock, and we may sell class A common stock having an aggregate offering price of up to an additional \$453.4 million from time to time, through Cowen and Company LLC and BTIG, LLC, as agents (the “2022 Sales Agents”) under the Sales Agreement (the “2022 Sales Agreement”) we entered into with the 2022 Sales Agents on September 9, 2022. We cannot predict:

- the size of future issuances of equity securities;
- the size and terms of future issuances of convertible debt instruments or other convertible securities; or
- the effect, if any, that future issuances and sales of our securities will have on the market price of our class A common stock.

Transactions involving newly issued class A common stock, convertible debt instruments, or other convertible securities could result in possibly substantial dilution to holders of our class A common stock.

Our amended and restated by-laws provide that the Court of Chancery of the State of Delaware (or, if the Court of Chancery of the State of Delaware does not have jurisdiction, then any other state court located in the State of Delaware, or if no state court located within the State of Delaware has jurisdiction, the federal district court for the District of Delaware) is the exclusive forum for certain litigation that may be initiated by our stockholders, which could limit our stockholders’ ability to obtain a favorable judicial forum for such disputes with us or our directors, officers or employees

Our amended and restated by-laws provide that, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware (or, if the Court of Chancery of the State of Delaware does not have jurisdiction, then any other state court located in the State of Delaware, or if no state court located within the State of Delaware has jurisdiction, the federal district court

for the District of Delaware) shall, to the fullest extent permitted by law, be the sole and exclusive forum for (i) any derivative action or proceeding brought on behalf of the Company, (ii) any action asserting a claim of breach of a fiduciary duty owed by any director, officer, other employee or stockholder of the Company to the Company or the Company's stockholders, (iii) any action asserting a claim arising pursuant to any provision of the General Corporation Law of the State of Delaware or the Company's certificate of incorporation or by-laws (in each case, as they may be amended from time to time), or (iv) any action asserting a claim governed by the internal affairs doctrine. This exclusive forum provision would not apply to suits brought to enforce a duty or liability created by the Exchange Act, which provides for exclusive jurisdiction of the federal courts. It could apply, however, to a suit that falls within one or more of the categories enumerated in the choice of forum provision and asserts claims under the Securities Act, inasmuch as Section 22 of the Securities Act creates concurrent jurisdiction for federal and state courts over all suits brought to enforce any duty or liability created by the Securities Act or the rules and regulations thereunder. There is uncertainty as to whether a court would enforce such provision with respect to claims under the Securities Act, and our stockholders will not be deemed to have waived our compliance with the federal securities laws and the rules and regulations thereunder.

The choice of forum provision may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers or other employees, which may discourage such lawsuits against us and our directors, officers and other employees. Alternatively, if a court were to find the choice of forum provision contained in our amended and restated by-laws to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions.

Risks Related to Our Outstanding and Potential Future Indebtedness

Our level and terms of indebtedness could adversely affect our ability to raise additional capital to further execute on our bitcoin acquisition strategy, fund our enterprise analytics software operations, and take advantage of new business opportunities

As of December 31, 2022, we had \$2.4 billion aggregate indebtedness, consisting of \$650.0 million aggregate principal amount of 0.750% Convertible Senior Notes due 2025 (the "2025 Convertible Notes"), \$1.05 billion aggregate principal amount of 0% Convertible Senior Notes due 2027 (the "2027 Convertible Notes", and collectively with the 2025 Convertible Notes, the "Convertible Notes"), \$500.0 million aggregate principal amount of 6.125% Senior Secured Notes due 2028 (the "2028 Secured Notes"), \$205.0 million of outstanding borrowings under a secured term loan (the "2025 Secured Term Loan") pursuant to a Credit and Security Agreement between our MacroStrategy subsidiary and Silvergate Bank (the "Credit and Security Agreement"), and \$10.9 million of other long-term indebtedness.

Our substantial indebtedness and interest expense could have important consequences to us, including:

- limiting our ability to use a substantial portion of our cash flow from operations in other areas of our business, including for acquisition of additional bitcoin, working capital, research and development, expanding our infrastructure, capital expenditures, and other general business activities and investment opportunities in our company, because we must dedicate a substantial portion of these funds to pay interest on and/or service our debt;
- limiting our ability to obtain additional financing in the future for acquisition of additional bitcoin, working capital, capital expenditures, debt service, acquisitions, execution of our strategy, and other expenses or investments planned by us;
- limiting our flexibility and our ability to capitalize on business opportunities and to react to competitive pressures and adverse changes in government regulation, our business, and our industry;
- increasing our vulnerability to a downturn in our business and to adverse economic and industry conditions generally;
- placing us at a competitive disadvantage as compared to our competitors that are less leveraged; and
- limiting our ability, or increasing the costs, to refinance indebtedness.

We may be unable to service our indebtedness, which could cause us to default on our debt obligations and could force us into bankruptcy or liquidation

Our ability to make scheduled payments on and to refinance our indebtedness depends on and is subject to our financial and operating performance, which is influenced, in part, by general economic, financial, competitive, legislative, regulatory, counterparty business, and other risks that are beyond our control, including the availability of financing in the U.S. banking and capital markets. If our cash flows and capital resources are insufficient to fund our debt service obligations, we may be forced to reduce or delay capital expenditures, sell assets, seek additional capital, or restructure or refinance our indebtedness. We cannot assure you that future borrowings will be available to us in an amount sufficient to enable us to service our indebtedness, to refinance our indebtedness, or to fund our other liquidity needs. Even if refinancing indebtedness is available, any refinancing of our indebtedness could be at higher interest rates and may require us to comply with more onerous covenants that could further restrict our business operations. In addition, our bitcoin acquisition strategy anticipates that we may issue additional debt in future periods to finance additional purchases of bitcoin, but if we are unable to generate sufficient cash flow to service our debt and make necessary capital expenditures, we may be required to sell

bitcoin. These alternative measures may not be successful and may not permit us to meet our scheduled debt service obligations or our financial covenants, which could cause us to default on our debt obligations. In addition, any failure to make payments of interest and principal on our outstanding indebtedness on a timely basis would likely result in a reduction of our credit rating, which could harm our ability to incur additional indebtedness.

Upon the occurrence of an event of default under any of MicroStrategy's indebtedness, the holders of the defaulted indebtedness could elect to declare all the funds borrowed to be due and payable, together with accrued and unpaid interest and, in the case of our 2028 Secured Notes, enforce their security interests on substantially all of MicroStrategy's assets and the assets of our subsidiary guarantors, but excluding bitcoins that are currently owned by our MacroStrategy subsidiary or acquired by MacroStrategy in future periods in transactions permitted by the terms of the 2028 Secured Notes. Similarly, upon the occurrence of an event of default under the Credit and Security Agreement, the lender thereunder could elect to declare all outstanding loan principal under the 2025 Secured Term Loan to be due and payable, together with accrued and unpaid interest, and enforce its security interest on the \$5.0 million cash reserve account and the bitcoin held in the account securing the borrowings under the Credit and Security Agreement. Any of these events could in turn result in cross-defaults under our other indebtedness. We may not have sufficient funds available to pay the amounts due upon any such default, particularly in the event that there has been a decrease in the market value of our bitcoin holdings, and we may not be able to raise additional funds to pay such amounts on a timely basis, on terms we find acceptable, or at all. Any financing that we may undertake under such circumstances could result in substantial dilution of our existing stockholders, and in the absence of being able to obtain such financing, we could be forced into bankruptcy or liquidation.

The indenture governing our 2028 Secured Notes imposes significant operating and financial restrictions on us and certain restricted subsidiaries of ours, which may prevent us from capitalizing on business opportunities

The indenture governing our 2028 Secured Notes imposes significant operating and financial restrictions on us and certain designated restricted subsidiaries of ours. These restrictions limit our ability, and the ability of such restricted subsidiaries, to, among other things:

- incur or guarantee additional debt or issue disqualified stock or certain preferred stock;
- create or incur liens;
- pay dividends, redeem stock, or make certain other distributions;
- make certain investments;
- create restrictions on the ability of our restricted subsidiaries to pay dividends to us or make other intercompany transfers;
- transfer or sell assets;
- merge or consolidate; and
- enter into certain transactions with affiliates.

As a result of these restrictions, we are limited as to how we conduct our business and we may be unable to raise additional indebtedness or conduct equity financing to compete effectively or to take advantage of new business opportunities. The terms of any future indebtedness we may incur could include more restrictive covenants. We cannot assure you that we will be able to maintain compliance with these covenants in the future and, if we fail to do so, that we will be able to obtain waivers from the lenders or amend the covenants.

Our failure to comply with the restrictive covenants described above, as well as other terms of our indebtedness or the terms of any future indebtedness from time to time could result in an event of default, which, if not cured or waived, could result in our being required to repay these borrowings before their due date and/or face insolvency proceedings. If we are forced to refinance these borrowings on less favorable terms or cannot refinance these borrowings, our results of operations and financial condition could be adversely affected.

We may be required to repay the 2028 Secured Notes prior to their stated maturity date, if the springing maturity feature is triggered

The 2028 Secured Notes have a stated maturity date of June 15, 2028, but include a springing maturity feature that will cause the stated maturity date to spring ahead to the date that is (i) 91 days prior to the existing maturity date of the 2025 Convertible Notes (which is September 15, 2025), (ii) 91 days prior to the existing maturity date of the 2027 Convertible Notes (which is November 16, 2026), or (iii) the maturity date of any future convertible debt that we may issue that is then outstanding, unless on such dates we meet specified liquidity requirements or less than \$100,000,000 of aggregate principal amount of the 2025 Convertible Notes, the 2027 Convertible Notes, or such future convertible debt, as applicable, remains outstanding. If such springing maturity feature is triggered, we will be required to pay all amounts outstanding under the 2028 Secured Notes sooner than they would otherwise be due, we may not have sufficient funds available to pay such amounts at that time, and we may not be able to raise additional funds to pay such amounts on a timely basis, on terms we find acceptable, or at all.

Our MacroStrategy subsidiary has no independent operations other than holding bitcoin and financing activities and will depend on cash contributions from us and/or sales of bitcoin to meet its obligations under the Credit and Security Agreement pursuant to which the 2025 Secured Term Loan was issued

Our MacroStrategy subsidiary primarily holds bitcoin, a \$5.0 million cash reserve account held as collateral for the 2025 Secured Term Loan, and certain cash proceeds retained from the 2025 Secured Term Loan. As of December 31, 2022, MacroStrategy had no operations other than purchasing and holding bitcoin and those related to the administration and repayment of the loan principal outstanding and interest due under the Credit and Security Agreement. MacroStrategy's principal sources of funds to make payments pursuant to the Credit and Security Agreement are capital contributions, loans or other cash payments from us, which may be restricted by the covenants governing the 2028 Secured Notes, and sales of bitcoin, which in turn may be restricted due to the requirement in the Credit and Security Agreement requiring MacroStrategy to maintain the LTV Ratio below 50%. Accordingly, MacroStrategy may not have sufficient funds available to pay amounts owed under the Credit and Security Agreement when they become due, and MacroStrategy and we may not be able to raise additional funds to pay such amounts on a timely basis, on terms we find acceptable, or at all.

MacroStrategy has contributed and may in the future be required to contribute additional bitcoin to the collateral package securing the 2025 Secured Term Loan or repay certain amounts outstanding thereunder prior to its stated maturity date, if the value of bitcoin declines

The Credit and Security Agreement has a stated maturity date of March 23, 2025, but includes a requirement that MacroStrategy maintain an LTV Ratio of less than 50%. As a result, MacroStrategy is required to maintain more than \$410.0 million of bitcoin in the account securing the 2025 Secured Term Loan under the Credit and Security Agreement, assuming the full \$205.0 million aggregate principal amount of the 2025 Secured Term Loan remains outstanding. If the price of bitcoin drops such that the LTV Ratio equals or exceeds 50%, MacroStrategy will be required to either deposit additional bitcoin into such account or prepay a portion of the 2025 Secured Term Loan such that the LTV Ratio is reduced to 25% or less (or 35% or less, provided that in such case the interest rate on the 2025 Secured Term Loan will be increased by 25 basis points until such time as the LTV Ratio is reduced to 25% or less). During 2022, as the price of bitcoin declined causing the LTV Ratio to increase, MacroStrategy deposited an aggregate of 15,153 additional bitcoins into the account securing the 2025 Secured Term Loan to help ensure that the LTV Ratio remained below 50%. As of December 31, 2022, approximately 34,619 bitcoins were held in the Bitcoin Collateral Account and approximately 82,991 bitcoins remained unencumbered at MacroStrategy. If MacroStrategy is not able to maintain an LTV Ratio of less than 50% at any time prior to the maturity date of the Credit and Security Agreement, MacroStrategy may be required to repay some of the principal outstanding under the Credit and Security Agreement sooner than such amounts would otherwise be due, MacroStrategy may not have sufficient funds available to pay such amounts at that time or the ability to sell bitcoin to generate additional funds, and MacroStrategy and we may not be able to raise additional funds to pay such amounts on a timely basis, on terms we find acceptable, or at all.

We may not be able to finance required repurchases of the 2028 Secured Notes or the Convertible Notes upon a change of control or a fundamental change or the repayment of amounts due under the 2025 Secured Term Loan upon a change of control

Upon a change of control or a fundamental change as defined in the indentures governing the 2028 Secured Notes and the Convertible Notes, the holders of such notes will have the right to require us to offer to purchase all of the applicable notes then outstanding at a price equal to 101% of the principal amount of the 2028 Secured Notes and 100% of the principal amount of the Convertible Notes, respectively, plus, in each case, accrued and unpaid interest, if any, to, but excluding, the repurchase date. In order to obtain sufficient funds to pay the purchase price of such notes, we expect that we would have to refinance the notes and we may not be able to refinance the notes on reasonable terms, if at all. Our failure to offer to purchase all applicable notes or to purchase all validly tendered notes would be an event of default under the indentures governing the 2028 Secured Notes and the Convertible Notes.

If a change of control or a fundamental change occurs, we may not have enough assets to satisfy all obligations under the indentures governing the 2028 Secured Notes and the Convertible Notes. Upon the occurrence of a change of control or a fundamental change we could seek to refinance the indebtedness under the 2028 Secured Notes or the Convertible Notes or obtain a waiver from the applicable note holders. However, we may not be able to obtain a waiver or refinance the applicable notes on commercially reasonable terms, if at all. Moreover, the exercise by holders of the 2028 Secured Notes or the Convertible Notes of their right to require us to repurchase such notes could cause a default under future debt agreements, even if the change of control or fundamental change itself does not, due to the financial effect of such repurchase on us.

Similarly, the Credit and Security Agreement under which the 2025 Secured Term Loan was issued includes customary change-of-control provisions, providing the lender with a right to declare all outstanding loan principal to be immediately due and payable, together with accrued and unpaid interest, in connection with a change of control (as such term is defined therein), as well as the right to foreclose on the assets of MacroStrategy serving as collateral for the 2025 Secured Term Loan. In order to obtain sufficient funds to repay the amounts due under the Credit and Security Agreement, we expect that we or MacroStrategy would need to refinance the amount due and may not be able to do so on reasonable terms, if at all.

We may not have the ability to raise the funds necessary to settle for cash conversions of the Convertible Notes

Upon conversion of the 2025 Convertible Notes or the 2027 Convertible Notes, unless we elect (or have previously irrevocably elected) to deliver solely shares of our class A common stock to settle the conversion of such Convertible Notes (other than paying cash in lieu of delivering any fractional share), we will be required to make cash payments in respect of the applicable Convertible Notes being converted as described in the applicable indenture. However, we may not have enough available cash or be able to obtain financing at the time we are required to pay cash with respect to such notes being converted. In addition, our ability to pay cash upon conversions of the Convertible Notes may be limited by law, regulatory authority, the covenants contained in the indenture governing the 2028 Secured Notes, or agreements governing any future indebtedness. Our failure to pay any cash payable on future conversions of the Convertible Notes as required by the respective indentures would constitute a default under the indenture for that series of Convertible Notes and could also lead to a default under the indenture for the other series of Convertible Notes or the 2028 Secured Notes. A default under any indenture could also lead to a default under agreements governing any future indebtedness. If the repayment of the related indebtedness were to be accelerated after any applicable notice or grace periods, we may not have sufficient funds to repay the indebtedness.

The conditional conversion feature of the Convertible Notes, if triggered, may adversely affect our financial condition and operating results

In the event the conditional conversion feature of either the 2025 Convertible Notes or the 2027 Convertible Notes is triggered, holders of the applicable Convertible Notes will be entitled to convert such notes at any time during specified periods at their option. If one or more holders elect to convert their Convertible Notes, unless we elect to satisfy our conversion obligation by delivering solely shares of our class A common stock (other than paying cash in lieu of delivering any fractional share), we would be required to settle a portion or all of our conversion obligation through the payment of cash, which could adversely affect our liquidity. In addition, even if holders do not elect to convert their Convertible Notes, we could be required under applicable accounting rules to reclassify all or a portion of the outstanding principal of the applicable Convertible Notes as a current rather than long-term liability, which would result in a material reduction of our net working capital.

We rely on the receipt of funds from our subsidiaries in order to meet our cash needs and service our indebtedness, including the 2028 Secured Notes, the Convertible Notes, and our other long-term indebtedness, and certain of our subsidiaries holding digital assets may not provide any dividends, distributions, or other payments to us to fund our obligations and meet our cash needs

We depend on dividends, distributions, and other payments from our subsidiaries to fund our obligations, including those arising under the 2028 Secured Notes, the Convertible Notes, and our other long-term indebtedness, and meet our cash needs. The operating results of our subsidiaries at any given time may not be sufficient to make dividends, distributions, or other payments to us in order to allow us to make payments on the 2028 Secured Notes, the Convertible Notes, and our other long-term indebtedness. Our wholly-owned subsidiary, MacroStrategy, which holds the bitcoin that we owned prior to the issuance of the 2028 Secured Notes, the bitcoin that MacroStrategy acquired using the proceeds from the 2025 Secured Term Loan, and the bitcoin that MacroStrategy acquired from the proceeds of the sale of our class A shares pursuant to the 2021 Open Market Sale Agreement with Jefferies LLC, as agent (the “2021 Open Market Sale Agreement”) and the 2022 Sales Agreement, is not obligated to provide and may in the future be prohibited from providing any dividends, distributions, or other payments to us to fund our obligations and meet our cash needs under such indebtedness. MacroStrategy holds approximately 117,610 bitcoins that, as of December 31, 2022, had a carrying value of \$1.610 billion on our Consolidated Balance Sheet, representing 66.8% of our consolidated total assets at such date. As of December 31, 2022, approximately 34,619 bitcoins held by MacroStrategy are pledged as collateral under the Credit and Security Agreement that secures MacroStrategy’s obligations under the 2025 Secured Term Loan. In addition, dividends, distributions, or other payments, as well as other transfers of assets, between our subsidiaries and from our subsidiaries to us may be subject to legal, regulatory, or contractual restrictions, which may materially adversely affect our ability to transfer cash within our consolidated companies and our ability to meet our cash needs and service our indebtedness.

Despite our current level of indebtedness, we may be able to incur substantially more indebtedness and enter into other transactions in the future which could further exacerbate the risks related to our indebtedness

Although the indenture governing our 2028 Secured Notes contains, and future debt instruments may contain, restrictions on the incurrence of additional indebtedness and entering into certain types of other transactions, these restrictions are subject to a number of qualifications and exceptions and we may be able to incur significant additional indebtedness in the future. For example, these restrictions do not prevent us from incurring obligations, such as certain trade payables and operating leases, which do not constitute indebtedness as defined under our debt instruments. To the extent we incur additional indebtedness or other obligations, the risks described herein with respect to our indebtedness may increase significantly.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

As of December 31, 2022, we leased approximately 190,000 square feet of office space at a location in Northern Virginia that serves as our corporate headquarters. This lease provides for certain tenant allowances and incentives and will expire in December 2030. In December 2020, we exercised an option to early terminate approximately 24,000 square feet of space at our corporate headquarters at the beginning of January 2022.

In addition, we utilize offices in U.S. and foreign locations for our services and support, sales and marketing, research and development, and administrative personnel. As of December 31, 2022, we utilized approximately 26,000 square feet of office and other space in the United States, in addition to our corporate headquarters, and approximately 102,000 square feet of office space in various foreign locations.

Item 3. Legal Proceedings

We are involved in various legal proceedings arising in the normal course of business, including the matter described below. Although the outcomes of these legal proceedings are inherently difficult to predict, we do not expect the resolution of these legal proceedings to have a material adverse effect on our financial position, results of operations, or cash flows.

On August 31, 2022, the District of Columbia (the “District”), through its Office of the Attorney General, filed a civil complaint in the Superior Court of the District of Columbia naming as defendants (i) Michael J. Saylor, the Chairman of our Board of Directors and our Executive Chairman, in his personal capacity, and (ii) the Company. The District is seeking, among other relief, monetary damages under the District’s False Claims Act for the alleged failure of Mr. Saylor to pay personal income taxes to the District over a number of years together with penalties, interest, and treble damages. The complaint alleges that the amount of personal income taxes purportedly involved is more than \$25 million. The complaint also alleges that we violated the District’s False Claims Act by conspiring to assist Mr. Saylor’s alleged failure to pay personal income taxes. We believe that the District’s claims against us have no merit and we are defending aggressively against these allegations. On October 26, 2022, we filed a motion to dismiss the District’s complaint. We filed a motion to stay discovery on September 28, 2022, and the court granted this motion on October 28, 2022. The outcome of this matter is not presently determinable.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

Item 5. Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Our class A common stock is traded on the Nasdaq Global Select Market under the symbol “MSTR.” There is no established public trading market for our class B common stock. As of February 2, 2023, there were approximately 990 stockholders of record of our class A common stock and two stockholders of record of our class B common stock.

Holders of our class A common stock generally have the same rights as holders of our class B common stock, except that holders of class A common stock have one vote per share while holders of class B common stock have ten votes per share.

We have never declared or paid any cash dividends on either our class A or class B common stock and have no current plans to declare or pay any such dividends.

Information regarding our equity compensation plans and the securities authorized for issuance thereunder is incorporated herein by reference to “Part III. Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.”

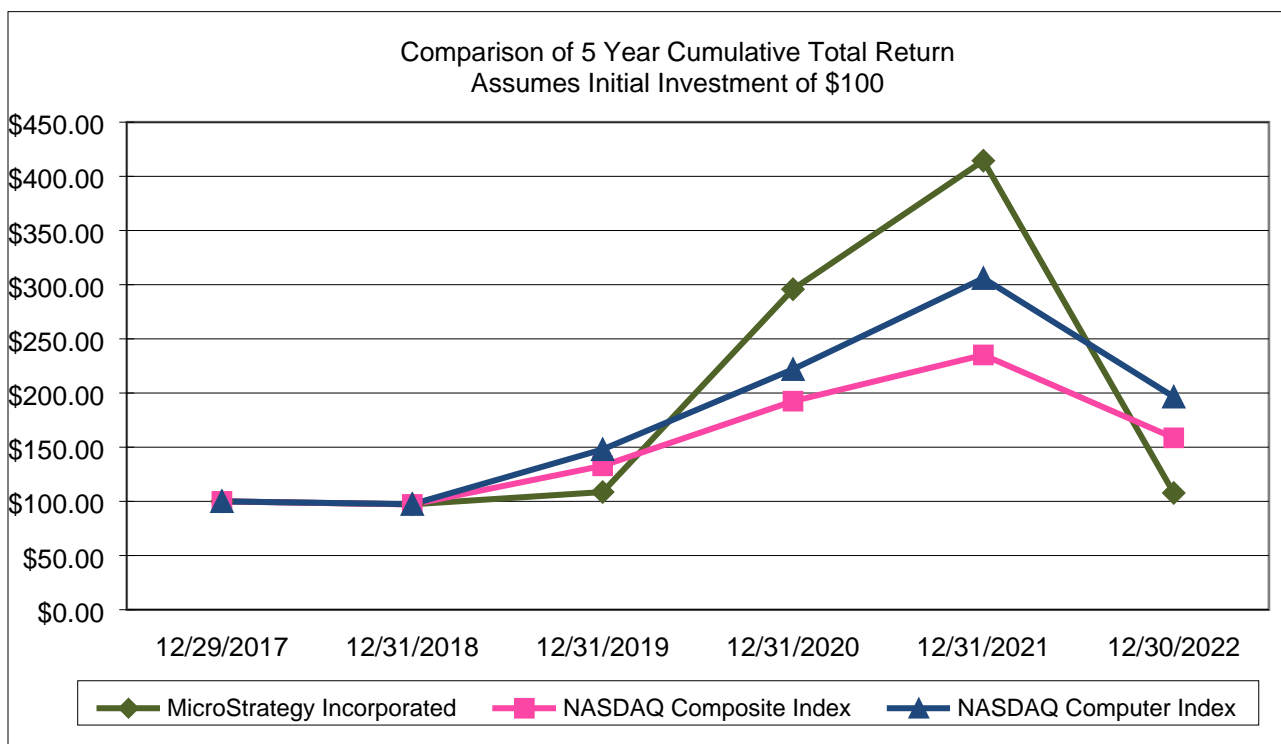
The following table provides information about our repurchases of equity securities that are registered by us pursuant to Section 12 of the Exchange Act during the periods indicated:

Period	(a) Total Number of Shares (or Units) Purchased	(b) Average Price Paid per Share (or Unit) (1)	(c) Total Number of Shares (or Units) Purchased as Part of Publicly Announced Plans or Programs (1)	(d) Maximum Number (or Approximate Dollar Value) of Shares (or Units) that May Yet Be Purchased Under the Plans or Programs (1)
October 1, 2022 – October 31, 2022	0	N/A	0	\$ 209,137,964
November 1, 2022 – November 30, 2022	0	N/A	0	\$ 209,137,964
December 1, 2022 – December 31, 2022	0	N/A	0	\$ 209,137,964
Total:	0	N/A	0	\$ 209,137,964

- (1) On July 28, 2005, we announced that the Board of Directors authorized us to repurchase up to an aggregate of \$300.0 million of our class A common stock from time to time on the open market (the “Share Repurchase Program”). The Share Repurchase Program was subsequently amended to authorize us to repurchase up to an aggregate of \$800.0 million of our class A common stock through April 29, 2023, although the program may be suspended or discontinued by us at any time. The timing and amount of any shares repurchased will be determined by management based on its evaluation of market conditions and other factors. The Share Repurchase Program may be funded using our working capital, as well as proceeds from any other funding arrangements that we may enter into in the future. As of December 31, 2022, pursuant to the Share Repurchase Program, we had repurchased an aggregate of 5,674,226 shares of our class A common stock at an average price per share of \$104.13 and an aggregate cost of \$590.9 million. As of December 31, 2022, \$209.1 million of our class A common stock remained available for repurchase pursuant to the Share Repurchase Program. The average price per share and aggregate cost amounts disclosed above include broker commissions.

Performance Graph

The following graph compares the cumulative total stockholder return on our class A common stock from December 29, 2017 (the last trading day before the beginning of our fifth preceding fiscal year) to December 30, 2022 (the last trading day of the fiscal year ended December 31, 2022) with the cumulative total return of (i) the Total Return Index for The Nasdaq Stock Market (U.S. Companies) (the “Nasdaq Composite Index”) and (ii) the Nasdaq Computer Index. The graph assumes the investment of \$100.00 on December 29, 2017 in our class A common stock, the Nasdaq Composite Index, and the Nasdaq Computer Index, and assumes that any dividends are reinvested. Measurement points are December 29, 2017, December 31, 2018, December 31, 2019, December 31, 2020, December 31, 2021, and December 30, 2022.



	12/29/17	12/31/18	12/31/19	12/31/20	12/31/21	12/30/22
MicroStrategy Incorporated	\$ 100.00	\$ 97.28	\$ 108.60	\$ 295.81	\$ 414.48	\$ 107.75
Nasdaq Composite Index	\$ 100.00	\$ 97.16	\$ 132.81	\$ 192.47	\$ 235.15	\$ 158.65
Nasdaq Computer Index	\$ 100.00	\$ 97.38	\$ 147.97	\$ 221.92	\$ 305.94	\$ 196.49

NOTE: Prepared by Zacks Investment Research, Inc. Used with permission. All rights reserved. Copyright 1980-2023.

NOTE: Index Data: Copyright NASDAQ OMX, Inc. Used with permission. All rights reserved.

Item 6. [Reserved]

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

Forward-Looking Information

The following discussion and analysis provides information which our management believes is relevant to an assessment and understanding of our financial condition and results of operations. This discussion and analysis should be read together with our consolidated financial statements and related notes that are included elsewhere in this Annual Report on Form 10-K. In addition to historical financial information, this discussion and analysis contains forward-looking statements that are based upon our current expectations, beliefs, estimates and projections, and various assumptions, many of which, by their nature, are inherently uncertain and beyond our control. See the section of this Annual Report on Form 10-K entitled “Forward Looking Information and Risk Factor Summary.” Actual results and timing of selected events may differ materially from those anticipated in these forward-looking statements as a result of various factors, including those set forth under “Part I. Item 1A. Risk Factors” or elsewhere in this Annual Report on Form 10-K.

Management’s Discussion and Analysis for the Year Ended December 31, 2020

Management’s discussion and analysis of financial condition and results of operations for the year ended December 31, 2020, including comparison of our results for the years ended December 31, 2021 and 2020, is included in Item 7 of our Annual Report on Form 10-K for the year ended December 31, 2021.

Business Overview

MicroStrategy® pursues two corporate strategies in the operation of its business. One strategy is to acquire and hold bitcoin and the other strategy is to grow our enterprise analytics software business. We believe that undertaking these two, interdependent corporate strategies serves as a key differentiator for our business, as our bitcoin acquisition strategy has raised our profile with certain potential software customers while our enterprise analytics software business has provided stable cash flows that allow us to acquire and hold bitcoin for the long-term.

Our bitcoin acquisition strategy generally involves acquiring bitcoin with our liquid assets that exceed working capital requirements, and from time to time, subject to market conditions, issuing debt or equity securities or engaging in other capital raising transactions with the objective of using the proceeds to purchase bitcoin. We view our bitcoin holdings as long-term holdings and expect to continue to accumulate bitcoin. We have not set any specific target for the amount of bitcoin we seek to hold, and we will continue to monitor market conditions in determining whether to engage in additional financings to purchase additional bitcoin. This overall strategy also contemplates that we may (i) periodically sell bitcoin for general corporate purposes, including to generate cash for treasury management or in connection with strategies that generate tax benefits in accordance with applicable law, (ii) enter into additional capital raising transactions that are collateralized by our bitcoin holdings, and (iii) consider pursuing additional strategies to create income streams or otherwise generate funds using our bitcoin holdings.

We believe that bitcoin is attractive because it can serve as a store of value, supported by a robust and public open-source architecture, that is untethered to sovereign monetary policy. We also believe that, due to its limited supply, bitcoin offers the opportunity for appreciation in value if its adoption increases and has the potential to serve as a hedge against inflation in the long-term. In addition, we believe that our bitcoin acquisition strategy is complementary to our enterprise analytics software business, as we believe that our bitcoin and related activities in support of the bitcoin network enhance awareness of our brand.

As of February 15, 2023, we hold approximately 132,500 bitcoin that were acquired at an aggregate purchase price of \$3.993 billion and an average purchase price of approximately \$30,137 per bitcoin, inclusive of fees and expenses.

MicroStrategy is also a global leader in enterprise analytics software and services. Since our founding in 1989, we have focused on empowering organizations to leverage the immense value of data. Our vision is to enable Intelligence Everywhere™ by providing world-class software and services that elevate enterprise users with actionable insights.

Our customers include leading companies from a wide range of industries, including retail, banking, technology, consulting, manufacturing, insurance, healthcare, telecommunications, as well as the public sector.

The analytics market is highly competitive. Our future success depends on the effectiveness with which we can differentiate our offerings from those offered by large software vendors that provide products across multiple lines of business, including one or more products that directly compete with our offerings, and other potential competitors across analytics implementation projects of varying sizes. We believe a key differentiator of MicroStrategy is our modern, open, comprehensive enterprise platform that can be extended to other tools and systems, can scale across the enterprise, is optimized for cloud or on-premises deployments, and can be combined with unique packages of our expert services and education offerings.

Our Bitcoin Acquisition Strategy

In September 2020, our Board of Directors adopted a Treasury Reserve Policy (as amended to date, the “Treasury Reserve Policy”) that updated our treasury management and capital allocation strategies, under which our treasury reserve assets will consist of:

- cash and cash equivalents and short-term investments (“Cash Assets”) held by us that exceed working capital requirements; and
- bitcoin held by us, with bitcoin serving as the primary treasury reserve asset on an ongoing basis, subject to market conditions and anticipated needs of the business for Cash Assets.

In the first quarter of 2021, we adopted, in addition to and in conjunction with our Treasury Reserve Policy, a corporate strategy of acquiring and holding bitcoin. Pursuant to this corporate strategy, and from time to time, subject to market conditions, we issue debt or equity securities or engage in other capital raising transactions with the objective of using the proceeds to purchase bitcoin.

During 2021 and 2022, we used the proceeds of the following capital raising transactions to purchase bitcoin. The transactions are further described in the “—Liquidity and Capital Resources— Long-term Debt” and “—Liquidity and Capital Resources— At-the-Market Equity Offerings” sections under this “Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations”:

- \$1.050 billion aggregate principal amount of 2027 Convertible Notes issued in February 2021;
- \$500.0 million aggregate principal amount of 6.125% Senior Secured Notes due 2028 (the “2028 Secured Notes”) issued in June 2021;
- 1,413,767 shares of class A common stock issued during 2021, for aggregate gross proceeds of \$1.0 billion pursuant to our 2021 Open Market Sale Agreement with Jefferies LLC, as agent (“Jefferies”);
- \$205.0 million aggregate principal amount of the 2025 Secured Term Loan issued in March 2022; and
- 218,575 shares of class A common stock issued during 2022, for aggregate gross proceeds of \$46.6 million pursuant to our 2022 Sales Agreement with the 2022 Sales Agents.

As of December 31, 2022, we held an aggregate of approximately 132,500 bitcoins, with 14,890 bitcoins held directly by MicroStrategy Incorporated and 117,610 bitcoins held by MacroStrategy LLC, a wholly-owned subsidiary of MicroStrategy. As of December 31, 2022, all of the approximately 14,890 bitcoins held directly by MicroStrategy Incorporated serve as part of the collateral securing the 2028 Secured Notes, and approximately 34,619 of the 117,610 bitcoins held by MacroStrategy serve as part of the collateral securing the 2025 Secured Term Loan.

The following table presents a roll-forward of our bitcoin holdings, including additional information related to our bitcoin purchases, sales, and digital asset impairment losses within the respective periods:

	Source of Capital Used to Purchase Bitcoin	Digital Asset Original Cost Basis (in thousands)	Digital Asset Impairment Losses (in thousands)	Digital Asset Carrying Value (in thousands)	Approximate Number of Bitcoins Held (Disposed)	Approximate Average Purchase or Sale Price Per Bitcoin
Balance at December 31, 2020		\$ 1,125,000	\$ (70,698)	\$ 1,054,302	70,469	\$ 15,964
Digital asset purchases	(a)	2,626,529		2,626,529	53,922	48,710
Digital asset impairment losses			(830,621)	(830,621)		
Balance at December 31, 2021		\$ 3,751,529	\$ (901,319)	\$ 2,850,210	124,391	\$ 30,159
Digital asset purchases	(b)	287,921		287,921	8,813	32,670
Digital asset impairment losses			(1,287,213)	(1,287,213)		
Digital asset sales *		(46,260)	35,370	(10,890)	(704)	16,786
Balance at December 31, 2022		\$ 3,993,190	\$ (2,153,162)	\$ 1,840,028	132,500	\$ 30,137

* During 2022, we sold approximately 704 bitcoins having an original cost basis of \$46.3 million and cumulative digital asset impairment losses of \$35.4 million, resulting in a carrying value of \$10.9 million at the time of sale. The approximately 704 bitcoins were sold for cash proceeds of \$11.8 million, net of fees and expenses, resulting in gains on sale of \$0.9 million.

(a) During 2021, we purchased bitcoin using \$1.026 billion in net proceeds from our issuance of the 2027 Convertible Notes, \$990.5 million in net proceeds from our sale of 1,413,767 shares of class A common stock offered under the 2021 Open Market Sale Agreement, \$487.2 million in net proceeds from our issuance of the 2028 Secured Notes, and Excess Cash.

(b) During 2022, we purchased bitcoin using \$190.5 million of the net proceeds from the issuance of the 2025 Secured Term Loan, \$44.6 million of the net proceeds from our sale of class A common stock offered under the 2022 Sales Agreement, \$11.8 million in proceeds from sales of bitcoin, and Excess Cash.

Excess Cash refers to cash in excess of the minimum Cash Assets that we are required to hold under our Treasury Reserve Policy, which may include cash generated by operating activities and cash from the proceeds of financing activities.

The following table shows the approximate number of bitcoins held at the end of each respective period, as well as market value calculations of our bitcoin holdings based on the lowest, highest, and ending market prices of one bitcoin on the Coinbase exchange (our principal market) for each respective year, as further defined below:

	Approximate Number of Bitcoins Held at End of Year	Lowest Market Price Per Bitcoin During Year (a)	Market Value of Bitcoin Held at End of Year Using Lowest Market Price (in thousands) (b)	Highest Market Price Per Bitcoin During Year (c)	Market Value of Bitcoin Held at End of Year Using Highest Market Price (in thousands) (d)	Market Price Per Bitcoin at End of Year (e)	Market Value of Bitcoin Held at End of Year Using Ending Market Price (in thousands) (f)
December 31, 2020	70,469	\$ 8,905.84	\$ 627,586	\$ 29,321.90	\$ 2,066,285	\$ 29,181.00	\$ 2,056,356
December 31, 2021	124,391	\$ 27,678.00	\$ 3,442,894	\$ 69,000.00	\$ 8,582,979	\$ 45,879.97	\$ 5,707,055
December 31, 2022	132,500	\$ 15,460.00	\$ 2,048,450	\$ 48,240.00	\$ 6,391,800	\$ 16,556.32	\$ 2,193,712

- The "Lowest Market Price Per Bitcoin During Year" represents the lowest market price for one bitcoin reported on the Coinbase exchange during the respective year, without regard to when we purchased any of our bitcoin. For the year ended December 31, 2020, the lowest market price reported in the above table reflects the lowest market price for one bitcoin reported on the Coinbase exchange during the period July 1, 2020 (the beginning of the first quarterly period that we purchased and held bitcoin) to December 31, 2020.
- The "Market Value of Bitcoin Held Using Lowest Market Price" represents a mathematical calculation consisting of the lowest market price for one bitcoin reported on the Coinbase exchange during the respective year (or for 2020, during the period July 1, 2020 to December 31, 2020) multiplied by the number of bitcoins held by us at the end of the applicable year.
- The "Highest Market Price Per Bitcoin During Year" represents the highest market price for one bitcoin reported on the Coinbase exchange during the respective year, without regard to when we purchased any of our bitcoin. For the year ended December 31, 2020, the highest market price reported in the above table reflects the highest market price for one bitcoin reported on the Coinbase exchange during the period July 1, 2020 to December 31, 2020.
- The "Market Value of Bitcoin Held Using Highest Market Price" represents a mathematical calculation consisting of the highest market price for one bitcoin reported on the Coinbase exchange during the respective year (or for 2020, during the period July 1, 2020 to December 31, 2020) multiplied by the number of bitcoins held by us at the end of the applicable year.
- The "Market Price Per Bitcoin at End of Year" represents the market price of one bitcoin on the Coinbase exchange at 4:00 p.m. Eastern Time on the last day of the respective year.
- The "Market Value of Bitcoin Held at End of Year Using Ending Market Price" represents a mathematical calculation consisting of the market price of one bitcoin on the Coinbase exchange at 4:00 p.m. Eastern Time on the last day of the respective year multiplied by the number of bitcoins held by us at the end of the applicable year.

The amounts reported as "Market Value" in the above table represent only a mathematical calculation consisting of the price for one bitcoin reported on the Coinbase exchange (our principal market) in each scenario defined above multiplied by the number of bitcoins held by us at the end of the applicable year. The Securities and Exchange Commission has previously stated that there has not been a demonstration that (i) bitcoin and bitcoin markets are inherently resistant to manipulation or that the spot price of bitcoin may not be subject to fraud and manipulation; and (ii) adequate surveillance-sharing agreements with bitcoin-related markets are in place, as bitcoin-related markets are either not significant, not regulated, or both. Accordingly, the Market Value amounts reported above may not accurately represent fair market value, and the actual fair market value of our bitcoin may be different from such amounts and such deviation may be material. Moreover, (i) the bitcoin market historically has been characterized by significant volatility in price, limited liquidity and trading volumes compared to sovereign currencies markets, relative anonymity, a developing regulatory landscape, potential susceptibility to market abuse and manipulation, and various other risks that are, or may be, inherent in its entirely electronic, virtual form and decentralized network and (ii) we may not be able to sell our bitcoins at the Market Value amounts indicated above, at the market price as reported on the Coinbase exchange (our principal market) on the date of sale, or at all.

Our digital asset impairment losses, net of gains on sale, have significantly contributed to our operating expenses and net loss. During 2022, digital asset impairment losses, net of gains on sale, of \$1.286 billion represented 76.9% of our operating expenses, contributing to our net loss of \$1.470 billion for 2022, compared to digital asset impairment losses of \$830.6 million during 2021, representing 69.0% of our operating expenses and contributing to our net loss of \$535.5 million for 2021.

As of February 15, 2023, we held approximately 132,500 bitcoins that were acquired at an aggregate purchase price of \$3.993 billion and an average purchase price of approximately \$30,137 per bitcoin, inclusive of fees and expenses. As of February 15, 2023, at 4:00 p.m. Eastern Time, the market price of one bitcoin reported on the Coinbase exchange was \$24,163.86.

Impact of COVID-19 on Our Software Strategy

The COVID-19 pandemic has resulted, and may continue to result, in significant economic disruption and uncertainty continues to exist concerning the impact of the COVID-19 pandemic on our customers' and prospects' business and operations in future periods. Although our total revenues for the years ended December 31, 2022 and 2021 were not materially impacted by COVID-19, our revenues may be negatively impacted in future periods.

Effects of the COVID-19 pandemic that may negatively impact our business in future periods include, but are not limited to: limitations on the ability of our customers to conduct their businesses, purchase our products and services, and make timely payments; curtailed consumer spending; deferred purchasing decisions; delayed consulting services implementations; decreases in product licenses revenues driven by channel partners; and compliance costs and business disruptions associated with certain government requirements and recommendations adopted in response to the pandemic. We will continue to actively monitor the nature and extent of the impact to our business, operating results, and financial condition.

Operating Highlights

The following table sets forth certain operating highlights (in thousands) for the years ended December 31, 2022 and 2021:

	<u>Years Ended December 31,</u>	
	<u>2022</u>	<u>2021</u>
Revenues		
Product licenses	\$ 86,498	\$ 101,804
Subscription services	60,746	43,069
Total product licenses and subscription services	147,244	144,873
Product support	266,521	281,209
Other services	85,499	84,680
Total revenues	499,264	510,762
Cost of revenues		
Product licenses	1,672	1,721
Subscription services	24,770	16,901
Total product licenses and subscription services	26,442	18,622
Product support	21,264	19,254
Other services	55,283	54,033
Total cost of revenues	102,989	91,909
Gross profit	396,275	418,853
Operating expenses		
Sales and marketing	146,882	160,141
Research and development	127,428	117,117
General and administrative	111,421	95,501
Digital asset impairment losses (gains on sale), net	1,286,286	830,621
Total operating expenses	1,672,017	1,203,380
Loss from operations	\$ (1,275,742)	\$ (784,527)

We have incurred and may continue to incur significant impairment losses on our digital assets and we have recognized and may continue to recognize gains upon sale of our digital assets in the future, which are presented net of any impairment losses within operating expenses. In addition, we base our internal operating expense forecasts on expected revenue trends and strategic objectives in our enterprise analytics software business. Many of our expenses, such as office leases and certain personnel costs, are relatively fixed. Accordingly, any decrease in the price of bitcoin during any quarter, any sales by us of our bitcoin at prices above their then current carrying costs or any shortfall in revenue in our software business may cause significant variation in our operating results. We therefore believe that quarter-to-quarter comparisons of our operating results may not be a good indication of our future performance.

Share-based Compensation Expense

As discussed in Note 11, Share-based Compensation, to the Consolidated Financial Statements, we have outstanding stock options to purchase shares of our class A common stock, restricted stock units, each of which represents a right to receive a share of our class A common stock upon the satisfaction of applicable vesting requirements, and certain other stock-based awards under our 2013 Equity Plan. We also provide opportunities to eligible employees to purchase shares of our class A common stock under our 2021 Employee Stock Purchase Plan (the “2021 ESPP”). Share-based compensation expense (in thousands) from these awards was recognized in the following cost of revenues and operating expense line items for the periods indicated:

	Years Ended December 31,	
	2022	2021
Cost of subscription services revenues	\$ 304	\$ 282
Cost of product support revenues	2,039	1,176
Cost of consulting revenues	1,754	799
Cost of education revenues	177	112
Sales and marketing	18,274	12,875
Research and development	13,896	10,757
General and administrative	27,175	18,125
Total share-based compensation expense	<u>\$ 63,619</u>	<u>\$ 44,126</u>

The \$19.5 million increase in share-based compensation expense during 2022, as compared to the prior year, is primarily due to the continued expansion of our equity award programs worldwide. As of December 31, 2022, we estimated that an aggregate of approximately \$171.0 million of additional share-based compensation expense associated with the 2013 Equity Plan and the 2021 ESPP will be recognized over a remaining weighted average period of 2.7 years.

Non-GAAP Financial Measures

We are providing supplemental financial measures for (i) non-GAAP loss from operations that excludes the impact of our share-based compensation expense, (ii) non-GAAP net loss and non-GAAP diluted loss per share that exclude the impact of our share-based compensation expense, interest expense arising from the amortization of debt issuance costs on our long-term debt, and related income tax effects, and (iii) certain non-GAAP constant currency revenues, cost of revenues, and operating expenses that exclude foreign currency exchange rate fluctuations. These supplemental financial measures are not measurements of financial performance under generally accepted accounting principles in the United States (“GAAP”) and, as a result, these supplemental financial measures may not be comparable to similarly titled measures of other companies. Management uses these non-GAAP financial measures internally to help understand, manage, and evaluate our business performance and to help make operating decisions.

We believe that these non-GAAP financial measures are also useful to investors and analysts in comparing our performance across reporting periods on a consistent basis. The first supplemental financial measure excludes a significant non-cash expense that we believe is not reflective of our general business performance, and for which the accounting requires management judgment and the resulting share-based compensation expense could vary significantly in comparison to other companies. The second set of supplemental financial measures excludes the impacts of (i) share-based compensation expense, (ii) non-cash interest expense arising from the amortization of debt issuance costs related to our long-term debt, and (iii) related income tax effects. The third set of supplemental financial measures excludes changes resulting from fluctuations in foreign currency exchange rates so that results may be compared to the same period in the prior year on a non-GAAP constant currency basis. We believe the use of these non-GAAP financial measures can also facilitate comparison of our operating results to those of our competitors.

Non-GAAP financial measures are subject to material limitations as they are not measurements prepared in accordance with GAAP, and are not a substitute for such measurements. For example, we expect that share-based compensation expense, which is excluded from the first two non-GAAP financial measures, will continue to be a significant recurring expense over the coming years and is an important part of the compensation provided to certain employees, officers, and directors. Similarly, we expect that interest expense arising from the amortization of debt issuance costs will continue to be a recurring expense over the term of the long-term debt. Our non-GAAP financial measures are not meant to be considered in isolation and should be read only in conjunction with our Consolidated Financial Statements, which have been prepared in accordance with GAAP. We rely primarily on such Consolidated Financial Statements to understand, manage, and evaluate our business performance and use the non-GAAP financial measures only supplementally.

The following is a reconciliation of our non-GAAP loss from operations, which excludes the impact of share-based compensation expense, to its most directly comparable GAAP measures (in thousands) for the periods indicated:

	Years Ended December 31,	
	2022	2021
Reconciliation of non-GAAP loss from operations:		
Loss from operations	\$ (1,275,742)	\$ (784,527)
Share-based compensation expense	63,619	44,126
Non-GAAP loss from operations	<u>\$ (1,212,123)</u>	<u>\$ (740,401)</u>

The following are reconciliations of our non-GAAP net loss and non-GAAP diluted loss per share, in each case excluding the impacts of (i) share-based compensation expense, (ii) interest expense arising from the amortization of debt issuance costs on our long-term debt, and (iii) related income tax effects to their most directly comparable GAAP measures (in thousands, except per share data) for the periods indicated:

	Years Ended December 31,	
	2022	2021
Reconciliation of non-GAAP net loss:		
Net loss	\$ (1,469,797)	\$ (535,480)
Share-based compensation expense	63,619	44,126
Interest expense arising from amortization of debt issuance costs	8,694	7,201
Income tax effects (1)	(13,250)	(47,976)
Non-GAAP net loss	<u>\$ (1,410,734)</u>	<u>\$ (532,129)</u>
Reconciliation of non-GAAP diluted loss per share (2):		
Diluted loss per share	\$ (129.83)	\$ (53.44)
Share-based compensation expense (per diluted share)	5.62	4.40
Interest expense arising from amortization of debt issuance costs (per diluted share)	0.77	0.72
Income tax effects (per diluted share)	(1.17)	(4.79)
Non-GAAP diluted loss per share	<u>\$ (124.61)</u>	<u>\$ (53.11)</u>

- (1) Income tax effects reflect the net tax effects of share-based compensation expense, which includes tax benefits and expenses on exercises of stock options and vesting of share-settled restricted stock units, and interest expense for amortization of debt issuance costs.
- (2) For reconciliation purposes, the non-GAAP diluted earnings (loss) per share calculations use the same weighted average shares outstanding as that used in the GAAP diluted earnings (loss) per share calculations for the same period. For example, in periods of GAAP net loss, otherwise dilutive potential shares of common stock from our share-based compensation arrangements and Convertible Notes are excluded from the GAAP diluted loss per share calculation as they would be antidilutive, and therefore are also excluded from the non-GAAP diluted earnings or loss per share calculation.

The following are reconciliations of certain non-GAAP constant currency revenues, cost of revenues, and operating expenses to their most directly comparable GAAP measures (in thousands) for the periods indicated:

	Years Ended December 31,					
	GAAP	Foreign Currency Exchange Rate Impact (1)	Non-GAAP Constant Currency (2)	GAAP	GAAP % Change	Non-GAAP Constant Currency % Change (3)
	2022	2022	2022	2021	2022	2022
Product licenses revenues	\$ 86,498	\$ (4,618)	\$ 91,116	\$ 101,804	-15.0%	-10.5%
Subscription services revenues	60,746	(2,331)	63,077	43,069	41.0%	46.5%
Product support revenues	266,521	(11,570)	278,091	281,209	-5.2%	-1.1%
Other services revenues	85,499	(5,263)	90,762	84,680	1.0%	7.2%
Cost of product support revenues	21,264	(1,130)	22,394	19,254	10.4%	16.3%
Cost of other services revenues	55,283	(4,529)	59,812	54,033	2.3%	10.7%
Sales and marketing expenses	146,882	(6,733)	153,615	160,141	-8.3%	-4.1%
Research and development expenses	127,428	(2,296)	129,724	117,117	8.8%	10.8%
General and administrative expenses	111,421	(1,906)	113,327	95,501	16.7%	18.7%

	Years Ended December 31,					
	GAAP	Foreign Currency Exchange Rate Impact (1)	Non-GAAP Constant Currency (2)	GAAP	GAAP % Change	Non-GAAP Constant Currency % Change (3)
	2021	2021	2021	2020	2021	2021
Product licenses revenues	\$ 101,804	\$ (858)	\$ 102,662	\$ 86,743	17.4%	18.4%
Subscription services revenues	43,069	519	42,550	33,082	30.2%	28.6%
Product support revenues	281,209	3,816	277,393	284,434	-1.1%	-2.5%
Other services revenues	84,680	1,118	83,562	76,476	10.7%	9.3%
Cost of product support revenues	19,254	33	19,221	23,977	-19.7%	-19.8%
Cost of other services revenues	54,033	341	53,692	49,952	8.2%	7.5%
Sales and marketing expenses	160,141	323	159,818	148,910	7.5%	7.3%
Research and development expenses	117,117	1,586	115,531	103,561	13.1%	11.6%
General and administrative expenses	95,501	276	95,225	80,136	19.2%	18.8%

- (1) The “Foreign Currency Exchange Rate Impact” reflects the estimated impact of fluctuations in foreign currency exchange rates on international components of our Consolidated Statements of Operations. It shows the increase (decrease) in material international revenues or expenses, as applicable, from the same period in the prior year, based on comparisons to the prior year quarterly average foreign currency exchange rates. The term “international” refers to operations outside of the United States and Canada.
- (2) The “Non-GAAP Constant Currency” reflects the current period GAAP amount, less the Foreign Currency Exchange Rate Impact.
- (3) The “Non-GAAP Constant Currency % Change” reflects the percentage change between the current period Non-GAAP Constant Currency amount and the GAAP amount for the same period in the prior year.

Critical Accounting Estimates

Our discussion and analysis of our financial condition and results of operations are based on our Consolidated Financial Statements, which have been prepared in accordance with GAAP. See Note 2, Summary of Significant Accounting Policies, to the Consolidated Financial Statements for a description of our significant accounting policies. As described in Note 2, the preparation of our Consolidated Financial Statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, and equity, the disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. Actual results and outcomes could differ from these estimates and assumptions.

Critical accounting estimates involve a significant level of estimation uncertainty and are estimates that have had or are reasonably likely to have a material impact on our financial condition or results of operations. We consider certain estimates and judgments related to revenue recognition to be critical accounting estimates for us, as discussed further below.

Revenue Recognition

See Note 2(n), Summary of Significant Accounting Policies – Revenue Recognition, to the Consolidated Financial Statements for information regarding our significant accounting policies over revenue recognition.

Many of our contracts with customers include multiple performance obligations, and we make estimates and judgments to allocate the transaction price to each performance obligation based on an observable or estimated standalone selling price (“SSP”). The SSP is the price, or estimated price, of the software or service when sold on a standalone basis at contract inception. We consider our evaluation of SSP to be a critical accounting estimate.

An observable price of a good or service sold separately provides the best evidence of SSP. However, in many situations, SSP will not be readily observable, but must still be estimated using reasonably available information. We have observable standalone selling prices of our product support, consulting services, and education services, and therefore use historical transaction data on a standalone basis, along with our judgment, to establish SSP ranges for each of these services, as described in Note 2(n). However, SSP is not directly observable for product licenses (product licenses are not sold on a standalone basis and pricing is highly variable) and subscription services (the selling price of subscription services is highly variable), and we use a residual approach to establish SSP for these revenue streams. As such, the establishment of SSP of our product support, consulting services, and education services directly impacts the amount of product licenses and subscription services revenues recognized, and therefore also impacts the overall timing of revenue recognition.

We review and analyze the SSP ranges we have established for product support, consulting services, and education services semi-annually, and these SSP ranges have not changed significantly since adopting Accounting Standards Update No. 2014-09, Revenue from Contracts with Customers (Topic 606) and its subsequent amendments (“ASU 2014-09”) effective January 1, 2018. We also perform analyses on a semi-annual basis using historical pricing data for both product license and subscription services transactions to assess whether the selling price is highly variable in order to support our conclusion that the residual method to estimate SSP of our product licenses and subscription services is a fair allocation of the transaction price. We have maintained our conclusion that the residual method is appropriate for our product licenses and subscription services since adopting ASU 2014-09.

In the future, SSP for our software and services could be impacted by various factors, including potential changes in our pricing practices, customer demand for our products and services, and various market or economic conditions. However, we consider the risk of significant volatility in our established SSP to be small given our historical transaction experience and internal processes to monitor SSP ranges on an ongoing basis and work with management in the event a trend that could impact the future ranges is detected.

Results of Operations

Comparison of the Years Ended December 31, 2022 and 2021

Revenues

Except as otherwise indicated herein, the term “domestic” refers to operations in the United States and Canada and the term “international” refers to operations outside of the United States and Canada.

Product licenses and subscription services revenues. The following table sets forth product licenses and subscription services revenues (in thousands) and related percentage changes for the periods indicated:

	Years Ended December 31,		% Change
	2022	2021	
Product Licenses and Subscription Services Revenues:			
Product Licenses			
Domestic	\$ 54,794	\$ 54,107	1.3%
International	31,704	47,697	-33.5%
Total product licenses revenues	<u>86,498</u>	<u>101,804</u>	-15.0%
Subscription Services			
Domestic	42,428	31,306	35.5%
International	18,318	11,763	55.7%
Total subscription services revenues	<u>60,746</u>	<u>43,069</u>	41.0%
Total product licenses and subscription services revenues	<u>\$ 147,244</u>	<u>\$ 144,873</u>	1.6%

The following table sets forth a summary, grouped by size, of the number of recognized product licenses transactions for the periods indicated:

	Years Ended December 31,	
	2022	2021
Product Licenses Transactions with Recognized Licenses Revenue in the Applicable Period:		
More than \$1.0 million in licenses revenue recognized	11	13
Between \$0.5 million and \$1.0 million in licenses revenue recognized	14	19
Total	25	32
<i>Domestic:</i>		
More than \$1.0 million in licenses revenue recognized	9	10
Between \$0.5 million and \$1.0 million in licenses revenue recognized	11	11
Total	20	21
<i>International:</i>		
More than \$1.0 million in licenses revenue recognized	2	3
Between \$0.5 million and \$1.0 million in licenses revenue recognized	3	8
Total	5	11

The following table sets forth the recognized revenue (in thousands) attributable to product licenses transactions, grouped by size, and related percentage changes for the periods indicated:

	Years Ended December 31,		% Change
	2022	2021	
Product Licenses Revenue Recognized in the Applicable Period:			
More than \$1.0 million in licenses revenue recognized	\$ 23,858	\$ 26,838	-11.1%
Between \$0.5 million and \$1.0 million in licenses revenue recognized	9,882	12,809	-22.9%
Less than \$0.5 million in licenses revenue recognized	52,758	62,157	-15.1%
Total	86,498	101,804	-15.0%
<i>Domestic:</i>			
More than \$1.0 million in licenses revenue recognized	20,591	18,391	12.0%
Between \$0.5 million and \$1.0 million in licenses revenue recognized	8,124	7,364	10.3%
Less than \$0.5 million in licenses revenue recognized	26,079	28,352	-8.0%
Total	54,794	54,107	1.3%
<i>International:</i>			
More than \$1.0 million in licenses revenue recognized	3,267	8,447	-61.3%
Between \$0.5 million and \$1.0 million in licenses revenue recognized	1,758	5,445	-67.7%
Less than \$0.5 million in licenses revenue recognized	26,679	33,805	-21.1%
Total	\$ 31,704	\$ 47,697	-33.5%

Product licenses revenues decreased \$15.3 million during 2022, as compared to the prior year. For the years ended December 31, 2022 and 2021, product licenses transactions with more than \$0.5 million in recognized revenue represented 39.0% and 38.9%, respectively, of our product licenses revenues. During 2022, our top three product licenses transactions totaled \$13.1 million in recognized revenue, or 15.1% of total product licenses revenues, compared to \$12.6 million, or 12.4% of total product licenses revenues, during 2021. Our product licenses revenues may experience declines in future periods as we continue to promote our cloud offering to new and existing customers.

Domestic product licenses revenues. Domestic product licenses revenues increased \$0.7 million during 2022, as compared to the prior year, primarily due to an increase in the average deal size of transactions, partially offset by a decrease in the number of transactions with less than \$0.5 million in recognized revenue and a decrease in the number of transactions with more than \$1.0 million in recognized revenue.

International product licenses revenues. International product licenses revenues decreased \$16.0 million during 2022, as compared to the prior year, primarily due to a decrease in the number of transactions and a \$4.6 million unfavorable foreign currency exchange impact.

Subscription services revenues. Subscription services revenues are derived from our MCE cloud subscription service and are recognized ratably over the service period in the contract. Subscription services revenues increased \$17.7 million during 2022, as compared to the prior year, primarily due to conversions to cloud-based subscriptions from existing on-premises customers, an increase in the use of subscription services by existing customers, and sales contracts with new customers, partially offset by a \$2.3 million unfavorable foreign currency exchange impact. We expect our subscription services revenues to continue to grow in future periods as we continue to promote our cloud offering to new and existing customers.

Product support revenues. The following table sets forth product support revenues (in thousands) and related percentage changes for the periods indicated:

	Years Ended December 31,		% Change
	2022	2021	
Product Support Revenues:			
Domestic	\$ 159,385	\$ 161,288	-1.2%
International	107,136	119,921	-10.7%
Total product support revenues	<u>\$ 266,521</u>	<u>\$ 281,209</u>	-5.2%

Product support revenues are derived from providing technical software support and software updates and upgrades to customers. Product support revenues are recognized ratably over the term of the contract, which is generally one year. Product support revenues decreased \$14.7 million during 2022, as compared to the prior year, primarily due to an \$11.6 million unfavorable foreign currency exchange impact and certain existing customers converting from perpetual product licenses with separate support contracts to our subscription services or term product licenses offerings. Our product support revenues may experience declines in future periods as we continue to promote our cloud offering to new and existing customers.

Other services revenues. The following table sets forth other services revenues (in thousands) and related percentage changes for the periods indicated:

	Years Ended December 31,		% Change
	2022	2021	
Other Services Revenues:			
Consulting			
Domestic	\$ 39,147	\$ 36,814	6.3%
International	41,697	42,918	-2.8%
Total consulting revenues	<u>80,844</u>	<u>79,732</u>	1.4%
Education	4,655	4,948	-5.9%
Total other services revenues	<u>\$ 85,499</u>	<u>\$ 84,680</u>	1.0%

Consulting revenues. Consulting revenues are derived from helping customers plan and execute the deployment of our software. Consulting revenues increased \$1.1 million during 2022, as compared to the prior year, primarily due to an increase in average bill rates and an increase in billable hours worldwide, partially offset by a \$5.1 million unfavorable foreign currency exchange impact.

Education revenues. Education revenues are derived from the education and training that we provide to our customers to enhance their ability to fully utilize the features and functionality of our software. These offerings include self-tutorials, custom course development, joint training with customers' internal staff, and standard course offerings, with pricing dependent on the specific offering delivered. Education revenues did not materially change during 2022 as compared to the prior year.

Costs and Expenses

Cost of revenues. The following table sets forth cost of revenues (in thousands) and related percentage changes for the periods indicated:

	Years Ended December 31,		% Change
	2022	2021	
Cost of Revenues:			
Product licenses and subscription services:			
Product licenses	\$ 1,672	\$ 1,721	-2.8%
Subscription services	24,770	16,901	46.6%
Total product licenses and subscription services	26,442	18,622	42.0%
Product support	21,264	19,254	10.4%
Other services:			
Consulting	50,820	48,773	4.2%
Education	4,463	5,260	-15.2%
Total other services	55,283	54,033	2.3%
Total cost of revenues	<u>\$ 102,989</u>	<u>\$ 91,909</u>	12.1%

Cost of product licenses revenues. Cost of product licenses revenues consists of referral fees paid to channel partners, the costs of product manuals and media, and royalties paid to third-party software vendors. Cost of product licenses revenues did not materially change during 2022 as compared to the prior year.

Cost of subscription services revenues. Cost of subscription services revenues consists of equipment, facility and other related support costs (including cloud hosting infrastructure costs), and personnel and related overhead costs. Subscription services headcount increased 52.8% to 110 at December 31, 2022 from 72 at December 31, 2021. Cost of subscription services revenues increased \$7.9 million during 2022, as compared to the prior year, primarily due to (i) a \$5.1 million increase in cloud hosting infrastructure costs, which is a result of the increased usage by new and existing cloud subscription services customers, (ii) a \$1.7 million increase in employee salaries primarily attributable to an increase in average staffing levels and wage increases, and (iii) a \$0.7 million increase in variable compensation. Included in cost of subscription services revenues for 2022 is an aggregate \$0.7 million favorable foreign currency exchange impact.

Cost of product support revenues. Cost of product support revenues consists of personnel and related overhead costs, including those under our Enterprise Support program. Our Enterprise Support program utilizes primarily consulting personnel to provide product support to our customers at our discretion. Compensation related to personnel providing Enterprise Support services is reported as cost of product support revenues. Product support headcount increased 5.2% to 183 at December 31, 2022 from 174 at December 31, 2021. Cost of product support revenues increased \$2.0 million during 2022, as compared to the prior year, primarily due to (i) a \$1.0 million increase in employee salaries primarily attributable to wage increases, (ii) a \$0.9 million net increase in share-based compensation expense primarily attributable to the grant of additional awards under the 2013 Equity Plan, and (iii) a \$0.6 million increase in variable compensation. Included in cost of product support revenues for 2022 is an aggregate \$1.1 million favorable foreign currency exchange impact.

Cost of consulting revenues. Cost of consulting revenues consists of personnel and related overhead costs, excluding those under our Enterprise Support program which are allocated to cost of product support revenues. Consulting headcount increased 8.2% to 447 at December 31, 2022 from 413 at December 31, 2021. Cost of consulting revenues increased \$2.0 million during 2022, as compared to the prior year, primarily due to (i) a \$1.0 million net increase in share-based compensation expense primarily attributable to the grant of additional awards under the 2013 Equity Plan and (ii) a \$0.7 million increase in employee salaries primarily attributable to an increase in average staffing levels and wage increases, partially offset by a shift in staffing levels to lower cost regions, partially offset by (iii) a \$0.9 million decrease in subcontractor costs. Included in cost of consulting revenues for 2022 is an aggregate \$4.3 million favorable foreign currency exchange impact.

Cost of education revenues. Cost of education revenues consists of personnel and related overhead costs. Education headcount decreased 55.6% to 16 at December 31, 2022 from 36 at December 31, 2021. Cost of education revenues decreased \$0.8 million during 2022, as compared to the prior year, primarily due to a \$0.6 million decrease in compensation and related costs primarily attributable to a decrease in average staffing levels.

Sales and marketing expenses. Sales and marketing expenses consist of personnel costs, commissions, office facilities, travel, advertising, public relations programs, and promotional events, such as trade shows, seminars, and technical conferences. Sales and marketing headcount decreased 7.7% to 434 at December 31, 2022 from 470 at December 31, 2021. The following table sets forth sales and marketing expenses (in thousands) and related percentage changes for the periods indicated:

	Years Ended December 31,		% Change
	2022	2021	
Sales and marketing expenses	\$ 146,882	\$ 160,141	-8.3%

Sales and marketing expenses decreased \$13.3 million during 2022, as compared to the prior year, primarily due to (i) a \$17.0 million decrease in variable compensation primarily attributable to a net increase in capitalized commissions and decreases in other personnel costs and employee relations expenses, (ii) a \$1.8 million decrease in employee salaries primarily attributable to a decrease in average staffing levels, partially offset by wage increases, (iii) a \$0.7 million decrease in marketing and advertising costs, (iv) a \$0.7 million decrease in facility and other related support costs, and (v) a \$0.6 million decrease in cloud hosting infrastructure costs, partially offset by (vi) a \$5.4 million net increase in share-based compensation expense primarily attributable to the grant of additional awards under the 2013 Equity Plan, partially offset by the forfeiture of certain awards and the fair value remeasurement of certain liability-classified awards at the end of the reporting period and (vii) a \$1.8 million increase in travel and entertainment expenditures that were undertaken as various COVID-19-related restrictions were lifted. Included in sales and marketing expenses for 2022 is an aggregate \$6.7 million favorable foreign currency exchange impact.

Research and development expenses. Research and development expenses consist of the personnel costs for our software engineering personnel, depreciation of equipment, and other related costs. Research and development headcount decreased 1.6% to 688 at December 31, 2022 from 699 at December 31, 2021. The following table summarizes research and development expenses (in thousands) and related percentage changes for the periods indicated:

	Years Ended December 31,		% Change
	2022	2021	
Research and development expenses	\$ 127,428	\$ 117,117	8.8%

Research and development expenses increased \$10.3 million during 2022, as compared to the prior year, primarily due to (i) a \$6.5 million increase in employee salaries primarily attributable to wage increases and an increase in average staffing levels, partially offset by a shift in staffing levels to lower cost regions, (ii) a \$3.1 million net increase in share-based compensation expense primarily attributable to the grant of additional awards under the 2013 Equity Plan, partially offset by certain awards that became fully vested and the fair value remeasurement of certain liability-classified awards at the end of the reporting period, (iii) a \$1.4 million increase in variable compensation, and (iv) a \$0.5 million increase in consulting and advisory costs, partially offset by (v) a \$1.5 million decrease in facility and other related support costs. Included in research and development expenses for 2022 is an aggregate \$2.3 million favorable foreign currency exchange impact.

General and administrative expenses. General and administrative expenses consist of personnel and related overhead costs, and other costs of our executive, finance, human resources, information systems, and administrative departments, as well as third-party consulting, legal, and other professional fees. General and administrative headcount increased 6.6% to 274 at December 31, 2022 from 257 at December 31, 2021. The following table sets forth general and administrative expenses (in thousands) and related percentage changes for the periods indicated:

	Years Ended December 31,		% Change
	2022	2021	
General and administrative expenses	\$ 111,421	\$ 95,501	16.7%

General and administrative expenses increased \$15.9 million during 2022, as compared to the prior year, primarily due to (i) a \$9.1 million net increase in share-based compensation expense primarily attributable to the grant of additional awards under the 2013 Equity Plan, partially offset by certain awards that became fully vested, (ii) a \$3.1 million increase in costs related to the maintenance and operations of our corporate aircraft, (iii) a \$1.7 million increase in directors and officers liability insurance, (iv) a \$1.3 million increase in employee salaries primarily attributable to wage increases and an increase in average staffing levels, partially offset by a shift in staffing levels to lower cost regions, (v) a \$1.0 million increase in travel and entertainment expenditures that were undertaken as various COVID-19-related restrictions were lifted, (vi) a \$0.9 million increase in employee relations expenses, and (vii) a \$0.5 million increase in facility and other related support costs, partially offset by (viii) a \$1.5 million decrease in custodial fees incurred on our bitcoin holdings. Included in general and administrative expenses for 2022 is an aggregate \$1.9 million favorable foreign currency exchange impact.

Digital asset impairment losses, (gains on sale), net. Digital asset impairment losses are recognized when the carrying value of our digital assets exceeds their lowest fair value at any time since their acquisition. Impaired digital assets are written down to fair value at the time of impairment, and such impairment loss cannot be recovered for any subsequent increases in fair value. Gains (if any) are not recorded until realized upon sale. The following table sets forth digital asset impairment losses (gains on sale), net (in thousands) and related percentage changes for the periods indicated:

	Years Ended December 31,		% Change
	2022	2021	
Digital asset impairment losses	\$ 1,287,213	\$ 830,621	55.0%
Gains on sale of digital assets	\$ 927	\$ 0	n/a
Digital asset impairment losses (gains on sale), net	<u>\$ 1,286,286</u>	<u>\$ 830,621</u>	54.9%

We may continue to incur significant digital asset impairment losses in the future.

Interest Expense, Net

During 2022, interest expense, net, of \$53.1 million was primarily related to the contractual interest expense and amortization of issuance costs related to our long-term debt arrangements. During 2021, interest expense, net, of \$29.1 million was primarily related to the contractual interest expense and amortization of issuance costs related to our long-term debt arrangements, and contractual interest expense incurred on trade credits with Coinbase. Refer to Note 8, Long-term Debt, and Note 4, Digital Assets, to the Consolidated Financial Statements for further information.

Other Income, Net

During 2022, other income, net, of \$6.4 million was comprised primarily of foreign currency transaction net gains. During 2021, other income, net, of \$2.3 million was comprised primarily of foreign currency transaction net gains.

Provision for (Benefit from) Income Taxes

During 2022, we recorded a provision for income taxes of \$147.3 million on a pre-tax loss of \$1.322 billion that resulted in an effective tax rate of (11.1)%, as compared to a benefit from income taxes of \$275.9 million on a pre-tax loss of \$811.4 million that resulted in an effective tax rate of 34.0% during 2021. The change in our effective tax rate in 2022, as compared to the prior year, was primarily due to the establishment of a valuation allowance on our deferred tax asset related to the impairment of our bitcoin holdings, attributable to the decrease in the market value of bitcoin as of December 31, 2022.

The U.S. Tax Cuts and Jobs Act imposed a mandatory deemed repatriation transition tax (“Transition Tax”) on previously untaxed accumulated and current earnings and profits of certain of our foreign subsidiaries. As of December 31, 2022, \$22.1 million of the Transition Tax was unpaid, of which \$16.6 million is included in “Other long-term liabilities” and \$5.5 million is included in “Accounts payable, accrued expenses, and operating lease liabilities” in our Consolidated Balance Sheets.

As of December 31, 2022, we had no U.S. federal net operating loss (“NOL”) carryforwards and \$3.3 million of foreign NOL carryforwards. As of December 31, 2022, digital asset impairment losses, other temporary differences and carryforwards resulted in deferred tax assets, net of valuation allowances and deferred tax liabilities, of \$188.0 million.

As of December 31, 2022, we had a valuation allowance of \$511.4 million primarily related to our deferred tax asset related to the impairment of our bitcoin holdings that, in our present estimation, more likely than not will not be realized. If the market value of bitcoin continues to decline or we are unable to regain profitability in future periods, we may be required to increase further the valuation allowance against our deferred tax assets, which could result in a charge that would materially adversely affect net income (loss) in the period in which the charge is incurred. To the extent the market value of bitcoin rises we may decrease the valuation allowance against our deferred tax asset. We will continue to regularly assess the realizability of deferred tax assets.

Beginning in the third quarter of 2020, we determined to no longer permanently reinvest our foreign earnings and profits. As of December 31, 2022, we recorded a deferred tax liability of \$2.2 million on undistributed foreign earnings related to foreign withholding tax and U.S. state income taxes.

Deferred Revenue and Advance Payments

Deferred revenue and advance payments represent amounts received or due from our customers in advance of our transferring our software or services to the customer. In the case of multi-year service contract arrangements, we generally do not invoice more than one year in advance of services and do not record deferred revenue for amounts that have not been invoiced. Revenue is subsequently recognized in the period(s) in which control of the software or services is transferred to the customer.

The following table summarizes deferred revenue and advance payments (in thousands), as of:

	December 31,	
	2022	2021
Current:		
Deferred product licenses revenue	\$ 2,825	\$ 993
Deferred subscription services revenue	51,861	35,589
Deferred product support revenue	155,366	166,477
Deferred other services revenue	7,376	6,801
Total current deferred revenue and advance payments	<u>\$ 217,428</u>	<u>\$ 209,860</u>
Non-current:		
Deferred product licenses revenue	\$ 2,742	\$ 68
Deferred subscription services revenue	3,030	1,064
Deferred product support revenue	6,387	6,203
Deferred other services revenue	604	754
Total non-current deferred revenue and advance payments	<u>\$ 12,763</u>	<u>\$ 8,089</u>
Total current and non-current:		
Deferred product licenses revenue	\$ 5,567	\$ 1,061
Deferred subscription services revenue	54,891	36,653
Deferred product support revenue	161,753	172,680
Deferred other services revenue	7,980	7,555
Total current and non-current deferred revenue and advance payments	<u>\$ 230,191</u>	<u>\$ 217,949</u>

The portions of multi-year contracts that will be invoiced in the future are not presented on the balance sheet in “Accounts receivable, net” and “Deferred revenue and advance payments” and instead are included in the remaining performance obligation disclosure below. Total deferred revenue and advance payments increased \$12.2 million in 2022, as compared to the prior year, primarily due to an increase in deferred revenue from new subscription services contracts and an increase in deferred license revenue from the early renewal of a large term license deal at the end of 2022, partially offset by a decrease in deferred product support revenue from the timing of product support renewals and an increase in conversions from on-premises to subscription services contracts. Included in our international deferred revenue balances at December 31, 2022 is a \$7.9 million unfavorable foreign currency impact from the general strengthening of the U.S. dollar compared to the prior year.

Our remaining performance obligation represents all future revenue under contract and includes deferred revenue and advance payments and billable non-cancelable amounts that will be invoiced and recognized as revenue in future periods. The remaining performance obligation excludes contracts that are billed in arrears, such as certain time and materials contracts. As of December 31, 2022, we had an aggregate transaction price of \$324.8 million allocated to the remaining performance obligation related to product support, subscription services, product licenses, and other services contracts. We expect to recognize approximately \$241.5 million of the remaining performance obligation over the next 12 months and the remainder thereafter. However, the timing and ultimate recognition of our deferred revenue and advance payments and other remaining performance obligations depend on our satisfaction of various performance obligations, and the amount of deferred revenue and advance payments and remaining performance obligations at any date should not be considered indicative of revenues for any succeeding period.

Liquidity and Capital Resources

Liquidity. Our principal sources of liquidity are cash and cash equivalents and on-going collection of our accounts receivable. Cash and cash equivalents may include holdings in bank demand deposits, money market instruments, certificates of deposit, and U.S. Treasury securities. Under our Treasury Reserve Policy and bitcoin acquisition strategy, we use a significant portion of our cash, including cash generated from capital raising transactions, to acquire bitcoins. As discussed in Note 2(g) Summary of Significant Accounting Policies – Digital Assets, to our Consolidated Financial Statements, our bitcoin are classified as indefinite-lived intangible assets. In September 2022, we entered into a new at-the-market equity offering program, pursuant to which we may from time-to-time issue and sell shares of our class A common stock having an aggregate offering price of up to \$500.0 million. For additional information, see “—At-the-Market Equity Offerings” below.

As of December 31, 2022 and 2021, the amount of cash and cash equivalents held by our U.S. entities was \$14.8 million and \$13.1 million, respectively, and by our non-U.S. entities was \$29.0 million and \$50.3 million, respectively. We earn a significant amount of our revenues outside the United States and we repatriated foreign earnings and profits of \$44.7 million during 2022 and \$57.5 million during 2021.

Our material contractual obligations (explained in further detail in the Notes to the Consolidated Financial Statements, as referenced below) and cash requirements consist of:

- principal and interest payments related to our long-term debt (Note 8, Long-term Debt);
- rent payments under noncancellable operating leases (Note 7, Leases);
- payments related to the Transition Tax (Note 9, Commitments and Contingencies);
- payments under various purchase agreements, primarily related to third-party software supporting our products, marketing, and operations (Note 9, Commitments and Contingencies); and
- ongoing personnel-related expenditures and vendor payments.

We believe that existing cash and cash equivalents held by us and cash and cash equivalents anticipated to be generated by us are sufficient to meet working capital requirements, anticipated capital expenditures, and contractual obligations for at least the next 12 months. Beyond the next 12 months, our long-term cash requirements are primarily for obligations related to our long-term debt. We have principal due upon maturity of our long-term debt instruments in the aggregate of \$2.413 billion in addition to \$2.4 million in coupon interest due each semi-annual period for the 2025 Convertible Notes, \$15.3 million in coupon interest due each semi-annual period for the 2028 Secured Notes, an estimated \$1.3 million due monthly in variable coupon interest for the 2025 Secured Term Loan (based on the interest rate in effect at December 31, 2022), and \$0.1 million due monthly in principal and interest related to our other long-term secured debt. We also have long-term cash requirements for obligations related to our operating leases, the Transition Tax, and our various purchase agreements. If cash and cash equivalents generated by future operating activities are not sufficient to enable us to satisfy these obligations, we may seek to generate cash and cash equivalents from other sources. The sources could include the sale of bitcoins, additional borrowings collateralized by our bitcoins, as well as the issuance and sale of shares of our class A common stock. Furthermore, if certain conditions are met, we may have the right to elect to settle the Convertible Notes upon a conversion of such Convertible Notes in shares of our class A common stock, or a combination of cash and shares of class A common stock, which may enable us to reduce the amount of our cash obligations under the Convertible Notes.

The 2028 Secured Notes have a stated maturity date of June 15, 2028, but include a springing maturity feature that will cause the stated maturity date to spring ahead to the date that is (i) 91 days prior to the existing maturity date of the 2025 Convertible Notes (which is September 15, 2025), (ii) 91 days prior to the existing maturity date of the 2027 Convertible Notes (which is November 16, 2026), or (iii) the maturity date of any future convertible debt that we may issue that is then outstanding, unless on such dates we meet specified liquidity requirements or less than \$100,000,000 of aggregate principal amount of the 2025 Convertible Notes, the 2027 Convertible Notes, or such future convertible debt, as applicable, remains outstanding.

As of December 31, 2022, we held approximately 132,500 bitcoins, of which approximately 82,991 are unencumbered. We do not believe we will need to sell or engage in other transactions with respect to any of our bitcoins within the next twelve months to meet our working capital requirements, although we may from time to time sell or engage in other transactions with respect to our bitcoins as part of treasury management operations, as noted above. The bitcoin market historically has been characterized by significant volatility in its price, limited liquidity and trading volumes compared to sovereign currencies markets, relative anonymity, a developing regulatory landscape, susceptibility to market abuse and manipulation, and various other risks inherent in its entirely electronic, virtual form and decentralized network. During times of instability in the bitcoin market, we may not be able to sell our bitcoins at reasonable prices or at all. As a result, our bitcoins are less liquid than our existing cash and cash equivalents and may not be able to serve as a source of liquidity for us to the same extent as cash and cash equivalents. In addition, upon sale of our bitcoin, we may incur additional taxes related to any realized gains or we may incur capital losses as to which the tax deduction may be limited.

The following table sets forth a summary of our cash flows (in thousands) and related percentage changes for the periods indicated:

	Years Ended December 31,		% Change
	2022	2021	
Net cash provided by operating activities	\$ 3,211	\$ 93,833	-96.6%
Net cash used in investing activities	\$ (278,590)	\$ (2,629,235)	-89.4%
Net cash provided by financing activities	\$ 265,188	\$ 2,541,685	-89.6%

Net cash provided by operating activities. The primary source of our cash provided by operating activities is cash collections of our accounts receivable from customers following the sales and renewals of our product licenses, subscription services and product support, as well as consulting and education services. Our primary uses of cash in operating activities are for personnel-related expenditures for software development, personnel-related expenditures for providing consulting, education, and subscription services, and for sales and marketing costs, general and administrative costs, interest expense related to our long-term debt arrangements, and income taxes. In

2022 and 2021, non-cash items to further reconcile net loss to net cash provided by operating activities consist primarily of depreciation and amortization, reduction in the carrying amount of operating lease right-of-use assets, credit losses and sales allowances, deferred taxes, release of liabilities for unrecognized tax benefits, share-based compensation expense, digital asset impairment losses (gains on sale), net, and amortization of the issuance costs on our long-term debt.

Net cash provided by operating activities decreased \$90.6 million during 2022, as compared to the prior year, due to a \$934.3 million increase in net loss and a \$47.7 million decrease from changes in operating assets and liabilities, partially offset by an \$891.4 million increase in non-cash items (principally related to digital asset impairment losses and deferred taxes). In particular, we had a \$23.0 million increase in interest payments, primarily with respect to the 2028 Senior Secured Notes and the 2025 Secured Term Loan, and a \$15.0 million increase in income tax payments due primarily to decreased income tax benefits from a lower level of stock option exercises. We also had other increased payments, most notably those related to employee-related costs as we continued to invest in our workforce, and investment in our cloud infrastructure to support the growth in sales of subscription services. Additional transitions of customers from our perpetual license arrangements to our subscription services offerings has also negatively impacted our cash provided by operating activities in 2022 as compared to 2021 as invoicing for subscription services generally occurs over multiple years, whereas perpetual licenses are invoiced up-front.

Net cash used in investing activities. In 2022 and 2021, the changes in net cash (used in) provided by investing activities primarily relate to purchases and sales of digital assets and expenditures on property and equipment. Net cash used in investing activities decreased \$2.351 billion during 2022, as compared to the prior year, primarily due to a \$2.339 billion decrease in purchases of bitcoins, partially offset by an \$11.8 million increase in sales of bitcoins. During 2022, we purchased bitcoin using \$190.5 million of the net proceeds from the issuance of the 2025 Secured Term Loan, \$44.6 million of the net proceeds from the sale of class A common stock under the 2022 Sales Agreement, \$11.8 million in proceeds from sales of bitcoin, and Excess Cash. During 2021, we purchased bitcoin using the net proceeds from the issuance of our 2027 Convertible Notes and 2028 Secured Notes, the sale of class A common stock under the Open Market Sale Agreement, and Excess Cash.

Net cash provided by financing activities. In 2022 and 2021, the changes in net cash provided by (used in) financing activities primarily relate to the issuance of our long-term debt, the sale of class A common stock under the 2021 Open Market Sale Agreement and 2022 Sales Agreement, the exercise of stock options under the 2013 Equity Plan, the sales of class A common stock under the 2021 ESPP, the payment of withholding tax on vesting of restricted stock units, and the repayments of other long-term secured debt. Net cash provided by financing activities decreased \$2.276 billion during 2022, as compared to the prior year, due to (i) a \$1.297 billion year-over-year reduction in proceeds, net of issuance costs, from long-term debt from our 2027 Convertible Notes and 2028 Secured Notes during 2021 as compared to the proceeds, net of issuance costs, from long-term debt from our 2025 Secured Term Loan and other long-term secured debt during 2022, (ii) a \$944.2 million reduction in net proceeds from the sale of class A common stock under public offerings from the 2021 Open Market Sale Agreement and the 2022 Sales Agreement, and (iii) a \$39.3 million decrease in proceeds from the exercise of stock options under the 2013 Equity Plan during 2022 compared to 2021, partially offset by (iv) a \$2.6 million decrease in payment of withholding tax on vesting of restricted stock units during 2022 compared to 2021 and (v) a \$1.6 million increase in proceeds from the sales of class A common stock under the 2021 ESPP during 2022 compared to 2021.

Long-term Debt

The terms of each of the long-term debt instruments described below are discussed more fully in Note 8, Long-term Debt, to the Consolidated Financial Statements.

In December 2020, we issued \$650.0 million aggregate principal amount of the 2025 Convertible Notes and in February 2021, we issued \$1.050 billion aggregate principal amount of the 2027 Convertible Notes. We used the net proceeds from the issuance of the Convertible Notes to acquire bitcoin. During 2022 and 2021, we paid \$4.9 million and \$4.9 million, respectively, in interest to holders of the 2025 Convertible Notes. The 2027 Convertible Notes do not bear regular interest and we have not paid any special interest to holders of the 2027 Convertible Notes to date.

In June 2021, we issued \$500.0 million aggregate principal amount of the 2028 Secured Notes. We used the net proceeds from the issuance of the 2028 Secured Notes to acquire bitcoin. As of December 31, 2022, all of the approximately 14,890 bitcoins held by MicroStrategy Incorporated serve as part of the collateral for the 2028 Secured Notes. During 2022 and 2021, we paid \$30.6 million and \$15.4 million, respectively, in interest to holders of the 2028 Secured Notes.

In March 2022, MacroStrategy, our wholly-owned subsidiary, entered into a Credit and Security Agreement with Silvergate Bank, pursuant to which Silvergate Bank issued the \$205.0 million 2025 Secured Term Loan to MacroStrategy. We used \$190.5 million of the net proceeds from the issuance of the 2025 Secured Term Loan to acquire bitcoin, used \$5.0 million of the net proceeds to establish a reserve account that serves as collateral for the 2025 Secured Term Loan, and have used and expect to continue to use the remaining net proceeds to pay fees, interest, and expenses related to the 2025 Secured Term Loan. As of December 31, 2022, approximately 34,619

of the bitcoins held by MacroStrategy serve as part of the collateral for the 2025 Secured Term Loan. Subject to certain conditions described in Note 8, Long-term Debt, to the Consolidated Financial Statements, MacroStrategy can withdraw excess collateral held in the Bitcoin Collateral Account. During 2022, we paid \$7.7 million in interest to Silvergate.

In June 2022, we, through one of our wholly-owned subsidiaries, entered into a secured term loan agreement in the amount of \$11.1 million, bearing interest at an annual rate of 5.2%, and maturing in June 2027. During 2022, we paid \$0.5 million in principal and interest to the lender.

At-the-Market Equity Offerings

On June 14, 2021, we entered into the 2021 Open Market Sale Agreement with Jefferies, pursuant to which we issued and sold shares of our class A common stock having an aggregate offering price of approximately \$1.0 billion from time to time through Jefferies. The terms of the 2021 Open Market Sale Agreement are discussed more fully in Note 13, At-the-Market Equity Offerings, to the Consolidated Financial Statements. During 2021, we issued and sold 1,413,767 shares of our class A common stock under the 2021 Open Market Sale Agreement, at an average gross price per share of approximately \$707.33, for aggregate net proceeds (less \$9.5 million in sales commissions and expenses) of approximately \$990.5 million. As of December 31, 2021, the cumulative aggregate offering price of the shares of class A common stock sold under the 2021 Open Market Sale Agreement was approximately \$1.0 billion, inclusive of sales commissions, constituting the maximum program amount under the 2021 Open Market Sale Agreement.

On September 9, 2022, we entered into the 2022 Sales Agreement with the 2022 Sales Agents, pursuant to which we may issue and sell shares of our class A common stock having an aggregate offering price of up to \$500.0 million from time to time through the 2022 Sales Agents. The terms of the 2022 Sales Agreement are discussed more fully in Note 13, At-the-Market Equity Offerings, to the Consolidated Financial Statements. During 2022, we issued and sold 218,575 shares of our class A common stock under the 2022 Sales Agreement, at an average gross price per share of approximately \$213.16, for aggregate net proceeds (less \$0.4 million in sales commissions and expenses) of approximately \$46.2 million. As of December 31, 2022, approximately \$453.4 million of our class A common stock remained available for issuance and sale pursuant to the 2022 Sales Agreement.

Share repurchases. During the years ended December 31, 2022 and 2021, we did not repurchase any shares of our class A common stock. See “Part II. Item 5. Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities” of this Annual Report and Note 14, Treasury Stock, to the Consolidated Financial Statements for further information.

Debt repurchases and repayments. During the years ended December 31, 2022 and 2021, we did not repurchase any of our outstanding debt. We or our affiliates may, at any time and from time to time, seek to retire or purchase our outstanding debt through cash purchases and/or exchanges for equity or debt, in open-market purchases, privately negotiated transactions or otherwise. Such repurchases or exchanges, if any, will be upon such terms and at such prices as we may determine, and will depend on prevailing market conditions, our liquidity requirements, contractual restrictions and other factors. We may also repay our outstanding indebtedness, including our 2025 Secured Term Loan. The prepayment of the 2025 Secured Term Loan is subject to a prepayment premium of 0.50% or 0.25% of the principal balance being prepaid, if such prepayment is made during the first year or second year, respectively, of the 2025 Secured Term Loan. The amounts involved in any such repurchase or repayment may be material. We may effect debt repurchases or repayments using proceeds from the sale of our class A common stock pursuant to the 2022 Sales Agreement (under which approximately \$453.4 million remains available for sale as of the date hereof).

Unrecognized tax benefits. As of December 31, 2022, we had \$6.1 million of total gross unrecognized tax benefits, including accrued interest, all of which was recorded in “Other long-term liabilities.” The timing of any payments that could result from these unrecognized tax benefits will depend on a number of factors, and accordingly the amount and period of any future payments cannot be estimated. We do not expect any significant tax payments related to unrecognized tax benefits during 2023.

Recent Accounting Standards

See Note 3, Recent Accounting Standards, to the Consolidated Financial Statements for further information.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

The following discussion about our market risk exposures involves forward-looking statements. Actual results could differ materially from those projected in the forward-looking statements.

We are exposed to the impact of market price changes in bitcoin, foreign currency fluctuations, and interest rate fluctuations.

Market Price Risk of Bitcoin. We have used a significant portion of our cash, including cash generated from capital raising transactions, to acquire bitcoin and, as of December 31, 2022, we held approximately 132,500 bitcoins. The carrying value of our bitcoins as of December 31, 2022 was \$1.840 billion, which reflects cumulative impairments of \$2.153 billion, on our Consolidated Balance Sheet. As discussed in Note 2(g), Summary of Significant Accounting Policies, to the Consolidated Financial Statements, we account for our bitcoin as indefinite-lived intangible assets, which are subject to impairment losses if the fair value of our bitcoin decreases below their carrying value at any time since their acquisition. Impairment losses cannot be recovered for any subsequent increase in fair value. For example, the market price of one bitcoin on the Coinbase exchange (our principal market for bitcoin) ranged from a low of \$15,460.00 to a high of \$48,240.00 during the year ended December 31, 2022, but the carrying value of each bitcoin we held at the end of the reporting period reflects the lowest price of one bitcoin quoted on the active exchange at any time since its acquisition. Therefore, negative swings in the market price of bitcoin could have a material impact on our earnings and on the carrying value of our digital assets. Positive swings in the market price of bitcoin are not reflected in the carrying value of our digital assets and impact earnings only when the bitcoin is sold at a gain. For the year ended December 31, 2022, we incurred impairment losses, net of gains on sale, of \$1.286 billion on our bitcoin.

Foreign Currency Risk. We conduct a significant portion of our business in currencies other than the U.S. dollar, the currency in which we report our Consolidated Financial Statements. International revenues accounted for 40.2%, 44.0%, and 41.9% of our total revenues for the years ended December 31, 2022, 2021, and 2020, respectively. We anticipate that international revenues will continue to account for a significant portion of our total revenues. The functional currency of each of our foreign subsidiaries is generally the local currency.

Assets and liabilities of our foreign subsidiaries are translated into U.S. dollars at exchange rates in effect as of the applicable Balance Sheet date and any resulting translation adjustments are included as an adjustment to stockholders' equity. Revenues and expenses generated from these subsidiaries are translated at average monthly exchange rates during the quarter in which the transactions occur. Transaction gains and losses arising from transactions denominated in a currency other than the functional currency of the entity involved are included in the results of operations.

As a result of transacting in multiple currencies and reporting our Consolidated Financial Statements in U.S. dollars, our operating results may be adversely impacted by currency exchange rate fluctuations in the future. The impact of foreign currency exchange rate fluctuations on current and comparable periods is described in the "Non-GAAP Financial Measures" section under "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations."

We cannot predict the effect of exchange rate fluctuations upon our future results. We attempt to minimize our foreign currency risk by converting our excess foreign currency held in foreign jurisdictions to U.S. dollar-denominated cash and investment accounts.

As of December 31, 2022, a 10% adverse change in foreign currency exchange rates versus the U.S. dollar would have decreased our aggregate reported cash and cash equivalents by 4.5%. If average exchange rates during the year ended December 31, 2022 had changed unfavorably by 10%, our revenues for the year ended December 31, 2022 would have decreased by 3.7%. During the year ended December 31, 2022, our revenues were lower by 4.5% as a result of a 10.1% unfavorable change in weighted average exchange rates, as compared to the prior year.

Interest Rate Risk. Our 2025 Secured Term Loan bears interest at a floating rate equal to the Secured Overnight Financing Rate 30 Day Average, as published by the Federal Reserve Bank of New York's website, plus 3.70%, with a floor of 3.75%. At December 31, 2022, the floating rate equaled 7.76%. Based on this rate, annual interest expense on the 2025 Secured Term Loan would be approximately \$16.1 million. If the floating rate increased 100 basis points, the annual interest expense on the 2025 Secured Term Loan would be approximately \$18.2 million.

Item 8. Financial Statements and Supplementary Data

Our Consolidated Financial Statements, together with the related notes and the associated Reports of Independent Registered Public Accounting Firm, are set forth on the pages indicated in Item 15.

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**

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) as of the end of the period covered by this Annual Report. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives, and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Our disclosure controls and procedures are designed to provide reasonable assurance of achieving their control objectives. Based on the evaluation of our disclosure controls and procedures as of the end of the period covered by this Annual Report, our Chief Executive Officer and Chief Financial Officer concluded that, as of such date, our disclosure controls and procedures were effective at the reasonable assurance level.

Management's Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is defined in Rules 13a-15(f) and 15d-15(f) promulgated under the Exchange Act as a process designed by, or under the supervision of, the Company's principal executive and principal financial officers and effected by the Company's Board of Directors, management, and other personnel, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with GAAP. Such internal control includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the Company, (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with GAAP, and that receipts and expenditures of the Company are being made only in accordance with authorizations of management and directors of the Company, and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the Company's assets that could have a material effect on the financial statements.

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

Under the oversight of our Chief Executive Officer and Chief Financial Officer, our management conducted an assessment of the effectiveness of our internal control over financial reporting as of December 31, 2022 based on the criteria set forth in Internal Control-Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on its assessment, management has determined that, as of December 31, 2022, our internal control over financial reporting is effective based on those criteria.

Our independent registered public accounting firm, KPMG LLP, which audited the Consolidated Financial Statements included in this Annual Report, has issued an attestation report on our internal control over financial reporting. This report is included in the Reports of Independent Registered Public Accounting Firm in "Item 15. Exhibits, Financial Statement Schedules."

Changes in Internal Control Over Financial Reporting

No change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) occurred during the three months ended December 31, 2022 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information

2022 Cash Bonus Determinations for Certain Executive Officers

On February 13, 2023, the Company's Compensation Committee determined a cash bonus award for the following executive officer of the Company in the amount set forth opposite his name, with respect to his performance in 2022:

Phong Le <i>President & Chief Executive Officer</i>	\$ 770,000
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The Company's Compensation Committee determined the foregoing award based on its subjective evaluation of the Company's Chief Executive Officer's performance in the context of general economic and industry conditions and Company performance during 2022.

On February 13, 2023, the Company's Chief Executive Officer determined cash bonus awards for the following executive officers of the Company in the amounts set forth opposite their respective names, in each case with respect to the executive's performance in 2022:

Andrew Kang <i>Senior Executive Vice President & Chief Financial Officer</i>	\$ 324,658
Timothy E. Lang <i>Senior Executive Vice President & Chief Technology Officer</i>	\$ 500,000
W. Ming Shao <i>Senior Executive Vice President & General Counsel</i>	\$ 550,000

The Chief Executive Officer determined the foregoing awards based on his subjective evaluation of the applicable executive's performance in the context of general economic and industry conditions and Company performance during 2022. The cash bonus award paid to the Company's Senior Executive Vice President & Chief Financial Officer is a prorated amount to reflect time worked in 2022.

The Company's Chief Revenue Officer received quarterly cash bonus awards pursuant to his 2022 Sales Management Variable Compensation Plan ("Variable Compensation Plan") as well as other additional promotional cash bonus awards, all of which were made with respect to the Company's Chief Revenue Officer's performance in 2022 and which total the amount presented below:

Kevin Adkisson <i>Senior Executive Vice President & Chief Revenue Officer</i>	\$ 645,804
--	------------

The amounts of these individual cash bonus awards were determined according to performance criteria relating to revenue, teamwork, and professional development goals specified in the Variable Compensation Plan and certain special incentive programs, as applicable.

Salary Determinations for Certain Executive Officers

On February 13, 2023, the Company's Compensation Committee approved the annual salaries of the following executive officers of the Company, in the amounts set forth opposite their names, effective January 1, 2023:

Michael Saylor <i>Executive Chairman</i>	\$ 1
Phong Le	\$ 1,000,000

On February 13, 2023, the Company's Chief Executive Officer approved the annual salaries of the following executive officers of the Company, resulting in the amounts set forth opposite their respective names, effective January 1, 2023:

Kevin Adkisson	\$ 400,000
Andrew Kang	\$ 640,000
Timothy E. Lang	\$ 640,000
W. Ming Shao	\$ 640,000

Annual Discretionary Cash Bonus Targets for Certain Executive Officers

On February 13, 2023, the Company's Compensation Committee established an annual discretionary cash bonus target for 2023 for the following executive officer of the Company in the amount set forth opposite his name:

Phong Le	\$ 800,000
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An award pursuant to the foregoing discretionary cash bonus target will be determined by the Company's Compensation Committee based on its subjective evaluation of Mr. Le's performance in the context of general economic and industry conditions and Company performance during the year.

On February 13, 2023, the Company's Chief Executive Officer established annual discretionary cash bonus targets for 2023 for the following executive officers of the Company in the amounts set forth opposite their respective names:

Andrew Kang	\$ 500,000
Timothy E. Lang	\$ 500,000
W. Ming Shao	\$ 500,000

Awards pursuant to the foregoing discretionary cash bonus targets will be determined by the Company's Chief Executive Officer based on his subjective evaluation of the applicable executive's performance in the context of general economic and industry conditions and Company performance during the year.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

The information required by this Item is incorporated herein by reference to the information provided under the headings “Executive Officers of the Company,” “Election of Directors – Nominees,” and “Corporate Governance and the Board of Directors and its Committees” in our definitive proxy statement to be filed with the SEC not later than 120 days after the fiscal year ended December 31, 2022 (the “2023 Proxy Statement”).

Item 11. Executive Compensation

The information required by this Item is incorporated herein by reference to the information provided under the headings “Executive and Director Compensation,” “Compensation Committee Report,” and “Corporate Governance and the Board of Directors and its Committees – Compensation Committee” in the 2023 Proxy Statement.

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

The information required by this Item is incorporated herein by reference to the information provided under the headings “Security Ownership of Certain Beneficial Owners and Management” and “Executive and Director Compensation” in the 2023 Proxy Statement.

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

The information required by this Item is incorporated herein by reference to the information provided under the heading “Corporate Governance and the Board of Directors and its Committees” in the 2023 Proxy Statement.

Item 14. Principal Accountant Fees and Services

The information required by this Item is incorporated herein by reference to the information provided under the heading “Independent Registered Public Accounting Firm Fees and Services” in the 2023 Proxy Statement.

PART IV

Item 15. Exhibits, Financial Statement Schedules

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

1. Consolidated Financial Statements	
Reports of Independent Registered Public Accounting Firm	Page 69
Consolidated Financial Statements:	
Balance Sheets.....	72
Statements of Operations.....	73
Statements of Comprehensive Loss	74
Statements of Stockholders' (Deficit) Equity	75
Statements of Cash Flows	76
Notes to Consolidated Financial Statements.....	77
2. Exhibits	113
3. Consolidated Financial Statement Schedule	
Schedule II - Valuation and Qualifying Accounts	117

(b) Exhibits

We hereby file as part of this Annual Report the exhibits listed in the Index to Exhibits.

(c) Financial Statement Schedule

The following financial statement schedule is filed herewith:

Schedule II—Valuation and Qualifying Accounts

All other items included in an Annual Report on Form 10-K are omitted because they are not applicable or the answers thereto are none.

Item 16. Form 10-K Summary

None.

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors of MicroStrategy Incorporated:

Opinion on Internal Control Over Financial Reporting

We have audited MicroStrategy Incorporated and subsidiaries' (the Company) internal control over financial reporting as of December 31, 2022, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2022, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2022 and 2021, the related consolidated statements of operations, comprehensive loss, stockholders' (deficit) equity, and cash flows for each of the years in the three-year period ended December 31, 2022, and the related notes and the financial statement schedule, Schedule II, Valuation and Qualifying Accounts (collectively, the consolidated financial statements), and our report dated February 16, 2023 expressed an unqualified opinion on those consolidated financial statements.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the 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 effective internal control over financial reporting was maintained in all material respects. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

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

/s/ KPMG LLP

McLean, Virginia
February 16, 2023

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors of MicroStrategy Incorporated:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of MicroStrategy Incorporated and subsidiaries (the Company) as of December 31, 2022 and 2021, the related consolidated statements of operations, comprehensive loss, stockholders' (deficit) equity, and cash flows for each of the years in the three-year period ended December 31, 2022, and the related notes and financial statement schedule, Schedule II, Valuation and Qualifying Accounts, (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2022 and 2021, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2022, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2022, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated February 16, 2023 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

Change in Accounting Principle

As discussed in Notes 2(a) and 3 to the consolidated financial statements, the Company has changed its method of accounting for convertible instruments as of January 1, 2021 due to the adoption of Accounting Standards Update No. 2020-06, Debt – Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging – Contracts in Entity's Own Equity (Subtopic 815-40): Accounting for Convertible Instruments and Contracts in an Entity's Own Equity ("ASU 2020-06").

Basis for Opinion

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

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit 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: (1) relate to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of 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.

Evaluation of standalone selling price for standard product support

As discussed in Note 2(n) to the consolidated financial statements, the Company typically sells its software licenses (product licenses) together with technical support services and rights to when-and-if available software upgrades (standard product support). Product license revenue is recognized at the point when control to the license is transferred to the customer while standard product support revenue is recognized ratably over the term of the product support period. The accounting for revenue from contracts with multiple performance obligations requires the transaction price to be allocated to each distinct performance obligation based on their respective relative standalone selling price (SSP). Because product licenses are not

sold on a standalone basis and because pricing is highly variable, the Company establishes SSP of product licenses using a residual approach after first establishing the SSP of standard product support based on observable standalone sales with pricing within a narrow range as a percentage of the net license fee.

We identified the evaluation of the SSP for standard product support as a critical audit matter. Especially subjective auditor judgment was required in evaluating the range of prices used to establish the SSP for standard product support which directly affects the amount of product license revenue recognized using a residual approach. Changes to the product support fee range could have a significant impact on the determination of the SSP for standard product support, impacting the amount and timing of revenues recognized.

The following are the primary procedures we performed to address this critical audit matter. We evaluated the design and tested the operating effectiveness of certain internal controls over the Company's revenue process, including controls over the methodology used to determine the standard product support SSP and controls over the Company's validation of the underlying data used in the SSP analysis. We assessed the range of prices based on observable inputs the Company used to determine SSP of standard product support by comparing them to the selling prices of standalone renewals for standard product support and evaluating whether the standalone prices were sufficiently clustered within a narrow range.

Evaluation of audit evidence pertaining to the existence and control of the digital assets

As discussed in Notes 2(g) and 4 to the consolidated financial statements, the Company accounts for its digital assets as indefinite-lived intangible assets. The digital assets are recorded at cost, net of any impairment losses incurred since acquisition. As of December 31, 2022, the carrying value of the Company's digital assets was \$1.840 billion, net of \$2.153 billion in cumulative impairments.

We identified the evaluation of audit evidence pertaining to the existence of the digital assets and whether the Company controls the digital assets as a critical audit matter. Subjective auditor judgment was involved in determining the nature and extent of evidence required to assess the existence of the digital assets and whether the Company controls the digital assets, as control over the digital assets is provided through private cryptographic keys stored using third-party custodial services at multiple locations that are geographically dispersed. In addition, information technology (IT) professionals with specialized skills and knowledge in blockchain technology were needed to assist in the evaluation of the sufficiency of certain audit procedures.

The following are the primary procedures we performed to address this critical audit matter. We evaluated the design and tested the operating effectiveness of certain internal controls over the digital assets process, including a control over the comparison of the Company's records of digital assets held to the custodial records. We involved IT professionals with specialized skills and knowledge in blockchain technology, who assisted in evaluating certain internal controls over the digital assets process performed at the custodial locations, related specifically to the generation of the private cryptographic keys, the storing of these keys, and the reconciliation of digital assets per the custodial service ledgers to the public blockchain. We obtained confirmation of the Company's digital assets in custody as of December 31, 2022 and compared the total digital assets confirmed to the Company's record of digital asset holdings. We also compared the Company's record of digital asset transactions to the records on the public blockchain using a software audit tool. We applied auditor judgment in determining the nature and extent of audit evidence required, especially related to assessing the existence of the digital assets and whether the Company controls the digital assets. We evaluated the sufficiency and appropriateness of audit evidence obtained by assessing the results of procedures performed over the digital assets.

/s/ KPMG LLP

We have served as the Company's auditor since 2013.

McLean, Virginia
February 16, 2023

MICROSTRATEGY INCORPORATED
CONSOLIDATED BALANCE SHEETS
(in thousands, except per share data)

	December 31, 2022	December 31, 2021
Assets		
Current assets:		
Cash and cash equivalents	\$ 43,835	\$ 63,356
Restricted cash	7,033	1,078
Accounts receivable, net	189,280	189,280
Prepaid expenses and other current assets	24,418	14,251
Total current assets	264,566	267,965
Digital assets	1,840,028	2,850,210
Property and equipment, net	32,311	36,587
Right-of-use assets	61,299	66,760
Deposits and other assets	23,916	15,820
Deferred tax assets, net	188,152	319,782
Total assets	\$ 2,410,272	\$ 3,557,124
Liabilities and Stockholders' (Deficit) Equity		
Current liabilities:		
Accounts payable, accrued expenses, and operating lease liabilities	\$ 42,976	\$ 46,084
Accrued compensation and employee benefits	53,716	54,548
Accrued interest	2,829	1,493
Current portion of long-term debt, net	454	0
Deferred revenue and advance payments	217,428	209,860
Total current liabilities	317,403	311,985
Long-term debt, net	2,378,560	2,155,151
Deferred revenue and advance payments	12,763	8,089
Operating lease liabilities	67,344	76,608
Other long-term liabilities	17,124	26,224
Deferred tax liabilities	198	109
Total liabilities	2,793,392	2,578,166
Commitments and Contingencies		
Stockholders' (Deficit) Equity		
Preferred stock undesignated, \$0.001 par value; 5,000 shares authorized; no shares issued or outstanding	0	0
Class A common stock, \$0.001 par value; 330,000 shares authorized; 18,269 shares issued and 9,585 shares outstanding, and 18,006 shares issued and 9,322 shares outstanding, respectively	18	18
Class B convertible common stock, \$0.001 par value; 165,000 shares authorized; 1,964 shares issued and outstanding, and 1,964 shares issued and outstanding, respectively	2	2
Additional paid-in capital	1,841,120	1,727,143
Treasury stock, at cost; 8,684 shares and 8,684 shares, respectively	(782,104)	(782,104)
Accumulated other comprehensive loss	(13,801)	(7,543)
(Accumulated deficit) retained earnings	(1,428,355)	41,442
Total stockholders' (deficit) equity	(383,120)	978,958
Total liabilities and stockholders' (deficit) equity	\$ 2,410,272	\$ 3,557,124

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

MICROSTRATEGY INCORPORATED
CONSOLIDATED STATEMENTS OF OPERATIONS
(in thousands, except per share data)

	Years Ended December 31,		
	2022	2021	2020
Revenues:			
Product licenses	\$ 86,498	\$ 101,804	\$ 86,743
Subscription services	60,746	43,069	33,082
Total product licenses and subscription services	147,244	144,873	119,825
Product support	266,521	281,209	284,434
Other services	85,499	84,680	76,476
Total revenues	499,264	510,762	480,735
Cost of revenues:			
Product licenses	1,672	1,721	2,293
Subscription services	24,770	16,901	14,833
Total product licenses and subscription services	26,442	18,622	17,126
Product support	21,264	19,254	23,977
Other services	55,283	54,033	49,952
Total cost of revenues	102,989	91,909	91,055
Gross profit	396,275	418,853	389,680
Operating expenses:			
Sales and marketing	146,882	160,141	148,910
Research and development	127,428	117,117	103,561
General and administrative	111,421	95,501	80,136
Digital asset impairment losses (gains on sale), net	1,286,286	830,621	70,698
Total operating expenses	1,672,017	1,203,380	403,305
Loss from operations	(1,275,742)	(784,527)	(13,625)
Interest (expense) income, net	(53,136)	(29,149)	710
Other income (expense), net	6,413	2,287	(7,038)
Loss before income taxes	(1,322,465)	(811,389)	(19,953)
Provision for (benefit from) income taxes	147,332	(275,909)	(12,429)
Net loss	(1,469,797)	(535,480)	(7,524)
Basic loss per share (1)	\$ (129.83)	\$ (53.44)	\$ (0.78)
Weighted average shares outstanding used in computing basic loss per share	11,321	10,020	9,684
Diluted loss per share (1)	\$ (129.83)	\$ (53.44)	\$ (0.78)
Weighted average shares outstanding used in computing diluted loss per share	11,321	10,020	9,684

(1) Basic and fully diluted loss per share for class A and class B common stock are the same.

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

MICROSTRATEGY INCORPORATED
CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS
(in thousands)

	Years Ended December 31,		
	2022	2021	2020
Net loss	\$ (1,469,797)	\$ (535,480)	\$ (7,524)
Other comprehensive (loss) income, net of applicable taxes:			
Foreign currency translation adjustment	(6,258)	(3,658)	5,913
Unrealized loss on short-term investments	0	0	(147)
Total other comprehensive (loss) income	(6,258)	(3,658)	5,766
Comprehensive loss	<u>\$ (1,476,055)</u>	<u>\$ (539,138)</u>	<u>\$ (1,758)</u>

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

MICROSTRATEGY INCORPORATED
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' (DEFICIT) EQUITY
(in thousands)

	Total	Class A		Class B		Additional Paid-in Capital	Treasury Stock		Accumulated Other Comprehensive Loss	(Accumulated Deficit) Retained Earnings
		Common Stock		Convertible Common Stock			Shares	Amount		
		Shares	Amount	Shares	Amount					
Balance at January 1, 2020	<u>\$ 508,559</u>	<u>15,888</u>	<u>\$ 16</u>	<u>2,035</u>	<u>\$ 2</u>	<u>\$ 593,583</u>	<u>(7,807)</u>	<u>\$(658,880)</u>	<u>\$(9,651)</u>	<u>\$ 583,489</u>
Net loss	(7,524)	0	0	0	0	0	0	0	0	(7,524)
Other comprehensive income	5,766	0	0	0	0	0	0	0	5,766	0
Conversion of class B to class A common stock	0	71	0	(71)	0	0	0	0	0	0
Issuance of class A common stock upon exercise of stock options	51,082	348	0	0	0	51,082	0	0	0	0
Purchases of treasury stock	(123,224)	0	0	0	0	0	(877)	(123,224)	0	0
Share-based compensation expense	10,576	0	0	0	0	10,576	0	0	0	0
Equity component of convertible senior notes, net of issuance cost and deferred tax liability	107,810	0	0	0	0	107,810	0	0	0	0
Balance at December 31, 2020	<u>\$ 553,045</u>	<u>16,307</u>	<u>\$ 16</u>	<u>1,964</u>	<u>\$ 2</u>	<u>\$ 763,051</u>	<u>(8,684)</u>	<u>\$(782,104)</u>	<u>\$(3,885)</u>	<u>\$ 575,965</u>
Opening balance adjustment due to the adoption of ASU 2020-06	(106,853)	0	0	0	0	(107,810)	0	0	0	957
Net loss	(535,480)	0	0	0	0	0	0	0	0	(535,480)
Other comprehensive loss	(3,658)	0	0	0	0	0	0	0	(3,658)	0
Issuance of class A common stock upon exercise of stock options	40,651	269	0	0	0	40,651	0	0	0	0
Issuance of class A common stock under employee stock purchase plan	2,854	5	0	0	0	2,854	0	0	0	0
Issuance of class A common stock upon vesting of restricted stock units, net of withholding taxes	(4,754)	11	0	0	0	(4,754)	0	0	0	0
Issuance of class A common stock under public offerings, net of issuance costs	990,463	1,414	2	0	0	990,461	0	0	0	0
Share-based compensation expense	42,690	0	0	0	0	42,690	0	0	0	0
Balance at December 31, 2021	<u>\$ 978,958</u>	<u>18,006</u>	<u>\$ 18</u>	<u>1,964</u>	<u>\$ 2</u>	<u>\$ 1,727,143</u>	<u>(8,684)</u>	<u>\$(782,104)</u>	<u>\$(7,543)</u>	<u>\$ 41,442</u>
Net loss	(1,469,797)	0	0	0	0	0	0	0	0	(1,469,797)
Other comprehensive loss	(6,258)	0	0	0	0	0	0	0	(6,258)	0
Issuance of class A common stock upon exercise of stock options	1,393	9	0	0	0	1,393	0	0	0	0
Issuance of class A common stock under employee stock purchase plan	4,473	16	0	0	0	4,473	0	0	0	0
Issuance of class A common stock upon vesting of restricted stock units, net of withholding taxes	(2,213)	19	0	0	0	(2,213)	0	0	0	0
Issuance of class A common stock under public offerings, net of issuance costs	46,219	219	0	0	0	46,219	0	0	0	0
Share-based compensation expense	64,105	0	0	0	0	64,105	0	0	0	0
Balance at December 31, 2022	<u>\$ (383,120)</u>	<u>18,269</u>	<u>\$ 18</u>	<u>1,964</u>	<u>\$ 2</u>	<u>\$ 1,841,120</u>	<u>(8,684)</u>	<u>\$(782,104)</u>	<u>\$(13,801)</u>	<u>\$ (1,428,355)</u>

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

MICROSTRATEGY INCORPORATED
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)

	Years Ended December 31,		
	2022	2021	2020
Operating activities:			
Net loss	\$ (1,469,797)	\$ (535,480)	\$ (7,524)
Adjustments to reconcile net loss to net cash provided by operating activities:			
Depreciation and amortization	10,874	11,358	13,332
Reduction in carrying amount of right-of-use assets	8,072	8,189	8,210
Credit losses and sales allowances	939	1,509	2,732
Net realized gain on short-term investments	0	0	(94)
Deferred taxes	131,493	(284,221)	(20,830)
Release of liabilities for unrecognized tax benefits	(360)	(561)	0
Share-based compensation expense	63,619	44,126	11,153
Digital asset impairment losses (gains on sale), net	1,286,286	830,621	70,698
Gain on partial lease termination	0	0	(2,820)
Amortization of issuance costs and debt discount on long-term debt	8,694	7,201	1,543
Changes in operating assets and liabilities:			
Accounts receivable	(5,292)	2,618	(774)
Prepaid expenses and other current assets	(6,342)	(25)	2,346
Deposits and other assets	(7,455)	(1,713)	416
Accounts payable and accrued expenses	(3,521)	3,749	9,174
Accrued compensation and employee benefits	(12,344)	2,374	(6,827)
Accrued interest	1,336	1,222	271
Deferred revenue and advance payments	14,839	14,710	(20,223)
Operating lease liabilities	(9,634)	(10,222)	(11,171)
Other long-term liabilities	(8,196)	(1,622)	4,007
Net cash provided by operating activities	3,211	93,833	53,619
Investing activities:			
Purchases of digital assets	(287,921)	(2,626,529)	(1,125,000)
Proceeds from sale of digital assets	11,817	0	0
Proceeds from redemption of short-term investments	0	0	119,886
Purchases of property and equipment	(2,486)	(2,706)	(3,651)
Purchases of short-term investments	0	0	(9,928)
Net cash used in investing activities	(278,590)	(2,629,235)	(1,018,693)
Financing activities:			
Proceeds from convertible senior notes classified as debt	0	1,050,000	496,473
Proceeds from convertible senior notes classified as equity	0	0	153,527
Issuance costs paid for convertible senior notes	0	(24,796)	(14,625)
Proceeds from senior secured notes	0	500,000	0
Issuance costs paid for senior secured notes	0	(12,792)	0
Proceeds from secured term loan, net of lender fees	204,693	0	0
Issuance costs paid for secured term loan, excluding lender fees	(107)	0	0
Proceeds from other long-term secured debt	11,100	0	0
Issuance costs paid for other long-term secured debt	(270)	0	0
Repayments of other long-term secured debt	(246)	0	0
Proceeds from sale of common stock under public offerings	46,592	1,000,000	0
Issuance costs paid related to sale of common stock under public offerings	(358)	(9,537)	0
Proceeds from exercise of stock options	1,393	40,651	51,082
Proceeds from sales under employee stock purchase plan	4,473	2,854	0
Payment of withholding tax on vesting of restricted stock units	(2,082)	(4,695)	0
Purchases of treasury stock	0	0	(123,224)
Net cash provided by financing activities	265,188	2,541,685	563,233
Effect of foreign exchange rate changes on cash, cash equivalents, and restricted cash	(3,375)	(2,608)	4,784
Net (decrease) increase in cash, cash equivalents, and restricted cash	(13,566)	3,675	(397,057)
Cash, cash equivalents, and restricted cash, beginning of year	64,434	60,759	457,816
Cash, cash equivalents, and restricted cash, end of year	\$ 50,868	\$ 64,434	\$ 60,759
Supplemental disclosure of cash flow information:			
Cash paid during the year for interest	\$ 43,448	\$ 20,416	\$ 178
Cash paid during the year for income taxes, net of tax refunds	\$ 21,973	\$ 7,010	\$ 6,803

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

MICROSTRATEGY INCORPORATED

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(1) Organization

MicroStrategy pursues two corporate strategies in the operation of its business. One strategy is to acquire and hold bitcoin and the other strategy is to grow its enterprise analytics software business.

(2) Summary of Significant Accounting Policies

(a) Basis of Presentation

The accompanying Consolidated Financial Statements include the accounts of the Company and its subsidiaries. All significant intercompany accounts and transactions have been eliminated in consolidation. The Company is not aware of any material subsequent event that would require recognition or disclosure.

In the Consolidated Statement of Cash Flows for the year ended December 31, 2020, accrued interest related to the Company's long-term debt has been reclassified from "Accounts payable and accrued expenses" to "Accrued interest" within operating activities to conform to the presentation of these items for the current year.

As discussed in Note 3, Recent Accounting Standards, to the Consolidated Financial Statements, the Company adopted Accounting Standards Update No. 2020-06, *Debt – Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging – Contracts in Entity's Own Equity (Subtopic 815-40): Accounting for Convertible Instruments and Contracts in an Entity's Own Equity* ("ASU 2020-06"), effective January 1, 2021. Comparative prior period Consolidated Financial Statements before the adoption of ASU 2020-06 have not been restated for ASU 2020-06 and are not directly comparable to the Consolidated Financial Statements after the adoption of ASU 2020-06.

(b) Use of Estimates

The preparation of the Consolidated Financial Statements, in conformity with GAAP, requires management to make estimates and judgments that affect the amounts reported in the Consolidated Financial Statements and accompanying notes. On an on-going basis, the Company evaluates its estimates, including, but not limited to, those related to revenue recognition, allowance for doubtful accounts, investments, fixed assets, digital assets, leases, debt, share-based compensation, income taxes, including the carrying value of deferred tax assets, and litigation and contingencies, including liabilities that the Company deems not probable of assertion. The Company bases its estimates on historical experience and on various other assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets, liabilities, and equity that are not readily apparent from other sources. Actual results and outcomes could differ from these estimates and assumptions.

(c) Fair Value Measurements

The Company measures certain assets and liabilities at fair value on a recurring or nonrecurring basis. Fair value is defined as the price that is expected to be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The Company uses a three-level hierarchy that prioritizes fair value measurements based on the types of inputs used for the various valuation techniques. The three levels of the fair value hierarchy are described below:

- Level 1: Quoted (unadjusted) prices in active markets that are accessible at the measurement date for identical, unrestricted assets or liabilities.
- Level 2: Inputs other than quoted prices that are either directly or indirectly observable, such as quoted prices in active markets for similar assets or liabilities, quoted prices for identical or similar assets or liabilities in inactive markets, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.
- Level 3: Inputs that are generally unobservable, supported by little or no market activity, and typically reflect management's estimates of assumptions that market participants would use in pricing the asset or liability.

MICROSTRATEGY INCORPORATED

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The categorization of an asset or liability within the fair value hierarchy is based on the lowest level of input that is significant to the fair value measurement. The valuation techniques used by the Company when measuring fair value maximize the use of observable inputs and minimize the use of unobservable inputs.

The Company also estimates the fair value of cash and cash equivalents, restricted cash, accounts receivable, accounts payable and accrued expenses, and accrued compensation and employee benefits. The Company considers the carrying value of these instruments in the Consolidated Financial Statements to approximate fair value due to their short maturities.

(d) Cash and Cash Equivalents and Restricted Cash

Cash equivalents may include bank demand deposits, money market instruments, certificates of deposit, U.S. Treasury securities, and equivalent funds. The Company generally considers all highly liquid investments with an original maturity of three months or less to be cash equivalents. Restricted cash consists of cash balances restricted in use by contractual obligations with third parties.

(e) Short-term Investments

The Company has periodically invested a portion of its cash in short-term investment instruments. All highly liquid investments with stated maturity dates between three months and one year from the purchase date are classified as short-term investments. The Company determines the appropriate classification of its short-term investments at the time of purchase and reassesses the appropriateness of the classification at each reporting date.

As of December 31, 2022 and 2021, the Company did not hold any short-term investments. Prior to their liquidation, all of the Company's short-term investments were in U.S. Treasury securities, which were classified as available-for-sale and reported at fair value within the Company's consolidated balance sheets. The fair value of the Company's short-term investments was determined based on quoted market prices in active markets for identical securities (Level 1 inputs). Premiums and discounts related to the Company's short-term investments were amortized over the life of the investment and recorded in earnings. Each reporting period, the Company determined the amount of unrealized holding gains and losses on each individual security by comparing the fair value to the amortized cost. Unrealized holding gains and unrealized holding losses that were not a result of a credit loss were reported in other comprehensive income (loss) until realized. Unrealized holding losses that were a result of a credit loss were recorded in earnings, with the establishment of an allowance for credit losses.

(f) Credit Losses on Accounts Receivable

The Company maintains an allowance for credit losses on its accounts receivable balances, which represents its best estimate of current expected credit losses over the contractual life of the accounts receivable. When evaluating the adequacy of its allowance for credit losses each reporting period, the Company analyzes accounts receivable balances with similar risk characteristics on a collective basis, considering factors such as the aging of receivable balances, payment terms, geographic location, historical loss experience, current information, and future expectations. Each reporting period, the Company reassesses whether any accounts receivable no longer share similar risk characteristics and should instead be evaluated as part of another pool or on an individual basis. Changes to the allowance for credit losses are adjusted through credit loss expense, which is presented within "General and administrative" operating expenses in the Consolidated Statements of Operations.

(g) Digital Assets

The Company accounts for its digital assets, which are comprised solely of bitcoin, as indefinite-lived intangible assets in accordance with Accounting Standards Codification ("ASC") 350, *Intangibles—Goodwill and Other*. The Company has ownership of and control over its bitcoin and uses third-party custodial services at multiple locations that are geographically dispersed to store its bitcoin. The Company's digital assets are initially recorded at cost. Subsequently, they are measured at cost, net of any impairment losses incurred since acquisition.

The Company determines the fair value of its bitcoin on a nonrecurring basis in accordance with ASC 820, *Fair Value Measurement*, based on quoted (unadjusted) prices on the Coinbase exchange, the active exchange that the Company has determined is its principal market for bitcoin (Level 1 inputs). The Company performs an analysis each quarter to identify whether events or changes in circumstances, principally decreases in the quoted (unadjusted) prices on the active exchange, indicate that it is more likely than not that any of the assets are impaired. In determining if an impairment has occurred, the Company considers the lowest price of one bitcoin quoted on the active exchange at any time since acquiring the specific bitcoin held by the Company. If the carrying value of a bitcoin exceeds that lowest price, an impairment loss has occurred with respect to that bitcoin in the amount equal to the difference between its carrying value and such lowest price.

MICROSTRATEGY INCORPORATED

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Impairment losses are recognized in the period in which the impairment occurs and are reflected within “Digital asset impairment losses (gains on sale), net” in the Company’s Consolidated Statements of Operations. The impaired digital assets are written down to their fair value at the time of impairment and this new cost basis will not be adjusted upward for any subsequent increase in fair value. Gains (if any) are not recorded until realized upon sale, at which point they are presented net of any impairment losses in the Company’s Consolidated Statements of Operations. In determining the gain to be recognized upon sale, the Company calculates the difference between the sales price and carrying value of the specific bitcoins sold immediately prior to sale.

See Note 4, Digital Assets, to the Consolidated Financial Statements for further information regarding the Company’s purchases and sales of digital assets.

(h) Property and Equipment

Property and equipment are stated at cost, net of accumulated depreciation. Depreciation is computed using the straight-line method over the estimated useful lives of the assets, as follows: three years for computer equipment and purchased software; five years for office equipment; 10 years for office furniture; and 19 years for the Company’s corporate aircraft, which has an estimated salvage value of 21%. Leasehold improvements are amortized using the straight-line method over the estimated useful lives of the improvements or the term of the lease, whichever is shorter. The Company periodically evaluates the appropriateness of the estimated useful lives and salvage value of all property and equipment. Any change in the estimated useful life or salvage value is treated as a change in estimate and accounted for prospectively in the period of change.

Expenditures for maintenance and repairs are charged to expense as incurred. When assets are retired or sold, the capitalized cost and related accumulated depreciation are removed from the property and equipment accounts and any resulting gain or loss is recognized in the results of operations.

Eligible internal-use software development costs are capitalized subsequent to the completion of the preliminary project stage. Such costs include external direct material and service costs, employee payroll, and payroll-related costs. After all substantial testing and deployment is completed and the software is ready for its intended use, capitalization ceases and internal-use software development costs are amortized using the straight-line method over the estimated useful life of the software, generally three years.

The Company reviews long-lived assets for impairment whenever events or changes in business circumstances indicate that the carrying value of the assets may not be fully recoverable or that the useful lives of these assets are no longer appropriate. Each impairment test is based on a comparison of the undiscounted cash flows to the recorded value of the asset. If an asset is impaired, the asset is written down by the amount by which the carrying value of the asset exceeds the related fair value of the asset.

(i) Leases

A lease is a contract, or part of a contract, that conveys the right to both (i) obtain economic benefits from and (ii) direct the use of an identified asset for a period of time in exchange for consideration. The Company evaluates its contracts to determine if they contain a lease and classifies any lease components identified as an operating or finance lease. For each lease component, the Company recognizes a right-of-use (“ROU”) asset and a lease liability. ROU assets and lease liabilities are presented separately for operating and finance leases; however, the Company currently has no material finance leases. The Company’s operating leases are primarily related to office space in the United States and foreign locations.

In a contract that contains a lease, a component is an item or activity that transfers a good or service to the lessee. Such contracts may be comprised of lease components, non-lease components, and elements that are not components. Each lease component represents a lessee’s right to use an underlying asset in the contract if the lessee can benefit from the right of use of the asset either on its own or together with other readily available resources and if the right of use is neither highly dependent nor highly interrelated with other rights of use. Non-lease components include items such as common area maintenance and utilities provided by the lessor. The Company has elected the practical expedient to not separate lease components from non-lease components for office space, which is the Company’s only material underlying asset class. For each lease within this asset class, the non-lease components and related lease components are accounted for as a single lease component. Items or activities that do not transfer goods or services to the lessee, such as administrative tasks to set up the contract and reimbursement or payment of lessor costs, are not components of the contract and therefore no contract consideration is allocated to such items or activities.

MICROSTRATEGY INCORPORATED

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Consideration in the contract is comprised of any fixed payments and variable payments that depend on an index or rate. Payments in the Company's operating lease arrangements are typically comprised of base office rent and parking fees. Costs related to the Company's non-lease components, as described above, are generally variable and do not depend on an index or rate and are therefore excluded from the contract consideration allocated to the lease components. The Company's operating lease arrangements generally do not contain any payments related to items or activities that are not components.

Operating lease liabilities are initially and subsequently measured at the present value of unpaid lease payments, discounted at the discount rate of the lease. Operating lease ROU assets are initially measured as the sum of the initial lease liability, any initial direct costs incurred, and any prepaid lease payments, less any lease incentives received. The ROU asset is amortized over the term of the lease. The amortization of operating lease ROU assets is included in "Reduction in carrying amount of right-of-use assets" within the operating activities section of the Consolidated Statements of Cash Flows. A single lease expense is recorded within operating expenses in the Consolidated Statements of Operations on a straight-line basis over the lease term. Variable lease payments that are not included in the measurement of the lease liability are recognized in the period when the obligations for those payments are incurred. In the Company's lease agreements, these variable payments typically include certain taxes, utilities, and maintenance costs, and other fees.

The Company uses its incremental borrowing rate as the discount rate for all of its leases, as the rate implicit in the lease is not readily determinable in any of its lease contracts. In order to estimate a collateralized borrowing rate curve, the Company first estimates a synthetic credit rating and then applies modeling methodologies to an unsecured borrowing rate curve. In determining the incremental borrowing rate of each lease, the Company uses a centralized treasury approach and considers the currency of the contract, the economic environment in which the lease exists, and the term of the lease.

The Company does not recognize lease liabilities or ROU assets for any short-term leases with a non-cancellable lease term of 12 months or less. Instead, the lease payments for these short-term leases are expensed on a straight-line basis over the lease term, and any variable payments are recognized in the period when the obligations for those payments are incurred. The Company believes that, using this methodology, the expense recorded reasonably reflects the Company's short-term lease commitments.

(j) Software Development Costs

The Company did not capitalize any software development costs during the years ended December 31, 2022, 2021, and 2020. Due to the pace of the Company's software development efforts and frequency of its software releases, the Company's software development costs are expensed as incurred within "Research and development" in the Consolidated Statements of Operations.

(k) Loss Contingencies and Legal Costs

The Company accrues loss contingencies that are believed to be probable and can be reasonably estimated. As events evolve during the administration and litigation process and additional information becomes known, the Company reassesses its estimates related to loss contingencies. Legal costs are expensed in the period in which the costs are incurred.

(l) Deferred Revenue and Advance Payments

Deferred revenue and advance payments represent amounts received or due from customers in advance of the Company transferring its software or services to the customer under an enforceable contract. In the case of multi-year service contract arrangements, the Company generally does not invoice more than one year in advance of services and does not record deferred revenue for amounts that have not been invoiced. Revenue is subsequently recognized in the period(s) in which control of the software or services is transferred to the customer. Deferred revenue is comprised of deferred product licenses and subscription services, product support, or other services revenue based on the transaction price allocated to the specific performance obligation in the contract with the customer.

(m) Debt Arrangements

The Company adopted ASU 2020-06 effective January 1, 2021. As discussed in Note 8, Long-term Debt, to the Consolidated Financial Statements, the Company issued convertible senior notes in December 2020 and February 2021 and senior secured notes in June 2021, and entered into secured term loan agreements in March 2022 and June 2022. The embedded conversion features in each of the convertible notes are indexed to the Company's class A common stock and meet the criteria for classification in stockholders' equity, and therefore derivative accounting does not apply. The Company records the aggregate principal amount of each of its debt instruments as a liability on its Consolidated Balance Sheet, offset by the issuance costs associated with each instrument. The issuance costs are amortized to interest expense using the effective interest method over the expected term of each debt instrument.

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Prior to the adoption of ASU 2020-06, the Company separated the debt and equity components of the 0.750% Convertible Senior Notes due 2025 issued in December 2020 (the “2025 Convertible Notes”). The carrying amount of the liability component was determined by measuring the fair value of a similar debt instrument without any associated conversion features at the time of issuance and the carrying amount of the equity component was determined by deducting the fair value of the liability component from the initial proceeds of the 2025 Convertible Notes. The Company also allocated issuance costs associated with the offering between debt and equity based on their relative carrying values at the time of issuance. Such issuance costs were taken as a direct reduction to the debt and equity components. Both the difference between the principal and the liability component’s initial carrying value and the issuance costs allocated to the debt component were amortized to interest expense using the effective interest method over the expected term of the 2025 Convertible Notes. In determining the fair value of a similar debt instrument without any associated conversion features, the Company estimated a nonconvertible debt borrowing rate at the time of issuance using a blend of different methodologies, which considered Level 2 inputs such as observable market prices of the Company’s debt and class A common stock, the Company’s historical and implied class A common stock volatility, a synthetic credit rating consistent with that utilized for determining the incremental borrowing rate for the Company’s accounting of leasing arrangements, and analysis of similar convertible debt issuances and their equivalent nonconvertible debt yields.

(n) Revenue Recognition

The Company recognizes revenue using a five-step model:

- (i) Identifying the contract(s) with a customer,
- (ii) Identifying the performance obligation(s),
- (iii) Determining the transaction price,
- (iv) Allocating the transaction price to the performance obligations in the contract, and
- (v) Recognizing revenue when, or as, the Company satisfies a performance obligation.

The Company has elected to exclude taxes assessed by government authorities in determining the transaction price, and therefore revenue is recognized net of taxes collected from customers. The Company enters into non-cancellable nonrefundable orders with customers and does not have a history of granting returns or refunds and therefore does not have a reserve for future returns.

Performance Obligations and Timing of Revenue Recognition

The Company primarily sells goods and services that fall into the categories discussed below. Each category contains one or more performance obligations that are either (i) capable of being distinct (i.e., the customer can benefit from the good or service on its own or together with readily available resources, including those purchased separately from the Company) and distinct within the context of the contract (i.e., separately identifiable from other promises in the contract) or (ii) a series of distinct goods or services that are substantially the same and have the same pattern of transfer to the customer. Aside from the Company’s term and perpetual product licenses, which are delivered at a point in time, the majority of the Company’s services are delivered over time.

Product Licenses

The Company sells different types of business intelligence software, licensed on a term or perpetual basis and installed either on premises or on a public cloud that is procured and managed by the customer. Although product licenses are sold with product support, the software is fully functional at the outset of the arrangement and is considered a distinct performance obligation. Revenue from product license sales is recognized when control of the license is transferred to the customer, which is the later of delivery or commencement of the license term. The Company may also sell through resellers and OEMs who purchase the Company’s software for resale. In reseller arrangements, revenue is generally recognized when control of the license is transferred to the end user. In OEM arrangements, revenue is recognized when control of the license is transferred to the OEM.

MICROSTRATEGY INCORPORATED

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Subscription Services

The Company also sells access to its software through MCE, a cloud subscription service, wherein customers access the software through a cloud environment that the Company manages on behalf of the customer. Control of the software itself does not transfer to the customer under this arrangement and is not considered a separate performance obligation. Cloud subscriptions are regularly sold on a standalone basis and include technical support, monitoring, backups, updates, and quarterly service reviews. Additionally, customers with existing on-premise software licenses may convert their installations to MCE, at which time the on-premise licenses are typically terminated and replaced by a new subscription to the MCE service. At conversion, an analysis is performed for each contract to determine whether any revenue adjustments are necessary given that the contract modifications revoke previously transferred rights to perpetual on-premise software. Such revenue adjustments were not material for the years ended December 31, 2022, 2021, and 2020. Revenue related to cloud subscriptions is recognized on a straight-line basis over the contract period, which is the period over which the customer has continuous access to the software.

Product Support

In all product license transactions, customers are required to purchase a standard product support package (either separately or as an included component of a term license transaction) that may subsequently be renewed at their option. Customers may also purchase a premium product support package for a fixed annual fee. All product support packages include both technical support and when-and-if-available software upgrades, which are treated as a single performance obligation as they are considered a series of distinct services that are substantially the same and have the same duration and measure of progress. Revenue from product support is recognized on a straight-line basis over the contract period, which is the period over which the customer has continuous access to product support.

Consulting Services

The Company sells consulting services to help customers plan and execute deployment of the Company's software. Customers are not required to use consulting services to fully benefit from the software. Consulting services are regularly sold on a standalone basis and either (i) prepaid upfront or (ii) sold on a time and materials basis. Consulting arrangements are each considered separate performance obligations because they do not integrate with each other or with other offerings to deliver a combined output to the customer, do not modify or customize (or are not modified or customized by) each other or other offerings, and do not affect the customer's ability to use the other consulting services or the Company's other offerings. Revenue under consulting arrangements is recognized over time as services are delivered. For time and materials-based consulting arrangements, the Company has elected the practical expedient of recognizing revenue upon invoicing since the invoiced amount corresponds directly to the value of the Company's service to date.

Education Services

The Company sells various education and training services to its customers. Education services are sold on a standalone basis under two different types of arrangements: (i) annual subscriptions to live and on-demand training courses and (ii) custom courses purchased on an hourly basis. Education arrangements are each considered separate performance obligations because they do not integrate with each other or with other offerings to deliver a combined output to the customer, do not modify or customize (or are not modified or customized by) each other or other offerings, and do not affect the customer's ability to use the other education services or the Company's other offerings. Revenue on annual subscriptions is recognized on a straight-line basis over the contract period, which is the period over which the customer has continuous access to the training courses. Revenue on custom courses is recognized on a time and materials basis as the services are delivered.

See Note 16, Segment Information, to the Consolidated Financial Statements for information regarding total revenues by geographic region.

Estimates and Judgments

The Company makes estimates and judgments to allocate the transaction price based on an observable or estimated SSP. The Company also makes estimates and judgments with respect to capitalizing incremental costs to obtain a customer contract and determining the subsequent amortization period. These estimates and judgments are discussed further below.

MICROSTRATEGY INCORPORATED

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Determining the Transaction Price

The transaction price includes both fixed and variable consideration. Variable consideration is included in the transaction price to the extent it is probable that a significant reversal will not occur. The amount of variable consideration excluded from the transaction price was not material for the years ended December 31, 2022, 2021, and 2020. The Company's estimates of variable consideration are also subject to subsequent true-up adjustments and may result in changes to its transaction prices. Such true-up adjustments have not been and are not expected to be material. The Company has the following sources of variable consideration:

- (i) Performance penalties – Subscription services and product support arrangements generally contain performance response time guarantees. For subscription services arrangements, the Company estimates variable consideration using a portfolio approach because performance penalties are tied to standard up-time requirements. For product support arrangements, the Company estimates variable consideration on a contract basis because such arrangements are customer-specific. For both subscription services and product support arrangements, the Company uses an expected value approach to estimate variable consideration based on historical business practices and current and future performance expectations to determine the likelihood of incurring penalties.
- (ii) Extended payment terms – The Company's standard payment terms are generally within 180 days of invoicing. If extended payment terms are granted to customers, those terms generally do not exceed one year. For contracts with extended payment terms, the Company estimates variable consideration on a contract basis because such estimates are customer-specific and uses an expected value approach to analyze historical business experience on a customer-by-customer basis to determine the likelihood that extended payment terms lead to an implied price concession.
- (iii) Sales and usage-based royalties – Certain product license arrangements include sales or usage-based royalties, covering both product license and product support. In these arrangements, the Company uses an expected value approach to estimate and recognize revenue for royalty sales each period, utilizing historical data on a contract-by-contract basis. True-up adjustments are recorded in subsequent periods when royalty reporting is received from the OEMs and during the years ended December 31, 2022, 2021, and 2020 were not material.

The Company provides a standard software assurance warranty to repair, replace, or refund software that does not perform in accordance with documentation. The standard software assurance warranty period is generally less than one year. Assurance warranty claims were not material for the years ended December 31, 2022, 2021, and 2020.

The Company does not adjust the transaction price for significant financing components where the time period between cash payment and performance is one year or less. However, there are circumstances where the timing between cash payment and performance may exceed one year. These circumstances generally involve prepaid multi-year license, product support and subscription services arrangements where the customer determines when the service is utilized. In these circumstances, the Company has determined no significant financing component exists because the customer controls when to utilize the service and because there are significant business purposes behind the timing difference between payment and performance (e.g., ensuring collectability in the case of subscription services).

Allocating the Transaction Price Based on Standalone Selling Prices (SSP)

The Company allocates the transaction price to each performance obligation in a contract based on its relative SSP. The SSP is the price, or estimated price, of the software or service when sold on a standalone basis at contract inception. In circumstances where SSP is not directly observable, the Company estimates SSP using the following methodologies:

- (i) Product licenses – Product licenses are not sold on a standalone basis and pricing is highly variable. The Company establishes SSP of product licenses using a residual approach after first establishing the SSP of standard product support. Standard product support is sold on a standalone basis within a narrow range of the stated net license fee, and because an economic relationship exists between product licenses and standard product support, the Company has concluded that the residual method to estimate SSP of product licenses sold on both a perpetual and term basis is a fair allocation of the transaction price.
- (ii) Subscription services – Given the highly variable selling price of subscription services, the Company establishes the SSP of its subscription services arrangements using a similar residual approach after first establishing the SSP of consulting and education services to the extent they are included in the arrangement. The Company has concluded that the residual method to estimate SSP of its subscription services is a fair allocation of the transaction price.

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- (iii) Standard product support – The Company establishes SSP of standard product support as a percentage of the stated net license fee, given such pricing is consistent with its normal pricing practices and there exists sufficient history of customers renewing standard product support on a standalone basis at similar percentages. Semi-annually, the Company tracks renewal rates negotiated when standard product support is initially sold with a perpetual license in order to determine the SSP of standard product support within each geographic region for the upcoming quarter. If the stated standard product support fee falls within the SSP range, the specific rate in the contract will be used to determine SSP. If the stated fee is above or below SSP, the highest or lowest end of the range, respectively, will generally be used to determine SSP of standard product support for perpetual licenses. For term licenses, the Company determines SSP of standard product support at the lower end of the SSP range used for perpetual licenses because the term licenses are time bound, resulting in a lower value placed on product support as compared to a perpetual license.
- (iv) Premium product support, consulting services, and education services – SSP of premium product support, consulting services, and education services is established by using a bell-shaped curve approach to define a narrow range within each geographic region in which the services are discounted off of the list price on a standalone basis.

The Company often provides options to purchase future offerings at a discount. The Company analyzes the option price against the previously established SSP of the goods or services to determine if the options represent material rights that should be accounted for as separate performance obligations. In general, an option sold at or above SSP is not considered a material right because the customer could have received that right without entering into the contract. If a material right exists, revenue associated with the option is deferred and recognized when the future goods or services are transferred, or when the option expires. During the years ended December 31, 2022, 2021, and 2020, separate performance obligations arising from future purchase options have not been material.

(o) Incremental Costs to Obtain Customer Contracts

The Company capitalizes costs incurred to obtain a contract with a customer when they are deemed incremental to obtaining the contract and expected to be recoverable. Capitalizable costs are generally limited to sales incentives paid to the Company's sales team. The Company capitalizes the amounts related to product support, cloud subscription, and term license contracts. Costs capitalized are amortized over a period of time that is consistent with the pattern of transfer to the customer, which the Company has determined is generally three years and includes consideration for contract length, anticipated renewals, product life cycle, and customer behavior. The Company amortizes the cost over this period on a straight-line basis for product support and subscription service components, and at point(s) in time coinciding with delivery of the license component of term license contracts. The Company has elected the practical expedient to expense capitalizable costs as incurred where the amortization period would be one year or less, which includes those amounts earned on perpetual license, consulting, and education contracts.

As of December 31, 2022 and 2021, capitalized costs to obtain customer contracts, net of accumulated amortization, were \$15.8 million and \$4.7 million, respectively, and are presented within "Deposits and other assets" in the Consolidated Balance Sheets. During the years ended December 31, 2022, 2021, and 2020, amortization expenses related to these capitalized costs were \$4.5 million, \$2.7 million, and \$3.1 million, respectively, and are reflected within "Sales and marketing" in the Consolidated Statements of Operations.

(p) Advertising Costs

Advertising costs include production costs, which are expensed the first time the advertisement takes place, and media placement costs, which are expensed in the month the advertising appears. Total advertising costs were \$0.8 million, \$1.2 million, and \$0.1 million for the years ended December 31, 2022, 2021, and 2020, respectively. As of December 31, 2022 and 2021, the Company had no prepaid advertising costs.

(q) Share-based Compensation

The Company maintains the 2013 Stock Incentive Plan (as amended, the "2013 Equity Plan"), under which the Company's employees, officers, directors, and other eligible participants may be awarded various types of share-based compensation, including options to purchase shares of the Company's class A common stock, restricted stock units, and other stock-based awards. During 2021, the Company adopted and the Company's stockholders approved the 2021 Employee Stock Purchase Plan (the "2021 ESPP"), under which eligible employees of the Company and certain of its subsidiaries may be provided with opportunities to purchase shares of the Company's class A common stock.

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The Company recognizes share-based compensation expense associated with the 2013 Equity Plan and the 2021 ESPP on a straight-line basis over the requisite service period (generally, the vesting period for awards under the 2013 Equity Plan and the offering period under the 2021 ESPP). For options and other stock-based awards, the share-based compensation expense is based on the fair value of the awards on the date of grant, as estimated using the Black-Scholes valuation model. For restricted stock units, the share-based compensation expense is based on the fair value of the Company's class A common stock on the date of grant. The fair value of liability-classified awards (e.g., the other stock-based awards and cash-settled restricted stock units) is remeasured at each reporting date. For the 2021 ESPP, the share-based compensation expense is based on the grant date fair value, which consists of the intrinsic value of any purchase discount and the fair value of the look-back provision using the Black-Scholes valuation model. Share-based compensation expense is recorded in cost of revenues or operating expense line items in the Statement of Operations corresponding to the respective participant's role or function.

See Note 11, Share-based Compensation, to the Consolidated Financial Statements for further information regarding the 2013 Equity Plan, the 2021 ESPP, related share-based compensation expense, and assumptions used in determining fair value.

(r) Income Taxes

The Company is subject to federal, state, and local income taxes in the United States and a number of foreign countries. Deferred income taxes are provided based on enacted tax laws and rates applicable to the periods in which the taxes become payable. For uncertain income tax positions, the Company uses a more-likely-than-not recognition threshold based on the technical merits of the income tax position taken. Income tax positions that meet the more-likely-than-not recognition threshold are measured in order to determine the tax benefit recognized in the financial statements. The Company recognizes accrued interest related to unrecognized tax benefits as part of income tax expense. Penalties, if incurred, are recognized as a component of income tax expense.

The Company provides a valuation allowance to reduce deferred tax assets to their estimated realizable value, when appropriate.

(s) Basic and Diluted Earnings Per Share

Basic earnings per share is determined by dividing the net income attributable to common stockholders by the weighted average number of shares of common stock, including shares of class A common stock and class B common stock, outstanding during the period. Diluted earnings per share is determined by dividing the net income attributable to common stockholders by the weighted average number of shares of common stock and potential shares of common stock outstanding during the period. Potential shares of common stock are included in the diluted earnings per share calculation when dilutive. Potential shares of common stock consisting of class A common stock issuable upon the exercise of outstanding employee stock options, the vesting of restricted stock units, and in connection with the 2021 ESPP are computed using the treasury stock method. Upon the adoption of ASU 2020-06, potential shares of common stock consisting of class A common stock issuable upon conversion of the Company's convertible senior notes are computed using the if-converted method. Prior to the adoption of ASU 2020-06, potential shares of common stock consisting of class A common stock issuable upon conversion of the Company's convertible senior notes were computed using the treasury stock method. See Note 3, Recent Accounting Standards, to the Consolidated Financial Statements for further information regarding the differences in the if-converted and treasury stock methods. In computing diluted earnings per share, the Company first calculates the earnings per incremental share ("EPIS") for each class of potential shares of common stock and ranks the classes from the most dilutive (i.e., lowest EPIS) to the least dilutive (i.e., highest EPIS). Basic earnings per share is then adjusted for the effect of each class of shares, in sequence and cumulatively, until a particular class no longer produces further dilution.

The Company has two classes of common stock: class A common stock and class B common stock. Holders of class A common stock generally have the same rights, including rights to dividends, as holders of class B common stock, except that holders of class A common stock have one vote per share while holders of class B common stock have ten votes per share. Each share of class B common stock is convertible at any time, at the option of the holder, into one share of class A common stock. As such, basic and fully diluted earnings per share for class A common stock and for class B common stock are the same. The Company has never declared or paid any cash dividends on either class A or class B common stock. As of December 31, 2022 and 2021, there were no shares of preferred stock issued or outstanding.

(t) Foreign Currency Translation

The functional currency of the Company's international operations is generally the local currency. Accordingly, all assets and liabilities of international subsidiaries are translated using exchange rates in effect at the end of the period, and revenue and expenses are translated using average monthly exchange rates for the period in which the transactions occur. The related translation adjustments are reported

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in “Accumulated other comprehensive income (loss)” in stockholders’ equity. In general, upon complete or substantially complete liquidation of an investment in an international subsidiary, the amount of accumulated translation adjustments attributable to that subsidiary is reclassified from stockholders’ equity to the statement of operations. Transaction gains and losses arising from transactions denominated in a currency other than the functional currency of the entity involved are included in the results of operations.

As of December 31, 2022, 2021, and 2020, the cumulative foreign currency translation balances were \$(13.8) million, \$(7.5) million, and \$(3.9) million, respectively. No taxes were recognized on the temporary differences resulting from foreign currency translation adjustments for the years ended December 31, 2022, 2021, and 2020.

Transaction gains and losses arising from transactions denominated in foreign currencies resulted in net gains of \$6.2 million and \$2.5 million in 2022 and 2021, respectively, and a net loss of \$7.6 million in 2020, and are included in “Other income (expense), net” in the Consolidated Statements of Operations.

(u) Concentrations of Credit Risk

Financial instruments that potentially subject the Company to concentrations of credit risk consist primarily of cash and cash equivalents, restricted cash, and accounts receivable. The Company places its cash equivalents with high credit-quality financial institutions and has established guidelines relative to credit ratings and maturities that seek to maintain safety and liquidity.

The Company sells its offerings to various companies across several industries throughout the world in the ordinary course of business. The Company routinely assesses the financial strength of its customers and maintains allowances for anticipated losses. As of December 31, 2022 and 2021, no individual customer accounted for 10% or more of net accounts receivable, and for the years ended December 31, 2022, 2021, and 2020, no individual customer accounted for 10% or more of revenue.

(3) Recent Accounting Standards

Accounting for Convertible Instruments

The Company early adopted ASU 2020-06 effective as of January 1, 2021 using the modified retrospective method, which resulted in a cumulative-effect adjustment to the opening balance of retained earnings on the date of adoption, recorded as follows (in thousands):

Consolidated Balance Sheet	December 31, 2020 As Reported	Effect of the Adoption of ASU 2020-06	January 1, 2021 As Adjusted
Deferred tax liabilities (assets)	\$ 8,211	\$ (41,693)	\$ (33,482)
Convertible senior notes, net	486,366	148,546	634,912
Additional paid-in-capital	763,051	(107,810)	655,241
Retained earnings	575,965	957	576,922

The following significant accounting changes occurred as result of the adoption of ASU 2020-06:

- (i) *Elimination of the cash conversion model.* Under previous GAAP, instruments that may be partially settled in cash were in the scope of the “cash conversion” model, which required conversion features to be separately reported in equity. Upon the adoption of ASU 2020-06, the cash conversion model was eliminated and the Company no longer records conversion features in equity and instead accounts for its convertible senior notes as single units of debt. As a result, there is no longer a debt discount or subsequent amortization to be recognized as interest expense. Similarly, the Company no longer allocates a portion of the related issuance costs to equity. As a result of these changes, temporary differences between the Company’s book and tax bases have been eliminated and the Company no longer records any related net deferred tax liability with respect to its convertible senior notes.
- (ii) *Use of the “if-converted” method for calculating diluted earnings per share.* Under previous GAAP, the Company utilized the “treasury stock” method for computing the diluted earnings per share impact of its convertible senior notes. Under the treasury stock method, only the excess of the average stock price of the Company’s class A common stock for the reporting period over the conversion price was used in determining the impact to the diluted earnings per share denominator. Upon the adoption of ASU 2020-06, the Company may no longer use the treasury stock method for instruments with flexible

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settlement arrangements. Instead, the Company is required to use the if-converted method, which requires all underlying shares be included in the denominator regardless of the average stock price for the reporting period, in addition to adding back to the numerator the related interest expense from the stated coupon and the amortization of issuance costs, if dilutive.

Accounting for income taxes

The Company adopted Accounting Standards Update No. 2019-12, *Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes* (“ASU 2019-12”) effective as of January 1, 2021. ASU 2019-12 simplifies the accounting for income taxes by eliminating certain exceptions related to the approach for intraperiod tax allocation, the methodology for calculating income taxes in an interim period, and the recognition of deferred tax liabilities related to outside basis differences. ASU 2019-12 requires certain amendments to be applied prospectively and others retrospectively. The adoption of this guidance did not have a material impact on the Company’s consolidated financial position, results of operations, or cash flows. Prior periods have not been adjusted and no cumulative-effect adjustment to retained earnings was made.

Credit losses

The Company adopted ASU 2016-13 effective as of January 1, 2020. Under ASU 2016-13, the Company applies a current expected credit loss (“CECL”) impairment model to its trade accounts receivable, in which lifetime expected credit losses on such financial assets are measured and recognized at each reporting date based on historical, current, and forecasted information. Under the CECL model, trade accounts receivable with similar risk characteristics are analyzed on a collective (pooled) basis. ASU 2016-13 also changed the impairment accounting for available-for-sale debt securities, requiring credit losses to be recorded through an allowance for credit losses rather than as a reduction in the amortized cost basis of the securities. Impairment due to factors other than credit loss will continue to be recorded through other comprehensive income (loss). Since adoption of this guidance, all of the Company’s available-for-sale debt securities have consisted of U.S. Treasury securities with stated maturity dates between three months and one year from the purchase date and none of these investments have been impaired at periods’ end. As of December 31, 2022 and 2021, the Company did not hold any short-term investments. The adoption of this guidance did not have a material impact on the Company’s consolidated financial position, results of operations, or cash flows. No cumulative-effect adjustment to retained earnings was made.

(4) Digital Assets

The following table summarizes the Company’s digital asset holdings (in thousands, except number of bitcoins), as of:

	December 31,	
	2022	2021
Approximate number of bitcoins held	132,500	124,391
Digital assets carrying value	\$ 1,840,028	\$ 2,850,210
Cumulative digital asset impairment losses	\$ 2,153,162	\$ 901,319

The carrying value represents the lowest fair value (based on Level 1 inputs in the fair value hierarchy) of the bitcoins at any time since their acquisition. Therefore, these fair value measurements were made during the period from their acquisition through December 31, 2022 or 2021, respectively, and not as of December 31, 2022 or 2021, respectively.

The following table summarizes the Company’s digital asset purchases, digital asset sales, digital asset impairment losses, and gains on sale of digital assets (in thousands, except number of bitcoins) for the periods indicated:

	Years Ended December 31,		
	2022	2021	2020
Approximate number of bitcoins purchased	8,813	53,922	70,469
Approximate number of bitcoins sold	704	0	0
Digital asset purchases	\$ 287,921	\$ 2,626,529	\$ 1,125,000
Digital asset sales	\$ 11,817	\$ 0	\$ 0
Digital asset impairment losses	\$ 1,287,213	\$ 830,621	\$ 70,698
Gains on sale of digital assets	\$ 927	\$ 0	\$ 0

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From time to time, the Company may be extended short-term credits from Coinbase to purchase bitcoin in advance of using cash funds in the Company’s trading account. The trade credits are due and payable in cash within days after they are extended. In 2021, certain of the assets, including bitcoin, of MacroStrategy LLC (“MacroStrategy”), a wholly-owned subsidiary of the Company, were subject to a first priority security interest and lien in order to secure the repayment of short-term trade credits taken in its name. While trade credits are outstanding, the Company may incur interest fees and be required to maintain minimum balances in its trading and collateral accounts with Coinbase. As of December 31, 2022 and 2021, the Company had no outstanding trade credits payable.

As of December 31, 2022, approximately 14,890 of the bitcoins held by the Company serve as part of the collateral for the Company’s 6.125% Senior Secured Notes due 2028 (the “2028 Secured Notes”), as further described in Note 8, Long-term Debt, to the Consolidated Financial Statements. As of December 31, 2022, approximately 34,619 of the bitcoins held by the Company serve as part of the collateral for a \$205.0 million term loan (the “2025 Secured Term Loan”) issued to MacroStrategy by Silvergate Bank (“Silvergate”), as further described in Note 8, Long-term Debt, to the Consolidated Financial Statements.

(5) Contract Balances

The Company invoices its customers in accordance with billing schedules established in each contract. The Company’s rights to consideration from customers are presented separately in the Company’s Consolidated Balance Sheets depending on whether those rights are conditional or unconditional.

The Company presents unconditional rights to consideration from customers within “Accounts receivable, net” in its Consolidated Balance Sheets. All of the Company’s contracts are generally non-cancellable and/or non-refundable, and therefore an unconditional right generally exists when the customer is billed or amounts are billable per the contract.

Accounts receivable (in thousands) consisted of the following, as of:

	<u>December 31,</u>	
	<u>2022</u>	<u>2021</u>
Billed and billable	\$ 191,844	\$ 192,055
Less: allowance for credit losses	(2,564)	(2,775)
Accounts receivable, net	<u>\$ 189,280</u>	<u>\$ 189,280</u>

Changes in the allowance for credit losses were not material for the year ended December 31, 2022.

Rights to consideration that are subject to a condition other than the passage of time are considered contract assets until they are expected to become unconditional and transfer to accounts receivable. Current contract assets included in “Prepaid expenses and other current assets” in the Consolidated Balance Sheets consisted of \$0.6 million and \$1.1 million in accrued sales and usage-based royalty revenue as of December 31, 2022 and 2021, respectively. In these arrangements, consideration is not billed or billable until the royalty reporting is received, generally in the subsequent quarter, at which time the contract asset transfers to accounts receivable and a true-up adjustment is recorded to revenue. These true-up adjustments are generally not material. Non-current contract assets included in “Deposits and other assets” in the Consolidated Balance Sheets consisted of \$0.7 million for performance obligations or services being rendered in advance of future invoicing associated with multi-year contracts as of December 31, 2022. The Company had no non-current contract assets as of December 31, 2021. During the years ended December 31, 2022, 2021, and 2020, there were no significant impairments to the Company’s contract assets, nor were there any significant changes in the timing of the Company’s contract assets being reclassified to accounts receivable.

Contract liabilities are amounts received or due from customers in advance of the Company transferring the software or services to the customer. In the case of multi-year service contract arrangements, the Company generally does not invoice more than one year in advance of services and does not record deferred revenue for amounts that have not been invoiced. Revenue is subsequently recognized in the period(s) in which control of the software or services is transferred to the customer. The Company’s contract liabilities are presented as either current or non-current “Deferred revenue and advance payments” in the Consolidated Balance Sheets, depending on whether the software or services are expected to be transferred to the customer within the next year.

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The Company's "Accounts receivable, net" and "Deferred revenue and advance payments" balances in the Consolidated Balance Sheets include unpaid amounts related to contracts under which the Company has an enforceable right to invoice the customer for non-cancellable and/or non-refundable software and services. Changes in accounts receivable and changes in deferred revenue and advance payments are presented net of these unpaid amounts in "Operating activities" in the Consolidated Statements of Cash Flows.

Deferred revenue and advance payments (in thousands) from customers consisted of the following, as of:

	December 31,	
	2022	2021
Current:		
Deferred product licenses revenue	\$ 2,825	\$ 993
Deferred subscription services revenue	51,861	35,589
Deferred product support revenue	155,366	166,477
Deferred other services revenue	7,376	6,801
Total current deferred revenue and advance payments	<u>\$ 217,428</u>	<u>\$ 209,860</u>
Non-current:		
Deferred product licenses revenue	\$ 2,742	\$ 68
Deferred subscription services revenue	3,030	1,064
Deferred product support revenue	6,387	6,203
Deferred other services revenue	604	754
Total non-current deferred revenue and advance payments	<u>\$ 12,763</u>	<u>\$ 8,089</u>

During the years ended December 31, 2022, 2021, and 2020, the Company recognized revenues of \$203.1 million, \$188.7 million, and \$182.6 million, respectively, from amounts included in the total deferred revenue and advance payments balances at the beginning of the respective year. For the years ended December 31, 2022, 2021, and 2020, there were no significant changes in the timing of revenue recognition on the Company's deferred balances.

The Company's remaining performance obligation represents all future revenue under contract and includes deferred revenue and advance payments and billable non-cancelable amounts that will be invoiced and recognized as revenue in future periods. The remaining performance obligation excludes contracts that are billed in arrears, such as certain time and materials contracts. The portions of multi-year contracts that will be invoiced in the future are not presented on the balance sheet within accounts receivable and deferred revenues and are instead included in the following remaining performance obligation disclosure. As of December 31, 2022, the Company had an aggregate transaction price of \$324.8 million allocated to the remaining performance obligation related to product support, subscription services, product licenses, and other services contracts. The Company expects to recognize \$241.5 million within the next 12 months and the remainder thereafter.

(6) Property and Equipment

Property and equipment (in thousands) consisted of the following, as of:

	December 31,	
	2022	2021
Corporate aircraft and related equipment	\$ 48,645	\$ 48,645
Computer equipment and purchased software	60,375	61,793
Furniture and equipment	9,936	9,990
Leasehold improvements	28,755	28,872
Internally developed software	9,917	9,917
Property and equipment, gross	157,628	159,217
Less: accumulated depreciation and amortization	(125,317)	(122,630)
Property and equipment, net	<u>\$ 32,311</u>	<u>\$ 36,587</u>

Depreciation and amortization expenses related to property and equipment were \$6.7 million, \$8.7 million, and \$11.4 million for the years ended December 31, 2022, 2021, and 2020, respectively.

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(7) Leases

The Company leases office space in the United States and foreign locations under operating lease agreements. Office space is the Company's only material underlying asset class under operating lease agreements. The Company has no material finance leases.

Under the Company's office space lease agreements, fixed payments and variable payments that depend on an index or rate are typically comprised of base rent and parking fees. Additionally, under these agreements the Company is generally responsible for certain variable payments that typically include certain taxes, utilities and maintenance costs, and other fees. These variable lease payments are generally based on the Company's occupation or usage percentages and are subject to adjustments by the lessor.

The Company's ROU asset and total lease liability balances were \$61.3 million and \$77.4 million, respectively, as of December 31, 2022, and \$66.8 million and \$85.8 million, respectively, as of December 31, 2021. The Company's most significant lease is for its corporate headquarters in Northern Virginia. The ROU asset and total lease liability balances related to the Company's corporate headquarters lease were \$52.5 million and \$68.2 million, respectively, as of December 31, 2022, and \$55.2 million and \$73.6 million, respectively, as of December 31, 2021. The lease agreement for the Company's corporate headquarters location is set to expire in December 2030, with an option for the Company to extend the term for an additional five or 10 consecutive years. The Company is currently not reasonably certain it will exercise this renewal option and therefore has not included the renewal option in the lease term. The lease agreement also includes an option to early terminate a portion of the leased space in exchange for a termination fee, which the Company exercised in the fourth quarter of 2020. This modification was not accounted for as a separate contract. Upon exercise of this early termination option in 2020, the Company reduced the lease liability balance by the amount of the termination fee, which was \$1.6 million, and remeasured the remaining ROU asset and lease liability, reducing them by \$4.2 million and \$7.0 million, respectively, which resulted in a gain on partial lease termination of \$2.8 million. The \$2.8 million gain on partial lease termination was recorded as a reduction to operating lease cost and is reflected within the "Operating lease cost" line in the table below for the year ended December 31, 2020. The \$1.6 million termination fee is reflected within the "Cash paid for amounts included in the measurement of operating lease liabilities" line in the table below for the year ended December 31, 2020. In remeasuring the ROU Asset, the Company elected to do so based on the on the remaining right of use. Several of the Company's remaining leases also contain options for renewal or options to terminate all or a portion of the leased space. The Company continually assesses the likelihood of exercising these options and recognizes an option as part of its ROU assets and lease liabilities if and when it is reasonably certain that it will exercise the option.

The following table presents the Company's total lease cost and other lease details for the periods indicated (in thousands, except years and discount rates):

	Years Ended December 31,		
	2022	2021	2020
<i>Lease cost:</i>			
Operating lease cost	\$ 13,008	\$ 13,522	\$ 11,772
Short-term lease cost	582	558	1,158
Variable lease cost	514	1,224	1,382
Total lease cost	<u>\$ 14,104</u>	<u>\$ 15,304</u>	<u>\$ 14,312</u>
<i>Other information:</i>			
Cash paid for amounts included in the measurement of operating lease liabilities	\$ 14,224	\$ 15,772	\$ 17,497
ROU assets obtained in exchange for new operating lease liabilities	\$ 1,563	\$ 2,420	\$ 743
Weighted average remaining lease term in years – operating leases	7.5	8.3	9.1
Weighted average discount rate – operating leases	6.1%	6.1%	6.1%

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The following table presents the maturities of the Company’s operating lease liabilities as of December 31, 2022 (in thousands):

For the year ended December 31,		
2023	\$	14,446
2024		12,798
2025		12,429
2026		12,569
2027		12,116
Thereafter		31,750
Total lease payments		96,108
Less: imputed interest		(18,712)
Total	\$	77,396
Reported as:		
Current operating lease liabilities	\$	10,052
Non-current operating lease liabilities		67,344
Total	\$	77,396

(8) Long-term Debt

The net carrying value of the Company’s long-term debt (in thousands) consisted of the following as of:

	December 31,	
	2022	2021
2025 Convertible Notes	\$ 640,888	\$ 637,882
2027 Convertible Notes	1,033,277	1,029,263
2028 Secured Notes	489,547	488,006
2025 Secured Term Loan	204,688	0
Other long-term secured debt	10,160	0
Total	\$ 2,378,560	\$ 2,155,151

Convertible Senior Notes

In December 2020, the Company issued \$650.0 million aggregate principal amount of 2025 Convertible Notes in a private offering. The 2025 Convertible Notes are senior unsecured obligations of the Company and bear interest at a fixed rate of 0.750% per annum, payable semiannually in arrears on June 15 and December 15 of each year, beginning on June 15, 2021. Holders of the 2025 Convertible Notes may receive additional interest under specified circumstances as outlined in the indenture relating to the issuance of the 2025 Convertible Notes (the “2025 Convertible Notes Indenture”). The 2025 Convertible Notes will mature on December 15, 2025, unless earlier converted, redeemed or repurchased in accordance with their terms. The total net proceeds from the 2025 Convertible Notes offering, after deducting initial purchaser discounts and issuance costs, were approximately \$634.7 million.

In February 2021, the Company issued \$1.050 billion aggregate principal amount of 2027 Convertible Notes in a private offering. The 2027 Convertible Notes are senior unsecured obligations of the Company and do not bear regular interest. However, holders of the 2027 Convertible Notes may receive special interest under specified circumstances as outlined in the indenture relating to the issuance of the 2027 Convertible Notes (the “2027 Convertible Notes Indenture”). Any special interest is payable semiannually in arrears on February 15 and August 15 of each year, beginning on August 15, 2021. The 2027 Convertible Notes will mature on February 15, 2027, unless earlier converted, redeemed, or repurchased in accordance with their terms. The total net proceeds from the 2027 Convertible Notes offering, after deducting initial purchaser discounts and issuance costs, were approximately \$1.026 billion.

The 2025 Convertible Notes and 2027 Convertible Notes (collectively, the “Convertible Notes”) are senior unsecured obligations and rank senior in right of payment to any of the Company’s indebtedness that is expressly subordinated in right of payment to the Convertible Notes; equal in right of payment to any of the Company’s unsecured indebtedness that is not so subordinated; effectively junior in right of payment to any of the Company’s secured indebtedness to the extent of the value of the assets securing such indebtedness; and structurally junior to all indebtedness and other liabilities (including trade payables) of the Company’s subsidiaries.

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The Convertible Notes are convertible into shares of the Company's class A common stock at initial conversion rates of 2.5126 shares and 0.6981 shares per \$1,000 principal amount of Convertible Notes for the 2025 Convertible Notes and 2027 Convertible Notes, respectively (equivalent to an initial conversion price of approximately \$397.99 per share and \$1,432.46 per share of class A common stock for the 2025 Convertible Notes and 2027 Convertible Notes, respectively). The conversion rates are subject to customary anti-dilution adjustments. In addition, following certain events that may occur prior to the respective maturity dates or if the Company delivers a notice of redemption, the Company will increase the conversion rate for a holder who elects to convert its Convertible Notes in connection with such corporate event or notice of redemption, as the case may be, in certain circumstances as provided in the 2025 Convertible Notes Indenture and the 2027 Convertible Notes Indenture (collectively, the "Convertible Notes Indentures"), respectively. As of December 31, 2022, the maximum number of shares into which the Convertible Notes could be potentially converted if the conversion features are triggered are 1,633,190 and 733,005 shares for the 2025 Convertible Notes and 2027 Convertible Notes, respectively.

Prior to June 15, 2025 and August 15, 2026 for the 2025 Convertible Notes and 2027 Convertible Notes, respectively, the Convertible Notes are convertible only under the following circumstances: (1) during any calendar quarter commencing after the calendar quarter ending on March 31, 2021 and June 30, 2021 for the 2025 Convertible Notes and 2027 Convertible Notes, respectively (and only during such calendar quarter), if the last reported sale price of the Company's class A common stock for at least 20 trading days (whether or not consecutive) during the period of 30 consecutive trading days ending on, and including, the last trading day of the immediately preceding calendar quarter is greater than or equal to 130% of the conversion price of the 2025 Convertible Notes or 2027 Convertible Notes, respectively, on each applicable trading day; (2) during the five business day period after any five consecutive trading day period (the "measurement period") in which the "trading price" (as defined in the Convertible Notes Indentures) per \$1,000 principal amount of the 2025 Convertible Notes or 2027 Convertible Notes, respectively, for each trading day of the measurement period was less than 98% of the product of the last reported sale price of the Company's class A common stock and the applicable conversion rate on each such trading day; (3) if the Company calls any or all of the 2025 Convertible Notes or 2027 Convertible Notes, respectively, for redemption, at any time prior to the close of business on the second scheduled trading day immediately preceding the redemption date; and (4) upon occurrence of specified corporate events as described in the Convertible Notes Indentures.

On or after June 15, 2025 or August 15, 2026 for the 2025 Convertible Notes and 2027 Convertible Notes, respectively, until the close of business on the second scheduled trading day immediately preceding the maturity dates of the 2025 Convertible Notes or 2027 Convertible Notes, respectively, holders may convert the 2025 Convertible Notes or 2027 Convertible Notes, respectively, at any time. Upon conversion of the Convertible Notes, the Company will pay or deliver, as the case may be, cash, shares of the Company's class A common stock, or a combination of cash and shares of class A common stock, at the Company's election.

Prior to December 20, 2023 or February 20, 2024 for the 2025 Convertible Notes and 2027 Convertible Notes, respectively, the Company may not redeem the Convertible Notes. The Company may redeem for cash all or a portion of the 2025 Convertible Notes or 2027 Convertible Notes, at its option, on or after December 20, 2023 or February 20, 2024, respectively, if the last reported sale price of the Company's class A common stock has been at least 130% of the conversion price of the 2025 Convertible Notes or 2027 Convertible Notes, respectively, then in effect for at least 20 trading days (whether or not consecutive), including the trading day immediately preceding the date on which the Company provides a notice of redemption, during any 30 consecutive trading day period ending on, and including, the trading day immediately preceding the date on which the Company provides notice of redemption. The redemption price will be equal to 100% of the principal amount of the Convertible Notes to be redeemed, plus accrued and unpaid interest to, but excluding, the redemption date.

If the Company undergoes a "fundamental change," as defined in the Convertible Notes Indentures, prior to maturity, subject to certain conditions, holders may require the Company to repurchase for cash all or any portion of their Convertible Notes at a fundamental change repurchase price equal to 100% of the principal amount of the Convertible Notes to be repurchased, plus any accrued and unpaid interest to, but excluding, the fundamental change repurchase date.

The Convertible Notes Indentures contain customary terms and covenants, including that upon certain events of default occurring and continuing, either the Trustee or the holders of at least 25% in principal amount of the outstanding 2025 Convertible Notes or 2027 Convertible Notes, respectively, may declare 100% of the principal of, and accrued and unpaid interest, if any, on, all the 2025 Convertible Notes or 2027 Convertible Notes, respectively, to be due and payable.

During the year ended December 31, 2022, the 2025 Convertible Notes were convertible at the option of the holders of the 2025 Convertible Notes during the first quarter of 2022 only. During the year ended December 31, 2021, the 2025 Convertible Notes were convertible at the option of the holders of the 2025 Convertible Notes during the second quarter and fourth quarter of 2021 only. During

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the year ended December 31, 2020, the 2025 Convertible Notes were not convertible at any time. During the years ended December 31, 2022 and 2021, the 2027 Convertible Notes were not convertible at any time. No conversions of the Convertible Notes occurred during the years ended December 31, 2022, 2021, and 2020. The Convertible Notes may be convertible in future periods if one or more of the conversion conditions is satisfied during future measurement periods.

The Company incurred approximately \$15.3 million and \$24.2 million in customary offering expenses associated with the 2025 Convertible Notes and 2027 Convertible Notes, respectively (“issuance costs”). The Company accounts for these issuance costs as a reduction to the principal amount of the 2025 Convertible Notes and 2027 Convertible Notes, respectively, and amortizes the issuance costs to interest expense over the contractual term of the 2025 Convertible Notes and 2027 Convertible Notes, respectively, at an effective interest rate of 1.23% and 0.39%, respectively.

Although the Convertible Notes each contain embedded conversion features, the Company accounts for each of the Convertible Notes in its entirety as a liability because the conversion features are indexed to the Company’s class A common stock and meet the criteria for classification in stockholders’ equity and therefore do not qualify for separate derivative accounting. As of December 31, 2022 and 2021, the net carrying value of the Convertible Notes was classified as a long-term liability in the “Long-term debt, net” line item in the Company’s Consolidated Balance Sheets.

The following is a summary of the Company’s convertible debt instruments as of December 31, 2022 (in thousands):

	December 31, 2022				
	Outstanding	Unamortized	Net Carrying	Fair Value	
	Principal Amount	Issuance Costs	Value	Amount	Leveling
2025 Convertible Notes	\$ 650,000	\$ (9,112)	\$ 640,888	\$ 364,000	Level 2
2027 Convertible Notes	1,050,000	(16,723)	1,033,277	394,800	Level 2
Total	\$ 1,700,000	\$ (25,835)	\$ 1,674,165	\$ 758,800	

The following is a summary of the Company’s convertible debt instruments as of December 31, 2021 (in thousands):

	December 31, 2021				
	Outstanding	Unamortized	Net Carrying	Fair Value	
	Principal Amount	Issuance Costs	Value	Amount	Leveling
2025 Convertible Notes	\$ 650,000	\$ (12,118)	\$ 637,882	\$ 1,056,679	Level 2
2027 Convertible Notes	1,050,000	(20,737)	1,029,263	774,375	Level 2
Total	\$ 1,700,000	\$ (32,855)	\$ 1,667,145	\$ 1,831,054	

The fair value of the Convertible Notes is determined using observable market data other than quoted prices, specifically the last traded price at the end of the reporting period of identical instruments in the over-the-counter market (Level 2).

For the years ended December 31, 2022 and 2021, interest expense related to the Convertible Notes was as follows (in thousands):

	Year Ended December 31, 2022			Year Ended December 31, 2021		
	Contractual	Amortization of	Total	Contractual	Amortization of	Total
	Interest Expense	Issuance Costs		Interest Expense	Issuance Costs	
2025 Convertible Notes	\$ 4,875	\$ 3,006	\$ 7,881	\$ 4,875	\$ 2,970	\$ 7,845
2027 Convertible Notes	0	4,014	4,014	0	3,433	3,433
Total	\$ 4,875	\$ 7,020	\$ 11,895	\$ 4,875	\$ 6,403	\$ 11,278

The Company paid \$4.9 million and \$4.9 million, respectively, in interest expense related to the 2025 Convertible Notes during the years ended December 31, 2022 and 2021. The Company has not paid any special interest expense related to the 2027 Convertible Notes to date.

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Accounting for the 2025 Convertible Notes prior to the adoption of ASU 2020-06

As discussed in Note 3, Recent Accounting Standards, to the Consolidated Financial Statements, the Company adopted ASU 2020-06 effective January 1, 2021. Prior to the adoption of ASU 2020-06, the Company separated the 2025 Convertible Notes into liability and equity components. The initial carrying amount of the liability component was determined by measuring the fair value of a similar debt instrument without any associated conversion features. The carrying amount of the equity component (representing the conversion option) was \$153.5 million and was determined by deducting the fair value of the liability component from the par value of the 2025 Convertible Notes. The equity component was recorded in “additional paid-in-capital” in the Company’s Consolidated Balance Sheet.

Prior to the adoption of ASU 2020-06, the Company allocated the \$15.3 million of issuance costs incurred to the liability and equity components of the 2025 Convertible Notes based on their relative values. Issuance costs attributable to the liability component of \$11.6 million were taken as a reduction to the principal amount of the 2025 Convertible Notes. Issuance costs attributable to the equity component of \$3.6 million were netted against the equity component of the 2025 Convertible Notes in “additional paid-in-capital” in the Company’s Consolidated Balance Sheet. The excess of the principal amount of the liability component over its carrying amount (the “debt discount”) and the issuance costs attributable to the liability component were amortized to interest expense at an effective interest rate of 6.82%.

As of December 31, 2020, the net carrying amount of the liability component of the 2025 Convertible Notes was classified as a long-term liability in the “Long-term debt, net” line item in the Company’s Consolidated Balance Sheet as follows (in thousands):

	December 31,
	2020
Principal	\$ 650,000
Unamortized debt discount	(152,075)
Unamortized issuance costs	(11,559)
Net carrying amount of debt	\$ 486,366

As of December 31, 2020, the net carrying amount of the equity component of the 2025 Convertible Notes was classified as permanent equity and included in “additional paid in capital” in the Company’s Consolidated Balance Sheet as follows (in thousands):

	December 31,
	2020
Debt discount for conversion option	\$ 153,527
Issuance costs allocated to equity	(3,602)
Deferred tax liability, net of deferred tax asset, related to debt discount and issuance costs	(42,115)
Net carrying amount of equity	\$ 107,810

For the year ended December 31, 2020, interest expense related to the 2025 Convertible Notes was as follows (in thousands):

	Year Ended December 31,
	2020
Contractual interest expense	\$ 271
Amortization of debt discount	1,452
Amortization of issuance costs allocated to debt	91
Total interest expense	\$ 1,814

The Company did not pay any interest expense related to the 2025 Convertible Notes during the year ended December 31, 2020.

Senior Secured Notes

On June 14, 2021, the Company issued \$500.0 million aggregate principal amount of 2028 Secured Notes. The 2028 Secured Notes were sold under a purchase agreement, dated as of June 8, 2021, entered into by and among the Company, MicroStrategy Services Corporation, a wholly owned subsidiary of the Company (the “Guarantor”), and Jefferies LLC, for resale to qualified institutional buyers pursuant to Rule 144A under the Securities Act of 1933, as amended (the “Securities Act”), and to persons outside the United States pursuant to Regulation S under the Securities Act. The terms of the 2028 Secured Notes are governed by an indenture, dated as of June 14, 2021 (the “2028 Secured Notes Indenture”), among the Company, the Guarantor, and U.S. Bank National Association, as trustee and collateral agent.

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The 2028 Secured Notes are unconditionally guaranteed, jointly and severally, on a senior secured basis by the Guarantor and certain subsidiaries of the Company (excluding MacroStrategy) that may be formed or acquired on or after June 14, 2021 (collectively, the “Subsidiary Guarantors”). The 2028 Secured Notes bear interest at a fixed rate of 6.125% per annum, payable semiannually in arrears on June 15 and December 15 of each year, beginning on December 15, 2021. The 2028 Secured Notes have a stated maturity date of June 15, 2028, unless earlier redeemed or repurchased in accordance with their terms and subject to a springing maturity date of September 15, 2025 or November 16, 2026 as discussed further below. The total net proceeds from the 2028 Secured Notes, after deducting initial purchaser discounts and issuance costs, were approximately \$487.2 million.

The 2028 Secured Notes and the related guarantees are secured, on a senior secured basis with the Company’s existing and future senior indebtedness, by a security interest in substantially all of the Company’s and the Subsidiary Guarantors’ assets (the “Collateral”). The Collateral includes any bitcoins or other digital assets acquired by the Company or a Subsidiary Guarantor on or after June 14, 2021, but excludes bitcoins held by MacroStrategy and certain other excluded assets. As of December 31, 2022, approximately 14,890 of the bitcoins held by the Company serve as part of the Collateral. MacroStrategy is the Company’s subsidiary formed to hold bitcoins and digital assets that are not included in the Collateral, including bitcoins acquired before June 14, 2021, bitcoins that MacroStrategy acquired using the proceeds from the 2025 Secured Term Loan, and bitcoins purchased by MacroStrategy from contributions made to it by the Company with the proceeds from sales of the Company’s class A common stock, such as sales of the Company’s class A common stock pursuant to the two equity offerings described in Note 13, At-the-Market Equity Offerings, to the Consolidated Financial Statements.

The 2028 Secured Notes and the related guarantees are the general senior secured obligations of the Company and the Subsidiary Guarantors and rank *pari passu* in right of payment with the Company’s and the Subsidiary Guarantors’ existing and future senior indebtedness, are senior in right of payment to all future subordinated indebtedness of the Company and the Subsidiary Guarantors, and are effectively senior to any existing and future unsecured indebtedness of the Company and the Subsidiary Guarantors (including the Convertible Notes) to the extent of the value of the Collateral (after giving effect to the sharing of such Collateral with holders of equal or prior ranking liens on the Collateral).

The 2028 Secured Notes and the guarantees are: (i) secured on a first priority basis by liens on the Collateral (subject to certain permitted liens and certain other exceptions, as provided in the 2028 Secured Notes Indenture) or to the extent there is outstanding ABL Indebtedness (as defined in the 2028 Secured Notes Indenture), secured on a first priority basis by the Notes Priority Collateral (as defined in the 2028 Secured Notes Indenture) and on a second priority basis by liens on the ABL Priority Collateral (as defined in the 2028 Secured Notes Indenture) (subject to certain permitted liens and certain other exceptions), (ii) effectively subordinated to any future ABL Indebtedness to the extent of the value of the ABL Priority Collateral securing such future ABL Indebtedness, (iii) effectively subordinated to any existing and future indebtedness of the Company or any Subsidiary Guarantor that is secured by liens on assets of the Company or any Subsidiary Guarantor that do not constitute a part of the Collateral, and (iv) structurally subordinated to any existing and future indebtedness and other liabilities of MacroStrategy and any other Company subsidiaries that are not Subsidiary Guarantors, other than intercompany indebtedness and liabilities owed to the Company or a Subsidiary Guarantor.

At any time and from time to time prior to June 15, 2024, the Company may redeem some or all of the 2028 Secured Notes at a redemption price equal to 100% of the principal amount of the 2028 Secured Notes being redeemed, plus accrued and unpaid interest, if any, to, but excluding, the redemption date, plus a “make-whole” premium as set forth in the 2028 Secured Notes Indenture. At any time and from time to time on or after June 15, 2024, the Company may redeem some or all of the 2028 Secured Notes at the redemption prices described in the 2028 Secured Notes Indenture, plus accrued and unpaid interest, if any, to, but excluding, the redemption date. At any time prior to June 15, 2024, but not more than once during each consecutive twelve-month period, the Company may redeem up to 10% of the aggregate principal amount of the 2028 Secured Notes at a redemption price equal to 103% of the principal amount of the 2028 Secured Notes being redeemed, plus accrued and unpaid interest, if any, to, but excluding, the redemption date. At any time prior to June 15, 2024, the Company may redeem, on one or more occasions, up to 40% of the aggregate principal amount of the 2028 Secured Notes with the proceeds of certain equity offerings, at a redemption price equal to 106.125% of the principal amount of the 2028 Secured Notes to be redeemed, plus accrued and unpaid interest, if any, to, but excluding, the redemption date.

If the Company experiences a Change of Control or Fundamental Change (each as defined in the 2028 Secured Notes Indenture), the Company may be required to offer to repurchase the 2028 Secured Notes at a purchase price equal to 101% of their principal amount plus accrued and unpaid interest, if any, to, but excluding, the repurchase date. In certain circumstances, the Company must use certain of the proceeds from a sale of assets to make an offer to repurchase 2028 Secured Notes at a purchase price equal to 100% of their principal amount, plus accrued and unpaid interest, if any, to, but excluding, the repurchase date.

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The 2028 Secured Notes include a springing maturity feature that will cause the stated maturity date to spring ahead to: (1) September 15, 2025 (the “First Springing Maturity Date”), unless on the First Springing Maturity Date (i) the Company has Liquidity (as defined in the 2028 Secured Notes Indenture) in excess of 130% of the amount required to pay in full in cash the then outstanding aggregate principal amount of, and accrued interest on, the 2025 Convertible Notes or (ii) less than \$100,000,000 of the aggregate principal amount of the 2025 Convertible Notes remains outstanding, (2) November 16, 2026 (the “Second Springing Maturity Date”), unless on the Second Springing Maturity Date (i) the Company has Liquidity in excess of 130% of the amount required to pay in full in cash the then outstanding aggregate principal amount of, and accrued interest on, the 2027 Convertible Notes or (ii) less than \$100,000,000 of the aggregate principal amount of the 2027 Convertible Notes remains outstanding, or (3) the date (such date, an “FCCR Springing Maturity Date”) that is 91 days prior to the maturity date of any FCCR Convertible Indebtedness (as defined in the 2028 Secured Notes Indenture), unless on the FCCR Springing Maturity Date (i) the Company has Liquidity in excess of 130% of the amount required to pay in full in cash the then outstanding aggregate principal amount of and accrued interest on such FCCR Convertible Indebtedness or (ii) less than \$100,000,000 of the aggregate principal amount of such FCCR Convertible Indebtedness remains outstanding. As of December 31, 2022, for purposes of calculating Liquidity, the Company and its Restricted Subsidiaries (as defined in the 2028 Secured Notes Indenture) owned approximately 57,460 unencumbered Existing Digital Assets (as defined in the 2028 Secured Notes Indenture).

The 2028 Secured Notes Indenture contains certain covenants with which the Company must comply, including covenants with respect to limitations on (i) additional indebtedness, (ii) liens, (iii) certain payments and investments, (iv) the ability to merge or consolidate with another person, or sell or otherwise dispose of substantially all the Company’s assets, and (v) certain transactions with affiliates. The Company was in compliance with its debt covenants as of December 31, 2022.

The Company incurred approximately \$12.8 million in customary offering expenses associated with the 2028 Secured Notes. The Company accounts for these issuance costs as a reduction to the principal amount of the 2028 Secured Notes and amortizes the issuance costs to interest expense over the contractual term of the 2028 Secured Notes at an effective interest rate of 6.58%. As of December 31, 2022 and 2021, the net carrying value of the 2028 Secured Notes was classified as a long-term liability in the “Long-term debt, net” line item in the Company’s Consolidated Balance Sheets.

The following is a summary of the 2028 Secured Notes as of December 31, 2022 (in thousands):

	December 31, 2022					
	Outstanding	Unamortized	Net Carrying		Fair Value	
	Principal Amount	Issuance Costs	Value		Amount	Leveling
2028 Secured Notes	\$ 500,000	\$ (10,453)	\$ 489,547		\$ 369,800	Level 2

The following is a summary of the 2028 Secured Notes as of December 31, 2021 (in thousands):

	December 31, 2021					
	Outstanding	Unamortized	Net Carrying		Fair Value	
	Principal Amount	Issuance Costs	Value		Amount	Leveling
2028 Secured Notes	\$ 500,000	\$ (11,994)	\$ 488,006		\$ 502,530	Level 2

The fair value of the 2028 Secured Notes is determined using observable market data other than quoted prices, specifically the last traded price at the end of the reporting period of identical instruments in the over-the-counter market (Level 2).

For the years ended December 31, 2022 and 2021, interest expense related to the 2028 Secured Notes was as follows (in thousands):

	Year Ended December 31, 2022			Year Ended December 31, 2021		
	Contractual	Amortization of	Total	Contractual	Amortization of	Total
	Interest Expense	Issuance Costs		Interest Expense	Issuance Costs	
2028 Secured Notes	\$ 30,625	\$ 1,541	\$ 32,166	\$ 16,674	\$ 798	\$ 17,472

The Company paid \$30.6 million and \$15.4 million, respectively, in interest expense related to the 2028 Secured Notes during the years ended December 31, 2022 and 2021.

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Secured Term Loan

On March 23, 2022, MacroStrategy LLC, a wholly-owned subsidiary of the Company, entered into a Credit and Security Agreement (the “Credit and Security Agreement”) with Silvergate pursuant to which Silvergate issued the \$205.0 million 2025 Secured Term Loan to MacroStrategy. The 2025 Secured Term Loan is a senior secured obligation of MacroStrategy and bears interest at a floating rate equal to the Secured Overnight Financing Rate 30 Day Average, as published by the Federal Reserve Bank of New York’s website, plus 3.70%, with a floor of 3.75%, with interest payable monthly in arrears beginning May 2022. The 2025 Secured Term Loan will mature on March 23, 2025, unless earlier prepaid or repaid in accordance with the terms of the Credit and Security Agreement. The total net proceeds from the 2025 Secured Term Loan, after deducting lender fees and third-party costs, were approximately \$204.6 million.

Under the terms of the Credit and Security Agreement, the 2025 Secured Term Loan proceeds may be used (i) by MacroStrategy to purchase bitcoins, (ii) by MacroStrategy to pay fees, interest, and expenses related to the 2025 Secured Term Loan transaction, or (iii) for MacroStrategy’s or the Company’s general corporate purposes. The 2025 Secured Term Loan may be prepaid at any time, subject to a prepayment premium of 0.50% or 0.25% of the principal balance being prepaid, if such prepayment is made during the first year or second year, respectively, of the 2025 Secured Term Loan. There is no premium or penalty for prepayments made after March 23, 2024.

In accordance with the terms of the Credit and Security Agreement, the 2025 Secured Term Loan was collateralized at closing by bitcoin with a value of approximately \$820.0 million placed in a collateral account (the “Bitcoin Collateral Account”) with a custodian mutually authorized by Silvergate and MacroStrategy. While the 2025 Secured Term Loan is outstanding, MacroStrategy is required to maintain a loan to collateral value ratio (“LTV Ratio”) of less than 50% (the “Maximum LTV Ratio”). As a result, MacroStrategy is required to maintain more than \$410.0 million of bitcoin in the Bitcoin Collateral Account, assuming the full \$205.0 million of 2025 Secured Term Loan principal remains outstanding. If the price of bitcoin drops such that the LTV Ratio equals or exceeds the Maximum LTV Ratio, MacroStrategy is required to either deposit additional bitcoin in the Bitcoin Collateral Account or prepay a portion of the 2025 Secured Term Loan such that the LTV Ratio is reduced to 25% or less (or 35% or less, provided that in such case the interest rate on the 2025 Secured Term Loan will be increased by 25 basis points until such time as the LTV Ratio is reduced to 25% or less). During 2022, as the price of bitcoin declined causing the LTV Ratio to increase, MacroStrategy deposited an aggregate of 15,153 additional bitcoins into the Bitcoin Collateral Account to help ensure that the LTV Ratio remained below the Maximum LTV Ratio. As of December 31, 2022, approximately 34,619 bitcoins were held in the Bitcoin Collateral Account and approximately 82,991 bitcoins remained unencumbered at MacroStrategy. If at any time the LTV Ratio is less than 25% as a result of excess collateral in the Bitcoin Collateral Account, MacroStrategy is entitled to a return of such excess collateral so long as the LTV Ratio would not exceed 25% after giving effect to such return.

Separate and apart from the requirements associated with the LTV Ratio, MacroStrategy established a \$5.0 million cash reserve account (the “Reserve Account”) with Silvergate to serve as additional collateral for the 2025 Secured Term Loan. MacroStrategy is required to maintain at least \$5.0 million in the Reserve Account until the last six months of the 2025 Secured Term Loan term, at which time funds in the Reserve Account may be used to make interest payments on the 2025 Secured Term Loan at MacroStrategy’s request, with the amount required to be held in the Reserve Account correspondingly reduced to the extent such payments are made. The collateral for the 2025 Secured Term Loan does not extend beyond assets in the Bitcoin Collateral Account and the Reserve Account. As of December 31, 2022, the Reserve Account is presented within “Restricted cash” in the Company’s Consolidated Balance Sheet and the Bitcoin Collateral Account is presented within “Digital assets” in the Company’s Consolidated Balance Sheet as further described in Note 4, Digital Assets, to the Consolidated Financial Statements.

The 2025 Secured Term Loan is not guaranteed by any party. The Credit and Security Agreement contains customary affirmative and negative covenants for credit facilities of this type, including, among others, limitations on MacroStrategy with respect to the sale of collateral and the incurrence of liens on the collateral. The Credit and Security Agreement, however, does not restrict MacroStrategy from incurring additional debt, incurring additional liens on assets not serving as collateral for the 2025 Secured Term Loan, or selling assets not serving as collateral for the 2025 Secured Term Loan. There are no restrictions in the Credit and Security Agreement on utilizing bitcoin that is not in the Bitcoin Collateral Account. The Credit and Security Agreement has customary change-of-control provisions, providing Silvergate with a right to accelerate the 2025 Secured Term Loan in full in connection with a change of control of the Company, including the sale of all or substantially all of the Company’s or MacroStrategy’s assets. The Credit and Security Agreement also contains customary events of default with customary grace periods, as applicable. Upon an event of default, Silvergate has the right to accelerate the 2025 Secured Term Loan in full, increase the interest accrual rate by an additional 2%, and liquidate the collateral to pay the 2025 Secured Term Loan.

MacroStrategy was in compliance with its debt covenants as of December 31, 2022.

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The Company incurred approximately \$0.4 million in lender fees and third-party costs (“issuance costs”) associated with the 2025 Secured Term Loan. The Company accounts for these issuance costs as a reduction to the principal amount of the 2025 Secured Term Loan and amortizes the issuance costs to interest expense over the contractual term of the 2025 Secured Term Loan at an effective interest rate of 3.87%. As of December 31, 2022, the net carrying value of the 2025 Secured Term Loan was classified as a long-term liability in the “Long-term debt, net” line item in the Company’s Consolidated Balance Sheets.

The following is a summary of the 2025 Secured Term Loan as of December 31, 2022 (in thousands):

	December 31, 2022				
	Outstanding	Unamortized	Net Carrying	Fair Value	
	Principal Amount	Issuance Costs	Value	Amount	Leveling
2025 Secured Term Loan	\$ 205,000	\$ (312)	\$ 204,688	\$ 205,000	Level 3

The outstanding principal amount of the 2025 Secured Term Loan approximates its fair value as of December 31, 2022 as the 2025 Secured Term Loan bears interest at a floating rate and is over-collateralized (the Company is required to maintain an LTV ratio of less than 50%). Additionally, the Company had approximately 82,991 unencumbered bitcoins that were available to be pledged as additional collateral at December 31, 2022.

For the year ended December 31, 2022, interest expense related to the 2025 Secured Term Loan was as follows (in thousands):

	Year Ended December 31, 2022		
	Contractual	Amortization of	Total
	Interest Expense	Issuance Costs	
2025 Secured Term Loan	\$ 9,006	\$ 103	\$ 9,109

The Company paid \$7.7 million in interest expense related to the 2025 Secured Term Loan during the year ended December 31, 2022.

Other long-term secured debt

In June 2022, the Company, through a wholly-owned subsidiary, entered into a secured term loan agreement in the amount of \$11.1 million, bearing interest at an annual rate of 5.2%, and maturing in June 2027. The loan is secured by certain non-bitcoin assets of the Company that are not otherwise serving as collateral for any of the Company’s other indebtedness. As of December 31, 2022, the loan had a net carrying value of \$10.6 million and an outstanding principal balance of \$10.9 million, after monthly payments made under the terms of the agreement. As of December 31, 2022, \$0.5 million of the net carrying value is short-term and is presented in “Current portion of long-term debt, net” in the Consolidated Balance Sheet.

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Maturities

The following table shows the maturities of the Company's debt instruments as of December 31, 2022 (in thousands). The principal payments related to the 2028 Secured Notes are included in the table below based on the First Springing Maturity Date of September 15, 2025, as if the springing maturity feature discussed above were triggered. As of December 31, 2022, the Company expects to be able to satisfy the requirements in the 2028 Secured Notes Indenture to avoid triggering the springing maturity feature of the 2028 Secured Notes.

Payments due by period ended December 31,	2025 Convertible Notes	2027 Convertible Notes	2028 Secured Notes	2025 Secured Term Loan	Other long- term secured debt	Total
2023	\$ 0	\$ 0	\$ 0	\$ 0	\$ 513	\$ 513
2024	0	0	0	0	539	539
2025	650,000	0	500,000	205,000	569	1,355,569
2026	0	0	0	0	600	600
2027	0	1,050,000	0	0	8,633	1,058,633
Thereafter	0	0	0	0	0	0
Total	<u>\$ 650,000</u>	<u>\$1,050,000</u>	<u>\$ 500,000</u>	<u>\$ 205,000</u>	<u>\$ 10,854</u>	<u>\$2,415,854</u>

(9) Commitments and Contingencies

(a) Commitments

From time to time, the Company enters into certain types of contracts that require it to indemnify parties against third-party claims. These contracts primarily relate to agreements under which the Company assumes indemnity obligations for intellectual property infringement, as well as other obligations from time to time depending on arrangements negotiated with customers and other third parties. The conditions of these obligations vary. Thus, the overall maximum amount of the Company's indemnification obligations cannot be reasonably estimated. Historically, the Company has not been obligated to make significant payments for these obligations and does not currently expect to incur any material obligations in the future. Accordingly, the Company has not recorded an indemnification liability on its Balance Sheets as of December 31, 2022 or December 31, 2021.

The following table shows future minimum payments related to noncancelable purchase agreements with initial terms of greater than one year and anticipated payments related to the mandatory deemed repatriation transition tax resulting from the U.S. Tax Cuts and Jobs Act ("Transition Tax") based on the expected due dates of the various installments as of December 31, 2022 (in thousands):

Year	Purchase Obligations	Transition Tax
2023	\$ 14,594	\$ 5,534
2024	5,510	7,379
2025	1,249	9,223
2026	1,182	0
2027	251	0
Thereafter	22	0
	<u>\$ 22,808</u>	<u>\$ 22,136</u>

(b) Contingencies

Following an internal review initiated in 2018, the Company believes that its Brazilian subsidiary failed or likely failed to comply with local procurement regulations in conducting business with certain Brazilian government entities.

On February 6, 2020, the Company learned that a Brazilian court authorized the Brazilian Federal Police to use certain investigative measures in its investigation into alleged corruption and procurement fraud involving certain government officials, pertaining to a particular transaction. The transaction at issue is part of the basis of the previously reported failure or likely failure of the Company's Brazilian subsidiary to comply with local procurement regulations. The Company is not aware of any allegations that any former

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employee or the Company made any payments to Brazilian government officials. The Brazilian Federal Police expanded the investigation to include other possible cases of procurement fraud involving Brazilian government entities. Criminal penalties may be imposed against individuals; however, neither employees of the Company's Brazilian subsidiary nor the subsidiary itself have been targets of the Federal Police investigation.

The Company has also learned that Brazil's Federal Comptroller General filed an administrative action against the Company's Brazilian subsidiary with respect to the alleged procurement violations. These matters remain the subject of investigation by Brazilian authorities. The Company is taking measures to attempt to resolve these matters.

On January 18, 2023, Brazil's General Superintendence of the Administrative Council for Economic Defense ("SG/CADE") launched an administrative proceeding to investigate potentially anticompetitive conduct, naming various individuals and companies as defendants including the Company's Brazilian subsidiary. The proceeding involves conduct relating to transactions with certain Brazilian public and private entities that is part of the basis of the foregoing failure or likely failure of the Brazilian subsidiary to comply with local procurement regulations. The proceeding was precipitated by the Company's Brazilian subsidiary's voluntary disclosure of information to SG/CADE that arose out of the internal review initiated in 2018, and the Company's Brazilian subsidiary has secured a leniency agreement with SG/CADE. If at the end of the proceeding, CADE's Tribunal confirms that the leniency agreement obligations have been fulfilled, the Company's Brazilian subsidiary will receive full immunity from fines.

While the Company believes that it is probable that the resolution of these Brazilian matters will result in a loss, the amount or range of loss is not reasonably estimable at this time. Given the stage of these matters, the outcome may result in a material impact on the Company's earnings and financial results for the period in which any such liability is accrued. However, the Company believes that the outcome of these matters will not have a material effect on the Company's financial position.

On November 4, 2020, a complaint was filed against the Company in the U.S. District Court for the Eastern District of Virginia by a patent assertion entity called Daedalus Blue, LLC ("Daedalus"). In its complaint, Daedalus alleges that the Company has infringed U.S. Patent Nos. 8,341,172 (the "'172 Patent") and 9,032,076 (the "'076 Patent") based on specific functionality in the MicroStrategy platform. The '172 Patent relates to a method for providing aggregate data access in response to a query, whereas the '076 Patent relates to a role-based access control system.

On March 1, 2021, Daedalus provided its formal infringement contentions which included additional accused functionality as part of its infringement allegations from the complaint, materially expanding the scope of its case. The Company has filed a motion to dismiss the complaint with prejudice, asking the court to rule that the asserted claims are invalid as being directed to patent ineligible matter. This matter is in the latter stage of factual discovery. The court conducted a claim construction hearing on July 15, 2021. The court appointed a special master on October 28, 2021 and directed the special master to submit a Report and Recommendation as to the issue of claim construction and the pending motion to dismiss by February 1, 2022. On January 21, 2022, the special master issued two separate Reports and Recommendations. The first Report and Recommendation recommended constructions of certain patent claim terms and the second Report and Recommendation recommended, without reaching the merits, dismissing the Company's motion to dismiss without prejudice to re-filing after discovery ends. The parties filed their respective objections to the special master's Reports and Recommendations on February 4, 2022, and their oppositions to the other party's objections on February 18, 2022. On March 9, 2022, the court issued an order overruling all parties' objections and adopting the special master's Reports and Recommendations in full. As per court order, the parties submitted a joint proposed schedule, which the court adopted on April 7, 2022, providing new deadlines for the close of fact discovery, expert reports, expert discovery, and dispositive motions. Fact discovery reopened on April 18, 2022 and closed on June 1, 2022. In July 2022, the case proceeded to expert discovery and the parties exchanged their opening expert reports on issues for which they bear the burden of proof on July 1, 2022, their rebuttal reports on July 29, 2022, and their reply reports on August 12, 2022. The parties engaged in expert depositions the weeks of August 22 and August 29, 2022. On September 21, 2022, the parties filed their respective motions for summary judgment, and on October 12, 2022 and October 19, 2022, the parties filed their opposition and reply briefs. The court conducted a status hearing on November 14, 2022 and issued an order the following day indefinitely postponing all case deadlines including trial originally scheduled for January 2023. The court also re-appointed the Special Master to assist in addressing the parties' motions for summary judgment and other pending pre-trial motions. The outcome of this matter is not presently determinable.

On August 31, 2022, the District of Columbia (the "District"), through its Office of the Attorney General, filed a civil complaint in the Superior Court of the District of Columbia naming as defendants (i) Michael J. Saylor, the Chairman of the Company's Board of Directors and the Company's Executive Chairman, in his personal capacity, and (ii) the Company. The District is seeking, among other relief, monetary damages under the District's False Claims Act for the alleged failure of Mr. Saylor to pay personal income taxes to the District over a number of years together with penalties, interest, and treble damages. The complaint alleges that the amount of personal

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income taxes purportedly involved is more than \$25 million. The complaint also alleges that the Company has violated the District's False Claims Act by conspiring to assist Mr. Saylor's alleged failure to pay personal income taxes. The Company believes that the District's claims against the Company have no merit and is defending itself aggressively against these allegations. On October 26, 2022, the Company filed a motion to dismiss the District's complaint. The Company filed a motion to stay discovery on September 28, 2022, and the court granted this motion on October 28, 2022. The outcome of this matter is not presently determinable.

The Company is also involved in various legal proceedings arising in the normal course of business. Although the outcomes of these legal proceedings are inherently difficult to predict, management does not expect the resolution of these legal proceedings to have a material adverse effect on the Company's financial position, results of operations, or cash flows.

The Company has contingent liabilities that, in management's judgment, are not probable of assertion. If such unasserted contingent liabilities were to be asserted, or become probable of assertion, the Company may be required to record significant expenses and liabilities in the period in which these liabilities are asserted or become probable of assertion.

(10) Income Taxes

U.S. and international components of (loss) income before income taxes (in thousands) were comprised of the following for the periods indicated:

	Years Ended December 31,		
	2022	2021	2020
U.S.	\$ (1,362,230)	\$ (854,610)	\$ (53,250)
Foreign	39,765	43,221	33,297
Total	<u>\$ (1,322,465)</u>	<u>\$ (811,389)</u>	<u>\$ (19,953)</u>

The provision for (benefit from) income taxes (in thousands) consisted of the following for the periods indicated:

	Years Ended December 31,		
	2022	2021	2020
Current:			
Federal	\$ 9,278	\$ (4,622)	\$ 1,861
State	5,362	2,184	1,445
Foreign	8,139	5,533	5,221
	<u>\$ 22,779</u>	<u>\$ 3,095</u>	<u>\$ 8,527</u>
Deferred:			
Federal	\$ 89,581	\$ (204,784)	\$ (15,038)
State	34,521	(74,796)	(6,269)
Foreign	451	576	351
	<u>\$ 124,553</u>	<u>\$ (279,004)</u>	<u>\$ (20,956)</u>
Total provision (benefit)	<u>\$ 147,332</u>	<u>\$ (275,909)</u>	<u>\$ (12,429)</u>

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The provision for or benefit from income taxes differs from the amount computed by applying the federal statutory income tax rate to the Company's loss or income before income taxes as follows for the periods indicated:

	Years Ended December 31,		
	2022	2021	2020
Income tax expense at federal statutory rate	21.0%	21.0%	21.0%
State taxes, net of federal tax effect	7.3%	9.1%	18.0%
Foreign earnings taxed at different rates	0.1%	0.4%	21.7%
Withholding tax	(0.1)%	(0.1)%	(12.5)%
Other international components	0.0%	(0.2)%	0.3%
Change in valuation allowance	(38.6)%	0.0%	2.7%
Non-deductible officers compensation	(0.3)%	(1.0)%	(12.5)%
Research and development tax credit	0.1%	0.8%	19.9%
Share-based compensation	(0.1)%	4.0%	11.8%
Other permanent differences	(0.5)%	0.0%	(8.1)%
Total	(11.1)%	34.0%	62.3%

The Company's U.S. and foreign effective tax rates for (loss) income before income taxes were as follows for the periods indicated:

	Years Ended December 31,		
	2022	2021	2020
U.S.	(10.2)%	33.0%	33.8%
Foreign	21.6%	14.1%	16.7%
Combined	(11.1)%	34.0%	62.3%

The change in the Company's effective tax rate in 2022, as compared to 2021, was primarily due to the establishment of a valuation allowance on the Company's deferred tax asset related to the impairment on its bitcoin holdings, resulting from the decrease in the market value of bitcoin as of December 31, 2022.

As of December 31, 2022 and 2021, the amount of cash and cash equivalents held by the Company's U.S. entities was \$14.8 million and \$13.1 million, respectively, and by the Company's non-U.S. entities was \$29.0 million and \$50.3 million, respectively. The Company earns a significant amount of its revenues outside the United States. The Company repatriated foreign earnings and profits of \$44.7 million during 2022 and \$57.5 million during 2021. Beginning in the third quarter of 2020, the Company determined to no longer permanently reinvest its foreign earnings and profits. As of December 31, 2022, the Company recorded a deferred tax liability of \$2.2 million on undistributed foreign earnings related to foreign withholding tax and U.S. state income taxes.

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Deferred income taxes reflect the net tax effects of the temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. Significant components of the Company's deferred tax assets and liabilities (in thousands) were as follows for the periods indicated:

	December 31,	
	2022	2021
Deferred tax assets, net:		
Net operating loss carryforwards	\$ 723	\$ 968
Tax credits	1,677	3,844
Intangible assets, including capitalized R&D	41,082	20,963
Deferred revenue	24,747	13,954
Accrued compensation	6,602	6,290
Share-based compensation expense	23,305	15,493
Digital asset impairment losses	607,659	258,458
Disallowed interest	1,239	5,532
Other	721	1,889
Deferred tax assets before valuation allowance	707,755	327,391
Valuation allowance	(511,412)	(999)
Deferred tax assets, net of valuation allowance	<u>196,343</u>	<u>326,392</u>
Deferred tax liabilities:		
Prepaid expenses and other	4,372	2,101
Property and equipment	1,786	2,936
Deferred tax on undistributed foreign earnings	2,231	1,682
Total deferred tax liabilities	<u>8,389</u>	<u>6,719</u>
Total net deferred tax asset	<u>\$ 187,954</u>	<u>\$ 319,673</u>
Reported as:		
Non-current deferred tax assets, net	188,152	319,782
Non-current deferred tax liabilities	(198)	(109)
Total net deferred tax asset	<u>\$ 187,954</u>	<u>\$ 319,673</u>

As of December 31, 2022, the Company had gross unrecognized income tax benefits of \$6.1 million, including accrued interest, all of which was recorded in "Other long-term liabilities" in the Company's Consolidated Balance Sheets. The change in unrecognized income tax benefits (in thousands) is presented in the table below for the periods indicated:

	2022	2021	2020
Unrecognized income tax benefits at beginning of year	\$ 5,960	\$ 4,293	\$ 1,563
(Decrease) increase related to positions taken in prior period	(67)	1,082	2,580
Increase related to positions taken in current period	318	1,146	283
Decrease related to settlement with tax authorities	(40)	0	0
Decrease related to expiration of statute of limitations	(360)	(561)	(133)
Unrecognized income tax benefits at end of year	5,811	5,960	4,293
Accrued interest	276	272	295
Gross unrecognized income tax benefits at end of year	<u>\$ 6,087</u>	<u>\$ 6,232</u>	<u>\$ 4,588</u>

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If recognized, \$5.9 million of the gross unrecognized income tax benefits as of December 31, 2022 would impact the Company's effective tax rate. Over the next 12 months, the amount of the Company's liability for unrecognized income tax benefits shown above is not expected to change materially. The Company recognizes estimated accrued interest related to unrecognized income tax benefits in the provision for (benefit from) income taxes. During the years ended December 31, 2022, 2021, and 2020, the Company released or recognized an immaterial amount of accrued interest. The amount of accumulated accrued interest related to the above unrecognized income tax benefits was approximately \$0.3 million and \$0.3 million as of December 31, 2022 and 2021, respectively.

The Company files tax returns in numerous foreign countries as well as the United States and its tax returns may be subject to audit by tax authorities in all countries in which it files. Each country has its own statute of limitations for making assessment of additional tax liabilities. The Company's U.S. tax returns for tax years from 2019 and forward are subject to potential examination by the Internal Revenue Service. However, due to the Company's use of state NOL carryovers in the United States, state tax authorities may attempt to reduce or fully offset the amount of state NOL carryovers from tax years ended 2011 and forward that the Company used in later tax years. The Company's major foreign tax jurisdictions and the tax years that remain subject to potential examination are Italy and Poland for tax years 2017 and forward; Spain and Germany for tax years 2019 and forward, and the United Kingdom for tax years 2021 and forward. To date there have been no material audit assessments related to audits in the United States or any of the applicable foreign jurisdictions.

The Company had no U.S. NOL carryforwards as of December 31, 2022 and 2021. The Company had \$3.3 million and \$4.1 million of foreign NOL carryforwards as of December 31, 2022 and 2021, respectively.

The Company's valuation allowance of \$511.4 million at December 31, 2022 primarily related to the Company's deferred tax asset related to the impairment on its bitcoin holdings that, in the Company's present estimation, more likely than not will not be realized. The Company's valuation allowance of \$1.0 million at December 31, 2021 primarily related to certain foreign tax credit carryforward tax assets that, in the Company's present estimation, more likely than not will not be realized.

In determining the Company's provision for (benefit from) income taxes, net deferred tax assets, liabilities, and valuation allowances, management is required to make estimates and judgments related to projections of domestic and foreign profitability, the timing and extent of the utilization of NOL carryforwards, applicable tax rates, transfer pricing methods, and prudent and feasible tax planning strategies. As a multinational company, the Company is required to calculate and provide for estimated income tax liabilities for each of the tax jurisdictions in which it operates. This process involves estimating current tax obligations and exposures in each jurisdiction, as well as making judgments regarding the future recoverability of deferred tax assets. Changes in the estimated level of annual pre-tax income (loss), changes in tax laws, particularly changes related to the utilization of NOLs in various jurisdictions, and changes resulting from tax audits can all affect the overall effective income tax rate which, in turn, impacts the overall level of income tax expense or benefit and net income (loss).

Estimates and judgments related to the Company's projections and assumptions are inherently uncertain. Therefore, actual results could differ materially from projections. Currently, the Company expects to use its deferred tax assets, subject to Internal Revenue Code limitations, within the carryforward periods. Valuation allowances have been established where the Company has concluded that it is more likely than not that such deferred tax assets are not realizable. If the market value of bitcoin continues to decline or the Company is unable to regain profitability in future periods, the Company may be required to increase further the valuation allowance against its deferred tax assets, which could result in a charge that would materially adversely affect net income (loss) in the period in which the charge is incurred. To the extent the market value of bitcoin rises, the Company may decrease the valuation allowance against its deferred tax asset. The Company will continue to regularly assess the realizability of deferred tax assets.

(11) Share-based Compensation

2013 Equity Plan

The 2013 Equity Plan authorizes the issuance of various types of share-based awards to the Company's employees, officers, directors, and other eligible participants. In 2021, the Board of Directors authorized and the stockholders approved an amendment to the 2013 Equity Plan to increase the total number of shares of the Company's class A common stock authorized for issuance under the 2013 Equity Plan from 2,300,000 shares to 2,750,000 shares. As of December 31, 2022, there were 75,662 shares of class A common stock reserved and available for future issuance under the 2013 Equity Plan.

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Under the 2013 Equity Plan, the Company has issued stock option awards, share-settled restricted stock units, other stock-based awards, and cash-settled restricted stock units. Regardless of the type of award issued, any shares issued under the 2013 Equity Plan may consist in whole or in part of authorized but unissued shares or treasury shares. No awards may be issued more than 10 years after the 2013 Equity Plan's effective date. In determining related share-based compensation expense for any award under the 2013 Equity Plan, the Company has made an accounting policy election to account for forfeitures of awards as they occur and therefore share-based compensation expense presented below has not been adjusted for any estimated forfeitures.

Stock option awards

Stock options that are granted under the 2013 Equity Plan must have an exercise price equal to at least the fair market value of the Company's class A common stock on the date of grant, become exercisable as established by the Board of Directors or the Compensation Committee, and expire no later than 10 years following the date of grant. The Company recognizes share-based compensation expense associated with such stock option awards on a straight-line basis over the award's requisite service period (generally, the vesting period). The stock option awards granted to date vest in equal annual installments over an approximately four-year vesting period (unless accelerated in connection with a change in control event under specified conditions as set forth in the applicable option agreement or otherwise in accordance with provisions of the 2013 Equity Plan or applicable option agreement).

Share-based compensation expense related to stock option awards is based on the fair value of the stock option awards on the date of grant, as estimated using the Black-Scholes valuation model. The Black-Scholes valuation model requires the input of certain management assumptions, including the expected term, expected stock price volatility, risk-free interest rate, and expected dividend yield. The Company estimates the term over which option holders are expected to hold their stock options by using the simplified method for "plain-vanilla" stock option awards because the Company's stock option exercise history does not provide a reasonable basis to compute the expected term for stock options granted under the 2013 Equity Plan. Beginning in 2021, as a result of the significant increase in the Company's stock price volatility, the Company established estimates for the expected stock price volatility by calculating a blended rate from the historical stock price volatility of its class A common stock and the implied volatility of the Company's traded financial instruments with similar terms to the respective award. For stock options granted prior to 2021, the Company relied exclusively on its historical stock price volatility using a simple average calculation method to estimate the expected stock price volatility over the expected term because the Company believed at the date of grant that future volatility was unlikely to differ from the past. The risk-free interest rate is based on U.S. Treasury securities with terms that approximate the expected term of the stock options. The expected dividend yield is zero, as the Company has not previously declared cash dividends and does not currently intend to declare cash dividends in the foreseeable future. These assumptions are based on management's best judgment, and changes to these assumptions could materially affect the fair value estimates and amount of share-based compensation expense recognized.

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As of December 31, 2022, there were options to purchase 1,576,879 shares of class A common stock outstanding under the 2013 Equity Plan. The following table summarizes the Company's stock option activity (in thousands, except per share data and years) for the periods indicated:

	Stock Options Outstanding			
	Shares	Weighted Average Exercise Price Per Share	Aggregate Intrinsic Value	Weighted Average Remaining Contractual Term (Years)
Balance as of January 1, 2020	1,634	\$ 141.60		
Granted	118	146.76		
Exercised	(348)	146.80	\$ 29,994	
Forfeited/Expired	(247)	146.63		
Balance as of December 31, 2020	<u>1,157</u>	139.48		
Granted	305	676.10		
Exercised	(269)	151.19	\$ 163,427	
Forfeited/Expired	(26)	499.11		
Balance as of December 31, 2021	<u>1,167</u>	268.74		
Granted	440	346.15		
Exercised	(9)	137.51	\$ 1,469	
Forfeited/Expired	(21)	498.69		
Balance as of December 31, 2022	<u>1,577</u>	\$ 288.30		
Exercisable as of December 31, 2022	807	\$ 180.26	\$ 9,755	3.7
Expected to vest as of December 31, 2022	770	\$ 401.45	326	8.7
Total	<u>1,577</u>	\$ 288.30	<u>\$ 10,081</u>	6.1

Stock options outstanding as of December 31, 2022 are comprised of the following range of exercise prices per share (in thousands, except per share data and years):

Range of Exercise Prices per Share	Stock Options Outstanding at December 31, 2022		
	Shares	Weighted Average Exercise Price Per Share	Weighted Average Remaining Contractual Term (Years)
\$121.43 - \$200.00	919	\$ 138.56	4.2
\$200.01 - \$300.00	80	\$ 239.61	9.6
\$400.01 - \$500.00	323	\$ 408.66	9.1
\$600.01 - \$691.23	255	\$ 691.23	8.1
Total	<u>1,577</u>	\$ 288.30	6.1

An aggregate of 245,500, 200,625, and 200,000 stock options with an aggregate grant date fair value of \$35.8 million, \$11.0 million, and \$11.2 million vested during the years ended December 31, 2022, 2021, and 2020, respectively.

The weighted average grant date fair value of stock option awards using the Black-Scholes valuation model was \$201.64, \$372.05, and \$49.68 for each share subject to a stock option granted during the years ended December 31, 2022, 2021, and 2020, respectively, based on the following assumptions:

	Years Ended December 31,		
	2022	2021	2020
Expected term of options in years	6.3	6.3	6.3
Expected volatility	58.4% - 75.5%	56.8% - 59.0%	33.6% - 34.6%
Risk-free interest rate	1.9% - 3.9%	0.8% - 1.1%	0.3% - 0.5%
Expected dividend yield	0.0%	0.0%	0.0%

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The Company recognized approximately \$48.3 million, \$32.0 million, and \$10.1 million in share-based compensation expense for the years ended December 31, 2022, 2021, and 2020, respectively, from stock options granted under the 2013 Equity Plan. As of December 31, 2022, there was approximately \$132.2 million of total unrecognized share-based compensation expense related to unvested stock options, which the Company expects to recognize over a weighted average vesting period of approximately 2.7 years.

Share-settled restricted stock units

During 2020, the Company began granting share-settled restricted stock units under the 2013 Equity Plan. The share-settled restricted stock units entitle recipients to receive a number of shares of the Company's class A common stock over a vesting period, as specified in the applicable restricted stock unit agreement. Although the Company may in its sole discretion elect to pay fully or partially in cash in lieu of settling solely in shares, it does not currently intend to do so.

Share-based compensation expense related to share-settled restricted stock units is based on the fair value of the Company's class A common stock on the date of grant. The Company recognizes share-based compensation expense associated with such share-settled restricted stock unit awards on a straight-line basis over the award's requisite service period (generally, the vesting period). The share-settled restricted stock unit awards granted to date vest in equal annual installments over a four-year period (unless accelerated in connection with a change in control event under specified conditions as set forth in the applicable restricted stock unit agreement or otherwise in accordance with provisions of the 2013 Equity Plan or applicable restricted stock unit agreement). Upon vesting of the share-settled restricted stock units, the Company covers the minimum tax withholding obligation in most jurisdictions by withholding shares with equivalent value based on the closing stock price on the vesting date. For these jurisdictions, the Company then pays the withholding tax obligation to the appropriate taxing authorities which is reflected as a financing activity on the Consolidated Statements of Cash Flows.

As of December 31, 2022, there were 119,617 share-settled restricted stock units outstanding under the 2013 Equity Plan. The following table summarizes the Company's share-settled restricted stock unit activity (in thousands) for the periods indicated:

	Share-Settled Restricted Stock Units Outstanding	
	Units	Aggregate Intrinsic Value
Balance as of January 1, 2020	0	
Granted	76	
Vested	0	\$ 0
Forfeited	(2)	
Balance as of January 1, 2021	74	
Granted	58	
Vested	(17)	\$ 13,803
Forfeited	(10)	
Balance as of December 31, 2021	105	
Granted	60	
Vested	(28)	\$ 6,604
Forfeited	(17)	
Balance as of December 31, 2022	120	
Expected to vest as of December 31, 2022	120	\$ 16,934

During the year ended December 31, 2022, 28,180 share-settled restricted stock units having an aggregate grant date fair value of \$12.3 million vested, and 9,467 shares were withheld to satisfy tax obligations, resulting in 18,713 issued shares. During the year ended December 31, 2021, 17,004 share-settled restricted stock units having an aggregate grant date fair value of \$3.3 million vested, and 5,857 shares were withheld to satisfy tax obligations, resulting in 11,147 issued shares. No share-settled restricted stock units vested during the year ended December 31, 2020. The weighted average grant date fair value of share-settled restricted stock units granted during the years ended December 31, 2022, 2021, and 2020 was \$246.17, \$736.46, and \$192.43, respectively, based on the fair value of the Company's class A common stock. The Company recognized approximately \$13.4 million, \$8.0 million, and \$0.5 million in share-based compensation expense for the years ended December 31, 2022, 2021, and 2020, respectively, from share-settled restricted stock units granted under the 2013 Equity Plan. As of December 31, 2022, there was approximately \$38.0 million of total unrecognized share-based compensation expense related to unvested share-settled restricted stock units, which the Company expects to recognize over a weighted average vesting period of approximately 2.7 years.

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Other stock-based awards and cash-settled restricted stock units

During 2021, the Company granted 9,000 “other stock-based awards” under the 2013 Equity Plan. Other stock-based awards were not granted in 2022 or 2020. As of December 31, 2022, there were a total of 10,250 other stock-based awards outstanding under the 2013 Equity Plan. These other stock-based awards are similar to stock options, except these awards are settled in cash only and not in shares of the Company’s class A common stock.

During 2021, the Company granted 900 cash-settled restricted stock units under the 2013 Equity Plan. Cash-settled restricted stock units were not granted in 2022 or 2020. As of December 31, 2022, there were a total of 525 cash-settled restricted stock units outstanding under the 2013 Equity Plan. These cash-settled restricted stock units are similar to the Company’s share-settled restricted stock units, except they are settled in cash only and not in shares of the Company’s class A common stock.

Both the other stock-based awards and the cash-settled restricted stock units are classified as liabilities in the Company’s Consolidated Balance Sheets due to the required cash settlement feature and the fair value of the awards is remeasured each quarterly reporting period. During the year ended December 31, 2022, the Company recognized a reduction of approximately \$0.5 million in share-based compensation expense from other stock-based awards and cash-settled restricted stock units. The Company recognized approximately \$1.4 million and \$0.6 million, respectively, in share-based compensation expense from other stock-based awards and cash-settled restricted stock units for the years ended December 31, 2021 and 2020. As of December 31, 2022, there was approximately \$0.3 million of total unrecognized share-based compensation expense related to other stock-based awards and cash-settled restricted stock units, which the Company expects to recognize over a weighted average vesting period of approximately 2.1 years, subject to additional fair value adjustments through the earlier of settlement or expiration.

2021 ESPP

In 2021, the Company adopted, and the Company’s stockholders approved, the 2021 ESPP. The purpose of the 2021 ESPP is to provide eligible employees of the Company and certain of its subsidiaries with opportunities to purchase shares of the Company’s class A common stock, commencing at such time and on such dates as the Board of Directors of the Company shall determine. The first offering period under the 2021 ESPP commenced on February 16, 2021 and ended on August 15, 2021. After this first offering period, the Board of Directors of the Company determined to provide subsequent 6-month offering periods commencing on each March 1 and September 1 for the remaining term of the 2021 ESPP. An aggregate of 100,000 shares of the Company’s class A common stock has been authorized for issuance under the 2021 ESPP. During the years ended December 31, 2022 and 2021, 15,925 shares and 4,612 shares, respectively, of class A common stock were issued in connection with the 2021 ESPP. As of December 31, 2022, 79,463 shares of the Company’s class A common stock remained available for issuance under the 2021 ESPP.

Unless otherwise determined by the Board of Directors, shares are purchased at a price equal to 85% of the lesser of the closing price of the Company’s class A common stock on the first or last business day of the offering period, respectively. Share-based compensation expense is based on the grant date fair value, which consists of the intrinsic value of the 15% discounted share purchase rights and the fair value of the look-back provision using the Black-Scholes valuation model, recognized on a straight-line basis over the offering period. The grant date is the offering period commencement date.

During the years ended December 31, 2022 and 2021, the Company recognized approximately \$2.4 million and \$2.6 million, respectively, in share-based compensation expense related to the 2021 ESPP. As of December 31, 2022, there was approximately \$0.5 million of total unrecognized share-based compensation expense related to the 2021 ESPP, which the Company expects to recognize over a period of approximately 0.2 years.

Tax Benefits Related to Equity Plans

The following table summarizes the tax (benefit) expense related to the Company’s equity plans (in thousands) for the periods indicated:

	Years Ended December 31,		
	2022	2021	2020
Tax (benefit) expense related to:			
Share-based compensation expense	\$ (12,155)	\$ (8,260)	\$ (2,028)
Exercises of stock options and vesting of share-settled restricted stock units	1,370	(37,664)	(3,196)
Total tax benefit related to the Company's equity plans	<u>\$ (10,785)</u>	<u>\$ (45,924)</u>	<u>\$ (5,224)</u>

MICROSTRATEGY INCORPORATED

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(12) Basic and Diluted Loss per Share

The following table sets forth the computation of basic and diluted loss per share (in thousands, except per share data) for the periods indicated:

	Years Ended December 31,		
	2022	2021	2020
Numerator:			
Net loss	\$ (1,469,797)	\$ (535,480)	\$ (7,524)
Denominator:			
Weighted average common shares of class A common stock	9,357	8,056	7,658
Weighted average common shares of class B common stock	1,964	1,964	2,026
Total weighted average shares of common stock outstanding	11,321	10,020	9,684
Loss per share:			
Basic loss per share	\$ (129.83)	\$ (53.44)	\$ (0.78)
Diluted loss per share	\$ (129.83)	\$ (53.44)	\$ (0.78)

The following weighted average shares of potential class A common stock were excluded from the diluted loss per share calculation because their impact would have been anti-dilutive (in thousands):

	Years Ended December 31,		
	2022	2021	2020
Stock Options	1,462	1,233	1,487
Restricted Stock Units	119	95	10
Employee Stock Purchase Plan	6	2	0
2025 Convertible Notes	1,633	1,633	94
2027 Convertible Notes	733	635	0
Total	3,953	3,598	1,591

(13) At-the-Market Equity Offerings

2021 Open Market Offering

On June 14, 2021, the Company entered into an Open Market Sale Agreement (the “2021 Open Market Sale Agreement”) with Jefferies LLC, as agent (“Jefferies”), pursuant to which the Company issued and sold shares of its class A common stock having an aggregate offering price of approximately \$1.0 billion from time to time through Jefferies (the “2021 Open Market Offering”). The Company agreed to pay Jefferies commissions for its services in acting as agent in the sale of the shares in the amount of up to 2.0% of gross proceeds from the sale of shares pursuant to the 2021 Open Market Sale Agreement. The Company also agreed to provide Jefferies with customary indemnification and contribution rights.

During 2021, the Company issued and sold 1,413,767 shares of its class A common stock under the 2021 Open Market Sale Agreement, at an average gross price per share of approximately \$707.33, for aggregate net proceeds (less \$9.5 million in sales commissions and expenses) of approximately \$990.5 million. The sales commissions and expenses related to the 2021 Open Market Sale Agreement were considered direct and incremental costs and were charged against “Additional paid-in capital” on the balance sheet in 2021 when the related shares were issued and sold. As of December 31, 2021, the cumulative aggregate offering price of the shares of class A common stock sold under the 2021 Open Market Sale Agreement was approximately \$1.0 billion, inclusive of sales commissions, constituting the maximum program amount under the 2021 Open Market Sale Agreement.

MICROSTRATEGY INCORPORATED

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

2022 At-the-Market Equity Offering

On September 9, 2022, the Company entered into a Sales Agreement (the “2022 Sales Agreement”) with Cowen and Company LLC and BTIG, LLC, as agents (collectively, the “2022 Sales Agents”), pursuant to which the Company may issue and sell shares of its class A common stock having an aggregate offering price of up to \$500.0 million from time to time through the 2022 Sales Agents. The Company agreed to pay the 2022 Sales Agents commissions for their services in acting as agents in the sale of the shares in the amount of up to 2.0% of gross proceeds from the sale of shares pursuant to the 2022 Sales Agreement. The Company also agreed to provide the 2022 Sales Agents with customary indemnification and contribution rights.

During 2022, the Company issued and sold 218,575 shares of its class A common stock under the 2022 Sales Agreement, at an average gross price per share of approximately \$213.16, for aggregate net proceeds (less \$0.4 million in sales commissions and expenses) of approximately \$46.2 million. The sales commissions and expenses related to the 2022 Sales Agreement are considered direct and incremental costs and are charged against “Additional paid-in capital” on the balance sheet in the period in which the related shares are issued and sold. \$0.4 million of direct and incremental costs related to the 2022 Sales Agreement remain deferred on the balance sheet in “Prepaid expenses and other current assets” and will be charged against “Additional paid-in-capital” in future periods in which related shares are issued and sold. As of December 31, 2022, approximately \$453.4 million of the Company’s class A common stock remained available for issuance and sale pursuant to the 2022 Sales Agreement.

(14) Treasury Stock

The Board of Directors has authorized the Company’s repurchase of up to an aggregate of \$800.0 million of its class A common stock from time to time on the open market through April 29, 2023 under the Share Repurchase Program, although the program may be suspended or discontinued by the Company at any time. The timing and amount of any shares repurchased will be determined by the Company’s management based on its evaluation of market conditions and other factors. The Share Repurchase Program may be funded using the Company’s working capital, as well as proceeds from any other funding arrangements that the Company may enter into in the future.

During 2022 and 2021, the Company did not repurchase any shares of its class A common stock pursuant to the Share Repurchase Program. During 2020, the Company repurchased an aggregate of 444,769 shares of its class A common stock at an average price per share of \$139.12 and an aggregate cost of \$61.9 million pursuant to the Share Repurchase Program. As of December 31, 2022, the Company had repurchased an aggregate of 5,674,226 shares of its class A common stock at an average price per share of \$104.13 and an aggregate cost of \$590.9 million pursuant to the Share Repurchase Program. As of December 31, 2022, \$209.1 million of the Company’s class A common stock remained available for repurchase pursuant to the Share Repurchase Program. The average price per share and aggregate cost amounts disclosed above include broker commissions.

During 2020, the Company repurchased an aggregate of 432,313 shares of its class A common stock through a “modified Dutch Auction” tender offer (the “Offer”) at a price of \$140.00 per share for an aggregate cost of \$61.3 million, inclusive of \$0.8 million in certain fees and expenses related to the Offer. The Offer expired in September 2020.

(15) Employee Benefit Plan

The Company sponsors a benefit plan to provide retirement benefits for its employees, known as the MicroStrategy 401(k) Savings Plan (the “401(k) Plan”). Participants may make voluntary contributions to the 401(k) Plan of up to 75% (and prior to September 30, 2022, up to 50%) of their annual base pre-tax compensation, cash bonuses, and commissions not to exceed the federally determined maximum allowable contribution amounts. Participants may designate all or a portion of the 401(k) Plan elective deferral contributions as Roth elective deferral contributions instead of pre-tax elective deferral contributions. The 401(k) Plan permits for discretionary Company contributions.

The Company makes a matching contribution to each 401(k) Plan participant in the amount of 50% of the first 12% of a participant’s contributions, up to a maximum of \$5,000 per year. Further, all active participants become fully vested in the Company’s matching contributions after completing four years of employment, vesting in increments based on the participant’s years of employment with the Company.

The Company made contributions to the 401(k) Plan totaling \$3.1 million, \$2.9 million, and \$3.3 million during the years ended December 31, 2022, 2021, and 2020, respectively.

MICROSTRATEGY INCORPORATED

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(16) Segment Information

The Company manages its business in one reportable operating segment. The Company's one reportable operating segment is engaged in the design, development, marketing, and sales of its software platform through licensing arrangements and cloud subscriptions and related services. The following table presents total revenues, gross profit, and long-lived assets (in thousands) according to geographic region. Long-lived assets are comprised of right-of-use assets and property and equipment, net.

Geographic regions:	Domestic	EMEA	Other Regions	Consolidated
Year ended December 31, 2022				
Total revenues	\$ 298,522	\$ 152,614	\$ 48,128	\$ 499,264
Gross profit	\$ 241,596	\$ 120,162	\$ 34,517	\$ 396,275
Year ended December 31, 2021				
Total revenues	\$ 286,131	\$ 171,140	\$ 53,491	\$ 510,762
Gross profit	\$ 238,347	\$ 139,704	\$ 40,802	\$ 418,853
Year ended December 31, 2020				
Total revenues	\$ 279,220	\$ 155,478	\$ 46,037	\$ 480,735
Gross profit	\$ 229,466	\$ 124,513	\$ 35,701	\$ 389,680
As of December 31, 2022				
Long-lived assets	\$ 83,365	\$ 6,466	\$ 3,779	\$ 93,610
As of December 31, 2021				
Long-lived assets	\$ 89,817	\$ 7,874	\$ 5,656	\$ 103,347

The domestic region consists of the United States and Canada. The EMEA region includes operations in Europe, the Middle East, and Africa. The other regions include all other foreign countries, generally comprising Latin America and the Asia Pacific region. For the years ended December 31, 2022, 2021, and 2020, no individual foreign country accounted for 10% or more of total consolidated revenues.

For the years ended December 31, 2022, 2021, and 2020, no individual customer accounted for 10% or more of total consolidated revenues.

As of December 31, 2022 and 2021, no individual foreign country accounted for 10% or more of total consolidated assets.

(17) Related Party Transaction

In June 2021, Michael J. Saylor, the Company's Chairman of the Board of Directors and Executive Chairman and, at that time, the Company's Chief Executive Officer, entered into an indemnification agreement (the "Original Agreement") with the Company for an initial term of 90 days and subject to successive 90-day term extensions at the election of the Company. All term extensions were exercised, most recently in February 2022 for a final 90-day period that began in March 2022. Pursuant to the Original Agreement, Mr. Saylor provided during the term of the agreement, from his personal funds, indemnity coverage to the Company for the benefit of the directors and officers ("D&Os") of the Company and its subsidiaries in the event such coverage was not indemnifiable by the Company, up to a total of \$40 million. In return, the Company paid Mr. Saylor \$388,945 for each of the initial and successive 90-day terms.

On June 12, 2022, Mr. Saylor and the Company entered into a renewed indemnification agreement (the "Renewed Agreement") for an initial term of 90 days, which became effective upon the expiration of the final 90-day extension of the Original Agreement. In return, the Company paid Mr. Saylor a one-time fee of \$388,945 for the initial 90-day term (the "Renewal Payment").

On June 24, 2022, the Company bound D&O liability insurance policies (the "Initial Commercial Policies") with several third-party carriers for \$30 million in coverage. Concurrently, Mr. Saylor and the Company also entered into (i) an indemnification agreement (the "Excess Agreement") for Mr. Saylor to provide \$10 million in excess indemnity coverage payable only after the exhaustion of the Initial Commercial Policies, and (ii) an indemnification agreement (the "Tail Agreement") for Mr. Saylor to provide \$40 million in indemnity coverage for claims made at any time based on actions or omissions occurring prior to the inception date of the Initial Commercial Policies. The Company paid Mr. Saylor \$600,000 for a one-year term under the Excess Agreement, and \$150,000 for a 90-day term under the Tail Agreement. At the option of the Company, the Company may elect to extend the term under the Tail Agreement for up to a total of twenty-three additional 90-day periods, for \$150,000 per additional 90-day term. In connection with the execution of the

MICROSTRATEGY INCORPORATED

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Initial Commercial Policies and the release of his obligations under the Renewed Agreement, Mr. Saylor refunded the Company \$337,086, which is the pro rata portion of the Renewal Payment attributable to the period from the date of the Initial Commercial Policies through the end of the original term of the Renewed Agreement.

On August 30, 2022, the Company bound additional D&O liability insurance policies (the “Excess Commercial Policies”) with third-party carriers for \$10 million in excess coverage payable only after the exhaustion of the Initial Commercial Policies. Effective as of the same date, the Company and Mr. Saylor executed an amendment (the “Amendment”) to the Excess Agreement to limit Mr. Saylor’s obligation to provide indemnification under the Excess Agreement to claims made during the term of the Excess Agreement which arise from wrongful acts occurring upon or after the commencement of the Excess Agreement but prior to the effective date of the Amendment. In connection with the Amendment, Mr. Saylor refunded \$489,863 to the Company, representing the pro rata portion of the \$600,000 originally paid by the Company to Mr. Saylor under the Excess Agreement attributable to the period from the date of the Amendment through the end of the original term of the Excess Agreement. During the third and fourth quarters of 2022 and the first quarter of 2023, pursuant to the terms of the Tail Agreement, the Company elected to extend the term of the Tail Agreement for additional 90-day periods and paid Mr. Saylor \$150,000 for each such extension.

Under the Excess Agreement and Tail Agreement, Mr. Saylor will provide, during the term of each agreement, from his personal funds, indemnity coverage to the Company for the benefit of the D&Os of the Company and its subsidiaries in the event such coverage is not provided by the Initial Commercial Policies, the Excess Commercial Policies or indemnifiable by the Company. The Excess Agreement and the Tail Agreement expressly supersede the Original Agreement and the Renewed Agreement.

Prior to entering into the Original Agreement, Renewed Agreement, Excess Agreement, and Tail Agreement with Mr. Saylor, the Company obtained and considered market quotes for D&O liability insurance policies. The Company determined that the policies considered at such times would have provided insufficient coverage and would have required substantial premiums to the extent coverage were available, and that obtaining indemnification coverage provided by Mr. Saylor was appropriate and in the best interests of the Company.

INDEX TO EXHIBITS

Exhibit Number	Description
3.1	<u>Second Restated Certificate of Incorporation of the registrant (incorporated herein by reference to Exhibit 3.1 to the registrant's Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2003 (File No. 000-24435)).</u>
3.2	<u>Amended and Restated By-Laws of the registrant (incorporated herein by reference to Exhibit 3.1 to the registrant's Current Report on Form 8-K filed with the SEC on January 30, 2015 (File No. 000-24435)).</u>
4.1	<u>Form of Certificate of Class A Common Stock of the registrant (incorporated herein by reference to Exhibit 4.1 to the registrant's Quarterly Report on Form 10-Q for the fiscal quarter ended June 30, 2003 (File No. 000-24435)).</u>
4.2	<u>Description of the registrant's registered securities (incorporated herein by reference to Exhibit 4.2 to the registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2019 (File No. 000-24435)).</u>
4.3	<u>Indenture, dated as of December 11, 2020, by and between the registrant and U.S. Bank National Association, as trustee (incorporated herein by reference to Exhibit 4.1 to the registrant's Current Report on Form 8-K filed with the SEC on December 11, 2020 (File No. 000-24435)).</u>
4.4	<u>Form of 0.750% Convertible Senior Note due 2025 (included within Exhibit 4.3 incorporated herein by reference to Exhibit 4.1 to the registrant's Current Report on Form 8-K filed with the SEC on December 11, 2020 (File No. 000-24435)).</u>
4.5	<u>Indenture, dated as of February 19, 2021, by and between the registrant and U.S. Bank National Association, as trustee (incorporated herein by reference to Exhibit 4.1 to the registrant's Current Report on Form 8-K filed with the SEC on February 19, 2021 (File No. 000-24435)).</u>
4.6	<u>Form of 0% Convertible Senior Note due 2027 (included within Exhibit 4.5 incorporated herein by reference to Exhibit 4.1 to the registrant's Current Report on Form 8-K filed with the SEC on February 19, 2021 (File No. 000-24435)).</u>
4.7	<u>Indenture, dated as of June 14, 2021, by and among the registrant, as issuer, MicroStrategy Services Corporation, as a guarantor, and U.S. Bank National Association, as trustee and notes collateral agent (incorporated herein by reference to Exhibit 4.1 to the registrant's Current Report on Form 8-K filed with the SEC on June 14, 2021 (File No. 000-24435)).</u>
4.8	<u>Form of 6.125% Senior Secured Note due 2028 (included within Exhibit 4.7 incorporated herein by reference to Exhibit 4.1 to the registrant's Current Report on Form 8-K filed with the SEC on June 14, 2021 (File No. 000-24435)).</u>
4.9	<u>Credit and Security Agreement, dated as of March 23, 2022, by and among MacroStrategy LLC, as borrower, and Silvergate Bank, as lender (incorporated herein by reference to Exhibit 4.1 to the registrant's Current Report on Form 8-K filed with the SEC on March 29, 2022 (File No. 000-24435)).</u>
10.1†	<u>MicroStrategy Incorporated 2013 Stock Incentive Plan (incorporated herein by reference to Exhibit 10.1 to the registrant's Current Report on Form 8-K filed with the SEC on September 9, 2013 (File No. 000-24435)).</u>
10.2†	<u>Amendment No. 1 to the MicroStrategy Incorporated 2013 Stock Incentive Plan (incorporated herein by reference to Exhibit 10.1 to the registrant's Current Report on Form 8-K filed with the SEC on April 28, 2014 (File No. 000-24435)).</u>
10.3†	<u>Amendment No. 2 to the MicroStrategy Incorporated 2013 Stock Incentive Plan (incorporated herein by reference to Exhibit 99.3 to the registrant's Registration Statement on Form S-8 filed with the SEC on July 25, 2014 (File No. 333-197645)).</u>
10.4†	<u>Amendment No. 3 to the MicroStrategy Incorporated 2013 Stock Incentive Plan (incorporated herein by reference to Exhibit 10.1 to the registrant's Current Report on Form 8-K filed with the SEC on October 26, 2015 (File No. 000-24435)).</u>
10.5†	<u>Amendment No. 4 to the MicroStrategy Incorporated 2013 Stock Incentive Plan (incorporated herein by reference to Exhibit 10.4 to the registrant's Quarterly Report on Form 10-Q for the fiscal quarter ended June 30, 2018 (File No. 000-24435)).</u>
10.6†	<u>Amendment No. 5 to the MicroStrategy Incorporated 2013 Stock Incentive Plan (incorporated herein by reference to Exhibit 10.1 to the registrant's Quarterly Report on Form 10-Q for the fiscal quarter ended June 30, 2021 (File No. 000-24435)).</u>
10.7†	<u>2013 Form of Nonstatutory Stock Option Agreement (incorporated herein by reference to Exhibit 10.2 to the registrant's Current Report on Form 8-K filed with the SEC on September 9, 2013 (File No. 000-24435)).</u>

- 10.8† [2016 Form of Nonstatutory Stock Option Agreement \(incorporated herein by reference to Exhibit 10.1 to the registrant's Quarterly Report on Form 10-Q for the fiscal quarter ended June 30, 2016 \(File No. 000-24435\)\).](#)
- 10.9† [Form of Restricted Stock Unit Agreement \(incorporated herein by reference to Exhibit 10.9 to the registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2021 \(File No. 000-24435\)\).](#)
- 10.10† [Form of International Restricted Stock Unit Agreement \(incorporated herein by reference to Exhibit 10.1 to the registrant's Quarterly Report on Form 10-Q for the fiscal quarter ended June 30, 2022 \(File No. 000-24435\)\).](#)
- 10.11† [Form of UK Restricted Stock Unit Agreement \(incorporated herein by reference to Exhibit 10.11 to the registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2021 \(File No. 000-24435\)\).](#)
- 10.12† [Form of Canada Restricted Stock Unit Agreement \(incorporated herein by reference to Exhibit 10.12 to the registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2021 \(File No. 000-24435\)\).](#)
- 10.13† [Form of Argentina Restricted Stock Unit Agreement \(incorporated herein by reference to Exhibit 10.2 to the registrant's Quarterly Report on Form 10-Q for the fiscal quarter ended June 30, 2022 \(File No. 000-24435\)\).](#)
- 10.14† [Form of China Restricted Stock Unit Agreement \(incorporated herein by reference to Exhibit 10.3 to the registrant's Quarterly Report on Form 10-Q for the fiscal quarter ended June 30, 2022 \(File No. 000-24435\)\).](#)
- 10.15† [Summary of Perquisites and Associated Other Compensation Arrangements for Named Executive Officers.](#)
- 10.16† [Summary of Director Fees, Equity Grants, Perquisites, and Associated Other Compensation Arrangements for Non-Employee Directors.](#)
- 10.17† [Sublease Agreement, dated as of January 31, 2011, by and between the Company and Aeromar Management Company, LLC \(incorporated herein by reference to Exhibit 10.14 to the registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2010 \(File No. 000-24435\)\).](#)
- 10.18† [Summary of Designated Company Vehicles Policy \(incorporated herein by reference to Exhibit 10.1 to the registrant's Quarterly Report on Form 10-Q for the fiscal quarter ended June 30, 2007 \(File No. 000-24435\)\).](#)
- 10.19† [Amended and Restated Performance Incentive Plan \(incorporated herein by reference to Exhibit 99.1 to the registrant's Current Report on Form 8-K filed with the SEC on December 28, 2012 \(File No. 000-24435\)\).](#)
- 10.20† [Summary of Cash Bonus and Salary Determinations for Certain Executive Officers \(incorporated herein by reference to Exhibit 10.1 to the registrant's Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2022 \(File No. 000-24435\)\).](#)
- 10.21† [MicroStrategy Incorporated 2021 Employee Stock Purchase Plan \(incorporated herein by reference to Exhibit 99.1 to the registrant's Registration Statement on Form S-8 filed with the SEC on February 1, 2021 \(File No. 333-252608\)\).](#)
- 10.22† [Summary of Bitcoin-related Compensation Arrangements for Non-employee Directors \(incorporated herein by reference to the registrant's Current Report on Form 8-K filed with the SEC on April 12, 2021 \(File No. 000-24435\)\).](#)
- 10.23† [Indemnification Agreement, effective as of June 16, 2021, by and between the registrant and Michael J. Saylor \(incorporated herein by reference to Exhibit 10.3 to the registrant's Quarterly Report on Form 10-Q for the fiscal quarter ended June 30, 2021 \(File No. 000-24435\)\).](#)
- 10.24†* [Indemnification Agreement \(Tail Agreement\), effective as of June 24, 2022, by and between the registrant and Michael J. Saylor \(incorporated herein by reference to Exhibit 10.5 to the registrant's Quarterly Report on Form 10-Q for the fiscal quarter ended June 30, 2022 \(File No. 000-24435\)\).](#)
- 10.25†* [Indemnification Agreement \(Excess Agreement\), effective as of June 24, 2022, by and between the registrant and Michael J. Saylor \(incorporated herein by reference to Exhibit 10.6 to the registrant's Quarterly Report on Form 10-Q for the fiscal quarter ended June 30, 2022 \(File No. 000-24435\)\).](#)
- 10.26†* [Amendment No. 1 to Indemnification Agreement \(Excess Agreement\), effective as of August 30, 2022, by and between the registrant and Michael J. Saylor \(incorporated herein by reference to Exhibit 10.1 to the registrant's Quarterly Report on Form 10-Q for the fiscal quarter ended September 30, 2022 \(File No. 000-24435\)\).](#)
- 10.27 [Letter Agreement, dated as of July 7, 2022, by and between MacroStrategy LLC, as borrower, and Silvergate Bank, as lender \(incorporated herein by reference to Exhibit 10.7 to the registrant's Quarterly Report on Form 10-Q for the fiscal quarter ended June 30, 2022 \(File No. 000-24435\)\).](#)

10.28	<u>Sales Agreement, dated as of September 9, 2022, by and among the Company, Cowen and Company, LLC and BTIG, LLC (incorporated herein by reference to Exhibit 1.1 to the registrant's Current Report on Form 8-K filed with the SEC on September 9, 2022 (File No. 000-24435)).</u>
21.1	<u>Subsidiaries of the registrant.</u>
23.1	<u>Consent of KPMG LLP.</u>
31.1	<u>Certification pursuant to Rule 13a-14(a) or Rule 15d-14(a) of the Principal Executive Officer.</u>
31.2	<u>Certification pursuant to Rule 13a-14(a) or Rule 15d-14(a) of the Principal Financial Officer.</u>
32.1	<u>Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.</u>
101.INS	Inline XBRL Instance Document. The instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.
101.SCH	Inline XBRL Taxonomy Extension Schema.
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase.
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase.
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase.
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase.
104	Cover Page Interactive Data File (formatted as inline XBRL with applicable taxonomy extension information contained in Exhibits 101).

† Management contracts and compensatory plans or arrangements.

* Portions of this exhibit have been omitted pursuant to Item 601(b)(10)(iv) of Regulation S-K.

SIGNATURES

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

MICROSTRATEGY INCORPORATED
(Registrant)

By: /s/ Phong Le
Name: **Phong Le**
Title: **President & Chief Executive Officer**

Date: February 16, 2023

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

<u>Name</u>	<u>Position</u>	<u>Date</u>
<u>/s/ PHONG LE</u> Phong Le	President & Chief Executive Officer and Director (Principal Executive Officer)	February 16, 2023
<u>/s/ ANDREW KANG</u> Andrew Kang	Senior Executive Vice President & Chief Financial Officer (Principal Financial Officer)	February 16, 2023
<u>/s/ JEANINE MONTGOMERY</u> Jeanine Montgomery	Senior Vice President & Chief Accounting Officer (Principal Accounting Officer)	February 16, 2023
<u>/s/ MICHAEL J. SAYLOR</u> Michael J. Saylor	Chairman of the Board of Directors & Executive Chairman	February 16, 2023
<u>/s/ STEPHEN X. GRAHAM</u> Stephen X. Graham	Director	February 16, 2023
<u>/s/ JARROD M. PATTEN</u> Jarrold M. Patten	Director	February 16, 2023
<u>/s/ LESLIE RECHAN</u> Leslie Rechan	Director	February 16, 2023
<u>/s/ CARL J. RICKERTSEN</u> Carl J. Rickertsen	Director	February 16, 2023

SCHEDULE II
VALUATION AND QUALIFYING ACCOUNTS
For the years ended December 31, 2022, 2021, and 2020
(in thousands)

	Balance at the beginning of the period	Additions (1)	Deductions	Balance at the end of the period
Allowance for credit losses:				
December 31, 2022	\$ 2,775	383	(594)	\$ 2,564
December 31, 2021	\$ 2,760	669	(654)	\$ 2,775
December 31, 2020	\$ 1,637	1,550	(427)	\$ 2,760
Deferred tax valuation allowance:				
December 31, 2022	\$ 999	510,488	(75)	\$ 511,412
December 31, 2021	\$ 1,259	0	(260)	\$ 999
December 31, 2020	\$ 2,130	10	(881)	\$ 1,259

(1) *Reductions in/charges to revenues and expenses.*

Board of Directors

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Chairman of the Board & Executive Chairman
MicroStrategy Incorporated

Phong Q. Le

President & Chief Executive Officer
MicroStrategy Incorporated

Stephen X. Graham

President
CrossHill Financial Group, Inc.

Jarrod M. Patten

President & Chief Executive Officer
RRG

Leslie J. Rechan

Chief Executive Officer
Rechan Consulting Group LLC

Carl J. Rickertsen

Managing Partner
Pine Creek Partners LLC

Former President & Chief Executive Officer
Solace Corp.
Halogen Software

Executive Officers

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Chairman of the Board & Executive Chairman

Phong Q. Le

President & Chief Executive Officer

Kevin L. Adkisson

Senior Executive Vice President &
Chief Revenue Officer

Andrew Kang

Senior Executive Vice President &
Chief Financial Officer

W. Ming Shao

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General Counsel & Secretary

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