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: 000-27687

BSQUARE CORPORATION
(Exact name of registrant as specified in its charter)

Washington **(State or other jurisdiction of incorporation or organization)**	**91-1650880** **(I.R.S. Employer Identification Number)**

1415 Western Ave, Suite 700, Seattle, Washington 98101
(Address of principal executive offices, including zip code)

Registrant's telephone number, including area code: (425) 519-5900

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

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common stock, no par value	BSQR	The NASDAQ Stock Market LLC

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

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

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 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 emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

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

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

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

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

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

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

The aggregate market value of common stock held by non-affiliates of the registrant on June 30, 2022 was approximately $22.0 million and was determined using the closing price of our common stock on that same date per the NASDAQ Stock Market ($1.28). The number of shares of common stock outstanding as of February 28, 2023: 20,164,310.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the definitive proxy statement to be delivered to shareholders in connection with the 2023 annual meeting of shareholders are incorporated by reference into Part III of this Annual Report on Form 10-K.

BSQUARE CORPORATION

FORM 10-K

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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

Certain statements contained in this Annual Report on this Form 10-K ("Form 10-K") are not purely historical statements, discuss future expectations, contain projections of results of operations or financial condition, or state other forward-looking information. Those statements are subject to known and unknown risks, uncertainties, and other factors that could cause the actual results to differ materially from those contemplated by the statements. The "forward-looking" information is based on various factors and was derived using numerous assumptions. In some cases, you can identify these so-called forward-looking statements by words like "may," "will," "should," "expects," "plans," "anticipates," "believes," "estimates," "predicts," "potential," "seeks" or "continue" or the negative of those words and other comparable words. You should be aware that those statements only reflect our predictions and are subject to risks and uncertainties. Actual events or results may differ substantially. Important factors that could cause our actual results to be materially different from the forward-looking statements include (but are not limited to) the following:

1) risks associated with the operation of our business generally, including:
   a) customer demand for our services and solutions;
   b) investing in new products and services;
   c) increasing operating efficiencies and improving our cost structure and business outlook;
   d) effectively competing in a highly competitive market;
   e) the lingering economic effects of the COVID-19 pandemic and the possible resurgence of the virus;
   f) protecting our customers' and our data and information;
   g) risks from international operations including fluctuations in exchange rates;
   h) obtaining favorable pricing to reflect services provided;
   i) adapting to changes in technologies and offerings;
   j) risk of loss of one or more significant software vendors;
   k) making appropriate estimates and assumptions in connection with preparing our consolidated financial statements;
   l) maintaining effective internal controls; and
   m) changes to tax levels, audits, investigations, tax laws or their interpretation;
2) the impact of the general economy and economic and political uncertainty on our business;
3) risks associated with potential changes to federal, state, local and foreign laws, regulations, and policies;
4) risks associated with managing growth organically and through acquisitions;
5) legal liabilities, including intellectual property protection and infringement or the disclosure of personally identifiable information; and
6) the risks detailed from time to time within our filings with the Securities and Exchange Commission (the "SEC").

This discussion is not exhaustive but is designed to highlight important factors that may impact our forward-looking statements. Because the factors referred to above, as well as the statements included under the heading "Risk Factors" in this Form 10-K, including documents incorporated by reference therein and herein, could cause actual results or outcomes to differ materially from those expressed in any forward-looking statement made by us or on our behalf, you should not place undue reliance on any forward-looking statements.

Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future results, levels of activity, performance, or achievements. We are under no duty to update any of the forward-looking statements after the date of this Form 10-K to conform such statements to actual results.

All forward-looking statements, express or implied, included in this report and the documents we incorporate by reference and that are attributable to Bsquare Corporation and its subsidiaries (collectively, "we," "us," "Bsquare," or the "Company") are expressly qualified in their entirety by this cautionary statement. This cautionary statement should also be considered in connection with any subsequent written or oral forward-looking statements that the Company or any persons acting on our behalf may issue.

PART I

Item 1. *Business.*

Overview

Bsquare develops and deploys technologies for the makers and operators of connected devices. Fleets of these devices, often called the Internet of Things (IoT), offer a powerful means to connect organizations, people, information, and ideas. Hundreds of millions of connected devices have already been deployed and it is estimated that billions more will be. Despite their growing prevalence, these devices and the systems in which they operate remain a significant source of complexity, unplanned and often uncontrolled expense, and operational risk. Bsquare provides technology that helps them capture the value of connected devices and reduces the cost and risk of doing so.

Since our founding in 1994, Bsquare has helped embedded device manufacturers (“Original Equipment Manufacturers” or “OEMs”) with their operating and system software. For most of our history, we operated at the intersection of hardware and software, helping our customers select, develop, and configure system software for a variety of purpose-built devices, from point-of-sale systems to healthcare equipment to hospitality, gaming, and more. Our expertise in hardware, device configuration, and operating systems became essential to our customers’ design cycles and purchasing decisions. As our customers deployed ever-larger fleets of devices, our understanding of the requirements for large-scale device operations increased.

More recently, our expertise and business prospects have shifted to cloud-connected devices that have been connected to create intelligent systems. This shift coincides with the overall growth of IoT technologies and with our customers’ recognition that connected intelligent devices create significant business opportunities. Device makers have increasingly specified their products not only to be connection-ready, but also to be enhanced by the breadth and depth of functionality that connection creates. We have taken to market a valuable and expanding portfolio of products and services that meet the needs of connected device makers. This portfolio captures our experience and our expertise can enable our customers to be more productive, flexible, and financially successful. And, in turn, our customers can then help make people and organizations more productive, improve quality of life, and reduce demands on the limited resources of our planet.

Embedded Operating System Software and Services

Customers engage us because of our technical expertise in device operating system (“OS”) image development and configuration, device software development and testing, and our experience in embedded and mobile systems design. Our long and successful history as a Microsoft Corporation (“Microsoft”) embedded OS distribution and technology partner is a source of many customer opportunities. We believe working with Bsquare engineers can result in shorter development cycles, faster time-to-market, lower overall development costs, and a more robust product. Our software and configuration services are designed to help ensure that our customers’ devices are secure, updateable, and operable as part of a connected IoT system. A decade ago, our customers typically built devices on a single OS. Today, they increasingly have a multi-OS product strategy. Accordingly, we believe that the need for our embedded OS expertise and services is expanding and accelerating. We recognize revenue and cost of sales for this segment of our business under the name “Partner Solutions”.

Our target market for OS software and services includes makers of connected, intelligent devices such as point-of-sale terminals, kiosks, tablets and handheld data collection devices, smart vending machines, ATMs, essential equipment in buildings and facilities environments, digital signs, and healthcare, and entertainment devices. These devices work on a variety of operating systems, including the most common: Windows IoT, Android, and Linux. They are deployed in various cloud environments, such as Microsoft Azure, Amazon Web Services (“AWS”), or Google Cloud, and are typically connected to a network via a wired or wireless connection. Our customers for these smart devices include world-class OEMs, original design manufacturers (“ODMs”), silicon vendors, and peripheral vendors.

IoT Operations Services and Software

Our customers’ devices are frequently components of complicated operating networks, creating new requirements for updating, maintaining, and evolving the capabilities of devices in the fleet. Once configured and deployed, this device fleet then becomes part of an operational environment that requires long-term attention to the challenges of IoT operations. These demands have created operational burdens that are difficult to meet through traditional technologies and support models. For that reason, our customers are increasingly relying on Bsquare’s extensive experience developing, deploying, and operating large IoT systems at scale. Our experience using Microsoft Azure and AWS cloud services is an asset we believe to be seldom found inside a customer’s technology team. Outsourcing fleet management and 24/7 operations services to Bsquare can result in lower system development costs, greater security, better maintainability, lower operating costs, and improved return on investment (“ROI”) for a customer’s IoT system. We have built and now operate 24/7 mission critical IoT systems for customers of varying size and complexity, and we believe the software and processes we have used to do so may be a sustainable competitive advantage and a potential opportunity for new revenue. We recognize revenue and cost of sales for this segment of our business under the name “Edge to Cloud”.

Our target market for our IoT operations service and software includes our OS and software OEM customers as well as companies that purchase from those OEMs and operate their devices as a fleet. This market represents business and industrial segments in a wide range of vertical markets such as retail, point of sale, medical equipment, gaming, buildings and facilities management, manufacturing, robotics, utility management, and transportation. The IoT market continues to evolve as companies understand the possibilities and economics of IoT technology and operations. Increasingly, customers are realizing that IoT operations are not core competencies of their business and that outsourcing operations can lower costs, reduce downtime, and mitigate the reputational risk of security and operational failures.

Bsquare Solutions Portfolio

We provide a suite of software, tools, and services to our customers that are packaged based on technical and business requirements that includes:

Embedded OS and System Software Sales and Support

We resell Windows IoT, Windows Embedded, and Windows Server IoT software as well as system utility software for Adobe and McAfee. We provide license compliance services, technical support, and manufacturing support. See Software Distribution and Relationship with Microsoft, below, for additional details about our Embedded OS and System Software products.

OS Configuration Services

We offer a suite of services to help customers specify and configure the OS software (Windows IoT, Linux, and Android) for their device based on their unique hardware configuration, application software, security policies, and operating environment. Our best practices ensure their OS software is configured to be secure, recoverable, upgradable, and updatable. OS configuration services are typically of interest to new customers seeking to implement Windows IoT on a new product.

Device Management Solutions

For customers seeking to deploy, operate, and centrally manage their devices as part of a fleet or IoT system, we offer SquareOne, a software as a service (“SaaS”) product. SquareOne captures workflows to be stored and managed centrally and deployed as needed for the purposes of secure remote device management. The product supports devices running Windows, Linux, and Android operating systems and supports Intel’s VPro technology. Our solution unlocks the data and telemetry on devices to provide secure, accurate, and reliable intelligence. SquareOne registers and maps embedded devices to provide heartbeat monitoring, telemetry analysis, content updates, and preventative maintenance routines, which helps connected device fleets to become simultaneously secure, intelligent, and efficiently managed.

IoT and Fleet Transition Services

Our professional services help transition a collection of devices to a specific OS and software configuration in preparation for management and operations as part of an intelligent system. We work with customers to understand and bring together multiple versions of OS software and hardware, connectivity, security, personnel, operating hours, and other factors that could affect previously deployed equipment. Bsquare also offers software utilities and professional services to migrate a fleet of devices to 24/7 IoT operations, allowing individual device and system performance to be managed centrally and integrated into existing business systems.

24/7 IoT Operations

Our outsourced IoT operations services include 24/7 infrastructure monitoring, automated issue escalation, incident response and troubleshooting, management protocols, uptime and service level reporting, and cloud instance management. We also offer related data engineering services to assist customers with the development and implementation of IoT systems and data-driven operations, including machine learning and predictive analytics that allow IoT systems to operate as an intelligent system.

Software Distribution

We maintain distribution agreements with multiple third-party software vendors. Our ability to resell these third-party software products, whether as stand-alone products or in conjunction with our own proprietary software and engineering service offerings, provides our customers with a comprehensive solution for their device project needs:

- For over 20 years, we have been a Microsoft Authorized Distributor of Windows Embedded and IoT operating system software and licenses, including major product families such as Windows 10 IoT Enterprise, Windows Server IoT, and SQL Server IoT. We are also authorized to sell Windows IoT operating systems in Canada, the United States, Argentina, Brazil, Chile, Mexico, Peru, Venezuela, Puerto Rico, Columbia, and several Caribbean countries.
- We are an authorized distributor for Adobe Flash technologies and Adobe Reader. We have the right to distribute Adobe Flash Lite licenses on a worldwide basis.
- We are an authorized distributor of McAfee security software in North America.

The majority of our revenue continues to be derived from reselling Microsoft Windows Embedded and IoT operating system software to device makers. The sale of Microsoft operating systems has historically accounted for substantially all of our Partner Solutions revenue.

Relationship with Microsoft

We have a long-standing relationship with Microsoft, which is important to the continuing success of our business:

- We have been one of Microsoft's distributors of Windows Embedded and IoT operating systems for over 20 years.
- We are a Gold level Data Analytics partner.
- We are a Gold level Application Integration partner.
- We are Silver level Application Development partner.
- Microsoft has engaged us on various engineering service projects.
- We work closely with Microsoft executives, developers, product managers and sales personnel. We leverage these relationships in a variety of ways, including:
  a. We gain early access to new Microsoft embedded software and other technologies.
  b. We leverage co-marketing resources, content and strategies from Microsoft, including market development funds, to support our own marketing and sales efforts.
  c. We participate in Microsoft-sponsored trade shows, seminars, and other events.
  d. We receive sales leads from Microsoft.
  e. We receive rebates from Microsoft based upon the achievement of predefined sales objectives.

See Item 1A, "Risk Factors," for more information regarding our relationship with Microsoft.

Competition

Microsoft controls who can distribute its OS software. Microsoft Authorized Distributors that we compete with include Advantech, Inc., Arrow Electronics, Inc., Avnet, Inc., and Dell Computer, Inc. Our competition is not limited to these Microsoft Authorized Distributors. We compete with other consulting firms for services related to device design and development, system software development, and engineering firms that offer similar services.

Despite competition from these larger organizations, we have retained a loyal customer base, largely due to our technical support and business services. We are known as the company that can manage difficult problems at the intersection of hardware and software. Our competitors have directed customers to us to resolve issues and Microsoft's OS team regularly seeks our guidance on customer technical challenges. Further, as a software-only company with multi-OS experience, we have always offered customers independence from OS or hardware biases.

Our history provides us with a unique position in the market. Our legacy OS distribution, our reputation as a technology provider, and our recent experience building and operating significant IoT systems sets us apart. These factors enable and enhance the market credibility of our claims of expertise, experience, and insight. As our customers evaluate products and services for purchasing decisions, we believe that they are and will remain more likely to buy from a company that has the history and experience to meet their requirements and provide a long-term operational perspective.

Our product portfolio is composed of solutions that are highly complementary across our customers' product lifecycles. Supplying a customer with OS configuration services and OS licensing put us in a unique position to sell SquareOne.

The market for device software and engineering services is competitive and we face competition from the following:

- Our current and potential customers' internal engineering and research and development departments, which may seek to provide their own IoT-related services or develop their own software solutions which could compete with our own service offerings and products.
- Engineering service firms, including offshore development companies, such as Adeneo, Symphony Teleca, and Wipro.
- ODMs, particularly those in Taiwan and China, with their own software development capabilities.
- Contract manufacturers with their own software development capabilities.

Competition for our IoT software and operating services include:

- Large, established enterprise software and solution providers such as International Business Machines, Oracle Corporation, SAP SE, and SAS Software, Inc.
- Cloud IoT providers such as AWS and Microsoft Azure. Although we are closely partnered with AWS and Microsoft, there are elements of their solutions with which we compete directly.
- Mid-sized companies engaged in business transitions similar to our own, including PTC Inc. and TTTech Industrial North America, Inc.
- Startups funded to enter the IoT market, including C3.AI, Inc., Losant IOT Inc., and TeamViewer US, Inc.

Sales and Marketing

We market our products and services utilizing a direct sales model. We have sales personnel in the United States and in the United Kingdom. Historically, we have not made significant use of resellers, channel partners, representative agents, or other indirect channels. Key elements of our sales and marketing strategy include direct marketing, digital marketing, content marketing, trade shows, event marketing, public relations, analyst relations, social media properties, customer and strategic alliance partner co-marketing programs, and a comprehensive website.

Our sales and marketing efforts with embedded OS customers will also be beneficial in our efforts to attract customers for our IoT software and services, and vice versa. The two markets we have traditionally served are converging, and our sales and marketing will increasingly reflect that convergence. The cross-selling opportunities between our two primarily markets could be a source of strength as we continue to expand our presence and reputation among the makers of IoT devices and those responsible for IoT device operations.

International Operations

Our international operations outside of North America are conducted through our offices in Trowbridge, UK. We maintain a European sales and marketing presence through the UK office exclusively in support of our IoT software and services, reported in our Edge to Cloud business segment. The majority of our global technical personnel also work from the UK office.

Our OEM Distribution Agreement with Microsoft for the sale of Microsoft Windows IoT operating systems is currently restricted to North America. As a result, the majority of our revenue continues to be generated from North America. Revenue generated from customers located outside of North America was approximately 8% of total revenue in 2022 and 14% in 2021.

Human Capital

We had a total employee headcount of 44 on December 31, 2022, with 25 people located in North America and 19 in the United Kingdom. As compared to December 31, 2021, our total employee headcount was smaller by nine.

Compensation and Benefits

We strive to provide market-competitive compensation and benefits that attract and retain employees whose values align with our mission and goals. Our compensation packages include combinations of competitive base pay, sales commissions, performance based short-term incentives, health care, retirement benefits, paid time off and family leave. In addition, we offer employees the benefit of equity ownership in the Company through stock option grants. We also provide access to a variety of health and wellness resources.

Intellectual Property and Other Proprietary Rights

We strive to protect our intellectual property rights primarily through copyright, trademark, and trade secret laws, through contractual arrangements, and occasionally through patent filings. While we cannot be certain that our efforts will be effective to prevent the misappropriation of our intellectual property, or to prevent the development and design by others of products or technologies similar to, or competitive with, those developed by us, we plan to continue to pursue appropriate protections for our intellectual property.

Additionally, because a significant portion of our revenue relates to the sale of third-party software products, we also rely on our partners, particularly Microsoft, to appropriately protect their own intellectual property.

See Item 1A, "Risk Factors," for more information regarding our intellectual property and other proprietary rights.

Available Information

We were incorporated in the State of Washington in July 1994. Our principal office is located at 1415 Western Ave, Suite 700, Seattle, Washington 98101, and our telephone number is (425) 519-5900. Our website address is www.bsquare.com. Information contained on or that can be accessed through our website is not a part of this Form 10-K.

Our stock is traded on the NASDAQ Capital Market under the symbol BSQR. Our website may be visited at www.bsquare.com. We electronically file with or furnish to the Securities and Exchange Commission (SEC) our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and amendments to those reports pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934. We make available on our website, free of charge, copies of these reports, as soon as reasonably practicable after electronically filing such reports with, or furnishing them to the SEC.

Item 1A. *Risk Factors*.

As discussed under Item 1 of Part I, "Business—Cautionary Note Regarding Forward-Looking Statements," our actual results could differ materially from those expressed in our forward-looking statements. Factors that might cause or contribute to such differences include, but are not limited to, those discussed below. Additional risks and uncertainties not presently known to us, or that we currently deem immaterial but later emerge as material, may also impair our business operations. If any of the following risks occur, our business, financial condition, operating results, cash flows and the trading price of our common stock could be materially adversely affected.

Risks Related to Our Business Operations

If we are not successful in developing and delivering competitive product and services offerings that keep pace with technological changes and needs, or if our products and services fail to gain or maintain traction with potential customers, our business would be negatively impacted.

Throughout 2022, we continued to update our product strategy to bring to market technologies and related services that build on our history of helping our customers deploy and operate intelligent devices. While we will continue to meet customer commitments previously made, we are developing new products and services that may expand our opportunities in the IoT market. The attractiveness of these new offerings remains uncertain, as does the size of the investment required to bring them to fruition. Our strategy to focus on the IoT market is subject to a number of additional risks and the occurrence of any of them could harm our business:

- The significant investment of time and financial and other corporate resources required;
- Customer acceptance of our IoT-related product and service offerings;
- Our ability to cross sell customers;
- The ROI model for IoT, which has proven to be elusive for many customers, could further delay adoption of IoT solutions by the market;
- Because IoT services are a relatively new offering, the sales cycle may be longer than we anticipate, and;
- We may be unable to grow our IoT-related services business rapidly enough to reach profitability in 2023.

Investments in new products and services may not deliver the returns that were anticipated when the development process was initiated, which will have a detrimental effect on our financial results.

As we bring new products and services to market, the acquisition rate, amount, and profitability of the revenue produced by these new offerings will be highly uncertain. Customers may not choose to adopt our technologies or may choose to adopt them more slowly than expected. The investment models that caused us to initiate product development efforts may have contained faulty assumptions about customer adoption rates and/or pricing. As a result, we may be required to sustain losses from product development for a longer period than expected, which could harm our financial results and diminish our ability to make additional investments in new products or in improving our existing set of products and services.

Expected operating efficiencies from our restructuring plans may not be realized as anticipated.

Our efforts to reduce unnecessary or excessive costs continued throughout 2022, with particular emphasis on personnel costs, in order to better align our organizational structure with our strategic focus. Factors which may affect the potential operating efficiencies we realize from our restructuring plans include the adverse impact of job eliminations, uncertainties associated with loss of customer and vendor confidence, potential negative impact on sales and customer service as well as factors outside of our control such as changes in the economic environment. We may not realize the anticipated benefits under our restructuring plans, which could result in additional restructuring efforts. If our restructuring plans are not successful, our business and results of operations may be negatively impacted.

The efforts to improve our cost structure and business outlook could result in the departure of key personnel or in costly employment-related litigation. Such outcomes would adversely affect our business and financial results.

In many areas, we now operate with single and primary points of function and expertise for some positions. Ongoing organizational adjustments, combined with the tight labor market, could cause the sudden departure of key individuals, which could in turn have a detrimental effect on our ability to innovate rapidly and serve our customers. Further, because the market for technology employment remains highly competitive, filling key vacancies may extend these negative effects. Further, employees who have had or who may have in the future their employment relationship terminated, or who are simply disgruntled with the direction of the company's strategy may decide to pursue litigation against us or may choose to disparage us in social media. These activities could damage our reputation, divert our attention from operating our business, and otherwise cause our business to suffer.

Our marketplace is highly competitive, which may result in price reductions, lower gross profit margins and loss of market share.

The competition in the growing market for IoT-related software and engineering services is significant. Further, we anticipate that we will encounter and attract competitive attention from a number of new software and service providers as we continue to focus on this market in 2022 and beyond, and as we expand our IoT-related service offerings. We currently face, or expect to face, competition from the following:

- Our current and potential customers' internal engineering and research and development departments, which may seek to provide their own IoT services and/or develop their own software solutions which could compete with our IoT-related service offerings and products;
- Microsoft Windows IoT and Windows Mobile operating system distributors such as Advantech Co, Arrow Electronics, Inc., Avnet, Inc. and Dell Computer, Inc.;
- Cloud IoT providers such as AWS and Microsoft Azure. Although we are closely partnered with AWS and Microsoft, there are elements of their solutions with which we compete directly;
- Mid-sized companies engaged in business transitions similar to our own, including TTTech Industrial North America, Inc. and PTC Inc.; and
- Startups funded to enter the IoT market, including Esper, Particle Industries, Inc., Ayla Networks, and SecuriThings.

Some of our competitors have greater financial and other resources than we do. They may also focus on only one aspect of our business or offer complementary products that can be integrated with our products. As we develop and bring to market new software products and service offerings, we may begin competing with companies with which we have not previously competed. Further, as we expand the geographic markets into which we sell our services and related software solutions, or increase our penetration therein, we may expect to increasingly compete with companies with which we have not previously competed. It is also likely that new competitors will enter the market or that our competitors will form alliances, including alliances with AWS or Microsoft, that may enable them to rapidly increase their market share. New competitors may have lower overhead than we do and may be able to undercut our pricing. We expect that competition will increase as other established and emerging companies enter the connected device market, and as new products and technologies are introduced.

Neither AWS nor Microsoft has agreed to any exclusive arrangement with us, nor has either agreed not to compete with us. AWS may decide to focus on providing products or services that compete directly with our products and services or partnering with other solution providers that compete with us. Microsoft may decide to bring more of the core embedded development services and expertise that we provide in-house, possibly resulting in reduced software and service revenue opportunities for us. The barrier to entering the market as a provider of Microsoft-based smart connected system software and services is relatively low. In addition, Microsoft has created marketing programs to encourage systems integrators to work on Windows IoT and Windows Mobile operating system software and services, including in the evolving IoT market. These systems integrators may be given substantially the same access by Microsoft to Microsoft technology as we are.

The possible resurgence of the COVID-19 pandemic or a different variation of the virus or pandemic could create ongoing uncertainty for Bsquare and our customers, and for the overall global business environment.

The global spread of the COVID-19 pandemic, including the spread of variants, and related containment efforts created significant economic disruption. A resurgence of the pandemic or variations of the virus or other pandemics could expose us to a number of potential risks to our business. During 2022, we fully reopened our offices for personnel who are comfortable working in an office setting, but a significant number of our personnel continue to work from home. We offer a significant percentage of our employees flexibility in the amount of time they work in an office on a regular basis. While we have learned during the COVID-19 pandemic that we can work effectively remotely, the partial return to in-office work and the transition to permanent remote working arrangements for some employees may present operational and workplace culture challenges and risks, including reduced productivity, lower employee retention, and increased compliance and tax obligations. Our ongoing efforts to safely keep open our offices may also expose our employees, customers and other third parties to health risks and us to associated liability, and they will involve additional financial burdens. Similarly, many of our customers, vendors and other third parties with which we conduct business are adjusting to permanent remote or hybrid work arrangements and dealing with other challenges. Closures of manufacturing facilities and warehouses, or staffing shortages, continue to disrupt supply and distribution chains. Our customers could continue to experience a slow-down in demand for their products, decreased budgets, or delayed business initiatives, further reducing the need for our software and services. If our customers' global supply chains are disrupted because of COVID-19, they may not be able to meet demands for their end-product and they may reduce or eliminate their purchases from us for an uncertain period of time, if not permanently. Our customers may be slow to collect from their customers or otherwise face liquidity problems, which may cause delays in satisfaction of their financial obligations to us. Some of our customers may be forced to reduce their workforce through layoffs or furloughs, to cease operations temporarily, or, in extreme cases, declare bankruptcy. In those situations, disruptions to our business could range from a loss of key customer relationships to an inability to timely collect potentially significant receivables.

We have experienced a reduction in sales in our Partner Solutions segment since the second quarter of 2020, which we believe is primarily the result of the pandemic. The adverse effects of the COVID-19 pandemic on our financial results may continue for an unknown time. The extent, depth, and duration of the impact of the COVID-19 pandemic on our operational and financial performance will depend on many factors, including new variants of the coronavirus that causes COVID-19. Specifically, our customers' demand for our products is uncertain and is likely affected by disruptions in their component supply chains, their own sales cycles, their industry verticals, their ability to sell through traditional distribution channels, their ability to convene or attend employee or industry events, or other factors created and made persistent by the uncertain COVID-19 environment. The decline in Partner Solutions revenue experienced in 2021 and 2022 suggests the effect of these disruptions can be significant. The lingering economic effects of COVID-19, even after resolution of the immediate public health crisis, may result in adverse conditions for our business that may impact our financial condition or results.

Our international operations expose us to greater intellectual property, management, collections, regulatory and other risks.

Customers outside of North America generated approximately 8% of our total revenue in 2022 and 14% in 2021. We currently have operations outside of North America and in the United Kingdom ("U.K."). Our international activities and operations expose us to a number of risks, including the following:

- Greater difficulty in protecting intellectual property due to less stringent foreign intellectual property laws and enforcement policies;
- Longer collection cycles than we typically experience in North America;
- Unfavorable changes in regulatory practices and tariffs;
- Compliance with complex regulatory regimes or restrictions on import and export of our goods and services;
- Complex and/or adverse tax laws and/or changes thereto. Additionally, we may be subject to income, withholding and other taxes for which we may realize no current benefit despite the existence of significant net operating loss and tax credit carryforwards in the U.S.;
- Loss or reduction of withholding tax exemptions;
- The impact of fluctuating exchange rates between the U.S. dollar and foreign currencies;
- General economic and political conditions in international markets which may differ from those in the U.S.;
- Increased exposure to potential liability under the Foreign Corrupt Practices Act;
- Added cost and administrative burden associated with creating and operating business structures in other jurisdictions;
- Potential labor costs and risks associated with employees and labor laws in other geographies; and
- The inherent risks of working in a certain highly regulated and/or controlled economies where relationships between company management and government officials is critical to timely processing of approvals required to conduct business.

These risks could have a material adverse effect on the financial and managerial resources required to operate our foreign offices, as well as on our future international revenue, which could negatively impact our business and operating results.

Our operating results may be adversely affected by changing economic and market conditions and the uncertain geopolitical environment.

Uncertain economic and political conditions in the U.S. and worldwide have from time to time contributed, and may in the future contribute, to volatility in the technology industries at large, particularly in an emerging market such as IoT. These economic conditions can arise suddenly, including the recent rise in inflation, and the full impact of such conditions often remains uncertain. In addition, geopolitical developments, such as potential trade wars, and actions or inactions of the U.S. or other major national governments, can increase levels of political and economic unpredictability globally and increase the volatility of global financial markets. These factors could potentially result in reduced demand for our products and services as a result of constraints on IT-related capital spending by our customers; purchasing delays; payment delays adversely affecting our cash flow and revenue; and difficulty in accurate budgeting and planning. If global economic and market conditions, or economic conditions in key markets, remain uncertain or deteriorate, we may experience material impacts on our business, operating results and financial condition.

Large customers with significant resources may resort to litigation to recoup economic loss and other damages caused by what those customers perceive to be a deficiency in our products or a breach in our contractual arrangements.

We have a number of larger customers that have entered into longer-term contracts for our products and services. Further, we have in the past actively engaged with those customers to retool our previously delivered products and to improve our previous agreements. Despite these efforts and investments, new issues may arise, or previous problems may re-occur, causing these customers to choose to initiate litigation against us. While we have no indication that these customers intend to pursue litigation, a decision to do so could cause us to incur significant defense costs, which would be significantly distracting, and may damage our reputation in our markets.

If we are unable to attract, hire, and retain employees with the skills and experience required by our business, our ability to compete may be harmed.

Competition for qualified personnel in the technology industry has historically been intense, particularly for software engineers and other technical staff. Recently, that competition has surpassed even historical norms and the fight for talent has expanded beyond technical roles and into virtually all areas of our company. The loss to competitors of any of our key employees, or the inability to hire, train, retain, motivate, and manage qualified personnel, could harm our business. Recruiting efforts, particularly for senior employees or employees with specialized skills, may be time-consuming, which may delay the execution of our plans. Failure to ensure effective transfer of knowledge and smooth transitions involving key employees who do depart could hinder our strategic planning and execution. If we are not successful in managing these risks, our business, financial condition, and operating results may be harmed.

As our customers seek more cost-effective locations to develop and manufacture their products, particularly overseas locations, our ability to continue to sell our software products and services to these customers could be adversely affected, which could negatively impact our revenue and operating results.

Due to competitive and other pressures, some of our customers have moved, and others may seek to move, the development and manufacturing of their smart, connected systems to overseas locations, which may limit our ability to sell our software and services to these customers. As an example, under our current arrangements with Microsoft, we are currently only able to sell Microsoft Windows IoT operating systems to our customers in the United States, Canada, the Caribbean (excluding Cuba), Mexico, and the European Free Trade Association. If our customers, or potential customers, move their manufacturing overseas to locations in which our business may be limited, we may be less able to remain competitive, which could negatively impact our revenue and operating results.

Our customers face manufacturing and supply chain risks that could reduce demand for our products, harming our financial condition, operating results, and prospects.

Our customers purchase software products from us that are incorporated with other components into finished goods for sale into their own markets. They rely on a variety of third-party suppliers, contract manufacturers and service providers to provide raw materials, parts and sub-systems. Recent global shortages in energy, raw materials, and labor have harmed our customers' ability to acquire the necessary components for their products, which have in turn caused them to delay or cancel some of their orders with us. If our customers experience ongoing supply shortages and price increases driven by raw material shortages, part availability, manufacturing capacity, labor shortages, industry allocations, tariffs, trade barriers, natural disasters, and/or pandemics (including COVID-19), their buying patterns and volumes may continue to be volatile. As a result, our revenue, overall financial condition, and operating results could be harmed.

If we do not maintain our distribution relationship with Microsoft as currently structured, our revenue would decrease, and our business would be adversely affected.

We provide software and services to customers building devices utilizing Microsoft's Windows IoT and Windows Mobile operating systems and a significant portion of our revenue is derived from the sale of Microsoft Windows IoT and Windows Mobile operating systems. As a result, Microsoft has a significant direct and indirect influence on our business. The following Microsoft-related risks may negatively impact our business and operating results.

We were previously party to certain Original Equipment Manufacturer Distribution Agreements ("ODAs") with Microsoft pursuant to which we were licensed to sell Microsoft Windows Mobile operating systems to customers in North America, South America, Central America (excluding Cuba), Japan, Taiwan, Europe, the Middle East, and Africa. The ODAs to sell Windows Mobile operating systems expired on April 30, 2022 and were not renewed thereafter. If any of our other ODAs are terminated by Microsoft (which Microsoft can do unilaterally) or not renewed, Partner Solutions revenue and resulting gross profit could decrease significantly and our operating results would be negatively impacted. Future renewals by Microsoft, if any, could be on less favorable terms, which could also negatively impact our business and operating results.

We currently recognize revenue from the sale of Microsoft software generally upon shipment of physical software licenses. If Microsoft were to change the method of providing software licenses to a digital rather than physical medium, our revenue recognition policies may need to change, and that change in policy could result in a significant decrease in revenue. While such a change is not expected, and would not immediately impact our cash flows, the full financial scope of the impact is uncertain and potentially significantly negative.

Microsoft can change its product pricing at any time, and unless we are able to pass through price increases to our customers, our revenue, gross profit and operating results would be negatively impacted.

Further, Microsoft currently offers a rebate program in conjunction with our resale activities in which we earn money for achieving certain predefined objectives. If Microsoft changes the way that rebates are earned by eliminating or negatively modifying the rebate program, our gross profit and operating results would be adversely impacted. If we are unable to meet rebate criteria, or if the rebate criteria is modified, we may not be able to sustain the financial benefits of the rebate program and our operating results could be harmed.

Our business and results of operations could be negatively impacted by changes Microsoft implements in its pricing of its operating systems.

Microsoft has historically implemented significant pricing changes for its operating systems products and Microsoft could make further pricing changes in the future. These changes have altered the competitive dynamics because the same pricing discounts are available to all distributors of these Microsoft products. As a distributor of Microsoft products, this may impact both the sales prices we charge our customers and the cost of goods sold that we incur for many of the Microsoft products we sell. Microsoft has indicated that a new version of an operating system product we frequently sell to customers will be released in the near future. While Microsoft has not indicated the pricing of this new product version, any significant declines in the market price for the product will reduce our revenue and may reduce our gross profits. The amount and impact of the change, and other pricing changes, on our revenue and gross profit are currently not determinable; however, they may negatively impact our operating results in future reporting periods.

Microsoft offers certain consumer Windows phone and tablet-based operating systems to customers free of charge, subject to certain limitations. While we do not distribute these operating systems today under our ODAs with Microsoft, if Microsoft were to offer, free of charge, operating systems that we do distribute, our business and results of operations would be adversely impacted.

In recent years, the markets for Windows IoT and Windows Mobile operating systems have declined; if the markets for these operating systems continue to decline or decline more rapidly than anticipated, our business and operating results would be materially harmed.

A significant portion of our revenue to date has been generated by software and services targeted at customers and devices running various Microsoft Windows IoT and Windows Mobile operating systems. In recent years, the markets for these systems have declined. If the markets for these operating systems continue to decline or decline more rapidly than anticipated, our business and operating results would be negatively impacted. Continued market acceptance of Microsoft Windows IoT and Windows Mobile operating systems will depend on many factors, including:

- Microsoft's development and support of various Windows IoT and Windows Mobile markets. As the developer and primary promoter of Windows IoT and Windows Mobile operating systems, if Microsoft were to decide to discontinue or lessen its support of these operating systems, potential customers could select competing operating systems, which could reduce the demand for our Microsoft Windows IoT and Windows Mobile software products and engineering services, from which a significant portion of our revenue continues to be generated;
- The ability of the Microsoft Windows IoT and Windows Mobile operating systems to compete against existing and emerging operating systems for the smart connected systems market, including iOS from Apple, Inc.; VxWorks and Linux from WindRiver Systems Inc.; Android from Google Inc.; QNX from BlackBerry Limited; and other proprietary operating systems. Microsoft Windows IoT and Windows Mobile operating systems may be unsuccessful in capturing or retaining a significant share of the smart connected systems market in the future;
- The acceptance by customers of the mix of features and functions offered by Microsoft Windows IoT and Windows Mobile operating systems; and
- The willingness of software developers to continue to develop and expand the applications running on Microsoft Windows IoT and Windows Mobile operating systems is uncertain. To the extent that software developers write applications for competing operating systems that are more attractive to users than those available on Microsoft Windows IoT and Windows Mobile operating systems, this could cause potential customers to select competing operating systems and our revenue could decline.

Microsoft has audited our records under the ODAs in the past and may audit our records again in the future, and any negative audit results could result in additional charges and/or the termination of our distributor relationship with Microsoft.

There are provisions in the ODAs that require us to maintain certain internal records and processes for auditing purposes. Non-compliance with these or other contractual requirements could result in the termination of our distributor relationship with Microsoft. Microsoft conducted previous audits of our records pertaining to the ODAs, none of which had material findings. It is possible that future audits could result in charges due to any material findings that are found. We may also be contractually liable for payment of royalties to Microsoft in the event that certificates of authenticity are lost, damaged or stolen.

Risks Related to Technology and Intellectual Property

Our software or hardware products or the third-party hardware or software integrated with our products or delivered as part of our service offerings may suffer from defects or errors that could impair our ability to sell our products and services.

Software and hardware components as complex as those needed for dedicated purpose intelligent systems frequently contain errors or defects, especially when first introduced or when new versions are released. We have had to delay commercial release of certain versions of our products until problems were corrected and, in some cases, have provided product enhancements to correct errors in released products. Some of our contracts require us to repair or replace products that fail to work. To the extent that we repair or replace products, our expenses may increase. In addition, it is possible that by the time defects are repaired, the market opportunity may decline which may result in lost revenue.

Moreover, to the extent that we provide increasingly complex and comprehensive products and services, particularly those focused on IoT hardware, and rely on third-party manufacturers and suppliers to manufacture these products, we will be dependent on the ability of such third-party manufacturers and suppliers to correct, identify and prevent manufacturing errors or defects. Errors or defects that are discovered after commercial release could result in loss of revenue or delay in market acceptance, diversion of development resources, damage to our reputation and increased service and warranty costs, all of which could negatively impact our business and operating results.

Our business and operations would be adversely impacted in the event of a failure or interruption of our IT infrastructure.

The proper functioning of our IT infrastructure is critical to the efficient operation and management of our business. Despite ongoing mitigation efforts, our infrastructure may be vulnerable to cyberattacks, cyberterrorism, computer viruses, worms and other malicious software programs, physical and electronic break-ins, sabotage and similar disruptions from unauthorized tampering with our computer systems. We believe that we have adopted appropriate measures to mitigate potential risks to our technology infrastructure and our operations from these IT-related and other potential disruptions. However, given the unpredictability of the timing, nature and scope of such disruptions, we could potentially be subject to downtime, operational delays, other detrimental impacts on our operations or ability to provide products and services to our customers, the compromising of confidential or personal information, destruction or corruption of data, security breaches, other manipulation or improper use of our systems and networks, financial losses from remedial actions, loss of business or potential liability, and/or damage to our reputation, any of which could have a material adverse effect on our cash flows, competitive position, financial condition or results of operations.

Interruptions or delays in services from third-party data center hosting facilities or cloud computing platform providers could impair the delivery and availability of our products and services and harm our business.

We currently serve certain customers through third-party data center hosting facilities and cloud computing platform providers located in the United States and other countries. Any damage to, or failure of, these systems generally could result in interruptions in the availability of our products and services. We have from time to time experienced, and may continue to experience, such interruptions, which could cause us to issue credits or pay penalties, cause customers to terminate their subscriptions, and adversely affect our customer attrition rates and our ability to attract new customers, all of which would reduce our revenue. Our business would also be harmed if our customers and potential customers believe our product and services offerings are unreliable. Despite contract provisions to protect us, customers may look to us to support and provide warranties for these third-party systems, which may expose us to potential claims, liabilities and obligations for technology or services we did not develop or sell, all of which could harm our business. Further, third-party software and cloud platforms that we currently or may in the future utilize may not continue to be available at reasonable prices, on commercially reasonable terms, or may become unavailable. Any of these outcomes could significantly increase our expenses and result in delays in the provisioning of our products and services until we are able to procure alternative solutions, either by developing equivalent technology or, if available, obtaining such technology through purchase or license from other third parties.

We do not control the operation or security of any of these hosting facilities or cloud computing platforms, and they may be vulnerable to damage or interruption from earthquakes, floods, fires, power loss, telecommunications failures and similar events. They may also be subject to break-ins, sabotage, intentional acts of vandalism and similar misconduct, as well as local administrative actions, changes to legal or permitting requirements and litigation to stop, limit or delay operation. Despite precautions taken by providers of these facilities and platforms, the occurrence of a natural disaster or an act of terrorism, a decision to close the facilities or platforms without adequate notice or other unanticipated problems at these facilities or platforms could result in lengthy interruptions in or cessation of our services.

Breaches in data security or incidents of cybercrime could damage our customers' business and our reputation, which may harm our ability to gain new customers or cause our existing customer to look to our competitors for products and services.

Our products and services involve the storage and transmission of customers' proprietary data and personal information and security breaches could result in a risk of loss of this data or information, litigation and possible liability. While we have security measures in place, they may be breached as a result of third-party action, including intentional misconduct by computer hackers, employee error, malfeasance or otherwise and result in someone obtaining unauthorized access to our IT systems, our customers' data or our data, including our intellectual property and other confidential business information. Additionally, third parties may attempt to fraudulently induce employees or customers into disclosing sensitive personal information such as usernames, passwords or other information in order to gain access to our customers' data, our data or our IT systems. Because the techniques used to obtain unauthorized access, or to sabotage systems, change frequently and generally are not recognized until launched against a target, we may be unable to anticipate these techniques or to implement adequate preventative measures. In addition, our customers may authorize third-party technology providers to access their customer data, and some of our customers may not have adequate security measures in place to protect their data. Because we do not control the IT security of our customers or third-party technology providers, or of the processing of such data by third-party technology providers, we cannot ensure the integrity or security of such transmissions or processing. Malicious third parties may also conduct attacks designed to temporarily deny customers access to our products and services. Any security breach could result in a loss of confidence in the security of our products and services, damage our reputation, negatively impact our future sales, disrupt our business and lead to legal liability.

Our software and service offerings could infringe the intellectual property rights of third parties, which could expose us to additional costs and litigation and could adversely affect our ability to sell our products and services or cause shipment delays or stoppages.

It is difficult to determine whether our software products and engineering services infringe third-party intellectual property rights, particularly in a rapidly evolving technological environment in which technologies often overlap and where there may be numerous patent applications pending, many of which are confidential when filed. If we were to discover that one of our software products or service offerings, or a product based on one of our reference designs, violated a third party's proprietary rights, we may not be able to obtain a license on commercially reasonable terms, or at all, to continue offering that product or service. Similarly, third parties may claim that our software products and services infringe their proprietary rights, regardless of whether such claims have merit. Any such claims could increase our costs and negatively impact our business and operating results. In certain cases, we have been unable to obtain indemnification against claims that third-party technology incorporated into our software products and services infringe the proprietary rights of others. However, any indemnification we do obtain may be limited in scope or amount. Even if we receive broad third-party indemnification, these entities may not have the financial capability to indemnify us in the event of infringement.

In addition, in some circumstances we are required to indemnify our customers for claims made against them that are based on our software products or services. We may face claims of infringement or invalidity related to the software products and services we provide or arising from the incorporation by us of third-party technology and claims for indemnification from our customers resulting from such claims. Some of our competitors have, or are affiliated with companies with, substantially greater resources than we have, and these competitors may be able to sustain the costs of complex intellectual property litigation to a greater degree and for longer periods of time than we could. In addition, we expect that software developers will be increasingly subject to infringement claims as the number of products and competitors in the software industry grows, and as the functionality of products in different industry segments increasingly overlap. Such claims, even if not meritorious, could result in the expenditure of significant financial and managerial resources in addition to potential product redevelopment costs and delays. Furthermore, if we were unsuccessful in resolving a patent or other intellectual property infringement action claim against us, we may be prohibited from developing or commercializing certain of our technologies and products, or delivering services based on the infringing technology, unless we obtain a license from the holder of the patent or other intellectual property rights. We may not be able to obtain any such license on commercially favorable terms, or at all. If such license were not obtained, we would be required to cease these related business operations, which could negatively impact our business, revenue and operating results.

If we are unable to license key software from third parties, our business could be harmed.

We sometimes integrate third-party software with our proprietary software and engineering service offerings or sell such third-party software offerings on a standalone basis, such as we do with Microsoft Windows IoT and Mobile operating systems under our ODAs with Microsoft. If our relationships with these third-party software vendors were to deteriorate, or be eliminated in their entirety, we might be unable to obtain licenses on commercially reasonable terms, if at all. In the event that we are unable to obtain these third-party software offerings, we would be unable to continue to generate revenue from our reseller relationships or, with respect to our proprietary software and engineering services offerings, we would be required to develop this technology internally, assuming it was economically or technically feasible, or seek similar software offerings from other third parties assuming there were competing offerings in the marketplace, which could delay or limit our ability to introduce enhancements or new products, or to continue to sell existing products and engineering services, thereby negatively impacting our revenue and operating results.

If we fail to adequately protect our intellectual property rights, competitors may be able to use our technology which could weaken our competitive position, reduce our revenue and increase our costs.

We rely primarily on confidentiality policies and procedures and contractual provisions as well as a combination of patent, copyright, trade secret and trademark laws, to protect our intellectual property. These laws, policies and procedures provide only limited protection. It is possible that another party could obtain patents that block our use of some, or all, of our software products and services. If that occurred, we would need to obtain a license from the patent holder or design around those patents. The patent holder may or may not choose to make a license available to us on acceptable terms, or at all. Similarly, it may not be possible to design around a blocking patent. Our efforts to protect our intellectual property rights through patent, copyright, trade secret and trademark laws may not be effective to prevent misappropriation of our technology, or to prevent the development and design by others of products or technologies similar to or competitive with those developed by us.

We license our computer source code to customers. Customers with access to our source code may not comply with the license terms. We may not discover any violations of the license terms and, in the event of discovery of violations, we may not be able to successfully enforce the license terms or recover the economic value lost from such violations. To license some of our software products, we rely in part on “shrink-wrap” and “click wrap” licenses that are not signed by the end user and, therefore, may be unenforceable under the laws of certain jurisdictions. As with other software, our software products are susceptible to unauthorized copying and uses that may go undetected, and policing such unauthorized use is difficult.

A significant portion of our marks include the word “BSQUARE.” Other companies use forms of “BSQUARE” in their marks alone, or in combination with other words, and we cannot prevent all such third-party uses. We license certain trademark rights to third parties. Such licensees may not abide by our compliance and quality control guidelines with respect to such trademark rights. Any of these outcomes could negatively impact our brand, dilute its recognition in the marketplace, or confuse potential customers, all of which could harm our business.

The computer software market is characterized by frequent and substantial intellectual property litigation, which is often complex and expensive, and involves a significant diversion of resources and uncertainty of outcome. Litigation may be necessary in the future to enforce our intellectual property or to defend against a claim of infringement or invalidity. Litigation could result in substantial costs and the diversion of resources and could negatively impact our business and operating results.

Risks Related to Tax and Legal Matters

Past acquisitions have proven difficult to integrate, and future acquisitions, if any, could disrupt our business, dilute shareholder value and negatively affect our operating results and may not accrete to our revenue or other operating results or to our business generally.

We have acquired the technologies, assets and/or operations of other companies in the past and may acquire or make investments in companies, products, services and technologies in the future. If we fail to properly evaluate, integrate and execute on our acquisitions and investments, our business and prospects may be seriously harmed. In addition, acquisitions may not be as accretive to our revenue or other operating results as expected. To successfully complete an acquisition, we must properly evaluate the business, technology, market and management team of the acquisition target, accurately forecast the financial impact of the transaction, including accounting charges and transaction expenses, integrate and retain personnel, combine potentially different corporate cultures and effectively integrate products, research and development, sales, marketing and support operations. If we fail to do any of these, we may suffer losses and impair relationships with our employees, customers and strategic partners. Additionally, acquisition activities may distract management from day-to-day operations. We also may be unable to maintain consistently uniform standards, controls, procedures and policies across our entire business as a result, and significant additional demands may be placed on our management and our operations, information services and financial, legal and marketing resources. Finally, acquired businesses may result in unexpected liabilities and contingencies, which may involve compliance with foreign laws, payment of taxes, labor negotiations or other unknown costs and expenses, which could be significant.

We could become subject to taxation in jurisdictions in which we do not believe we currently have tax nexus, which could expose us to additional tax liability that we have not been subject to in the past.

We sell in many jurisdictions across the United States. We believe we do not have nexus in most of these jurisdictions and, therefore, we believe we are not subject to sales, franchise, income and other state and local taxes in such jurisdictions. However, if we are determined to have tax nexus in other jurisdictions (as a result of more aggressive interpretations of nexus by taxing jurisdictions or otherwise) and we are unable to pass through this cost to our customers, our tax expense will increase which will negatively affect our results of operations. Further, because state and local tax laws are becoming increasingly complex, we anticipate that our cost to monitor our state and local tax compliance will increase which will negatively affect our results of operations. Additionally, we may have unknown tax exposure in a state or local tax jurisdiction because of recent tax law changes of which we are unaware, and the resulting liability could be significant and would negatively affect our results of operations.

Changes in our effective tax rate may impact our results of operations.

We are subject to taxes in the U.S. and other jurisdictions. Tax rates in these jurisdictions may be subject to significant change due to economic and/or political conditions. A number of other factors may also impact our future effective tax rate including:

- the jurisdictions in which profits are determined to be earned and taxed;
- the resolution of issues arising from tax audits with various tax authorities;
- changes in valuation of our deferred tax assets and liabilities;
- increases in expenses not deductible for tax purposes, including write-offs of acquired intangibles and impairment of goodwill in connection with acquisitions;
- changes in availability of tax credits, tax holidays, and tax deductions;
- changes in share-based compensation; and
- changes in tax laws or the interpretation of such tax laws and changes in generally accepted accounting principles.

There may be restrictions on the use of our net operating loss and tax credit carryforwards due to a tax law “**ownership change.**”

We did not generate taxable income in 2022 or 2021 and, as a result, we were unable to use our net operating loss and tax credit carryforwards with respect to such tax years. In addition, Sections 382 and 383 of the Internal Revenue Code restrict the ability of a corporation that undergoes an ownership change to use net operating loss and tax credit carryforwards. We have performed analyses of possible ownership changes which included consideration of a third-party study, and do not believe that an ownership change, as defined by Section 382, has occurred. However, if a tax law ownership change has occurred of which we are not aware, or if a tax law ownership change occurs in the future, we may have to adjust the valuation of our deferred tax assets and could be at risk of having to pay income taxes notwithstanding the existence of our sizable carryforwards. Further, to the extent that we have utilized our carryforwards from prior years, the existence of a previous tax law ownership change that we did not account for could result in liability for back taxes, interest, and penalties. If we are unable to utilize our carryforwards and/or if we previously utilized carryforwards to which we were not entitled, it would negatively impact our business, financial condition and operating results.

Privacy concerns and laws, evolving regulation of cloud computing, cross-border data transfer restrictions and other domestic or foreign regulations may limit the use and adoption of our products and services and adversely affect our business.

Regulation related to the provision of services on the internet is evolving and increasing, as federal, state and foreign governments continue to adopt new laws and regulations addressing data privacy and the collection, processing, storage and use of personal information, such as the E.U.’s Data Protection Directive and General Data Protection Regulation (“GDPR”) and the California Consumer Privacy Act (“CCPA”). Further, laws and regulations are increasingly aimed at the use of personal information for marketing purposes, such as the E.U.’s ePrivacy Directive and ePrivacy Regulation. Country-specific laws and regulations are subject to new and differing interpretations and may be inconsistent among jurisdictions. Existing laws and regulations, as well as future requirements, could reduce demand for our products and services or restrict our ability to store and process data or, in some cases, impact our ability to offer our products and services in certain locations or our customers' ability to deploy our solutions globally. The costs of compliance with and other burdens imposed by laws, regulations and standards such as GDPR and CCPA may also limit the use and adoption of our products and services, reduce overall demand for our products and services, lead to significant fines, penalties or liabilities for noncompliance, or slow the pace at which we close sales transactions, any of which could harm our business. Furthermore, concerns regarding data privacy may cause our customers’ customers to resist providing the data necessary to allow our customers to use our products and services effectively. Even the perception that the privacy of personal information is not satisfactorily protected or does not meet regulatory requirements could inhibit sales of our products and services and could limit adoption of our cloud-based solutions.

We may be subject to product liability, infringement or other legal claims that could result in significant cost and ongoing liabilities.

Our software license and service agreements with our customers typically contain provisions designed to limit our exposure to potential product liability, infringement, and other legal claims. However, it is possible that these provisions may be ineffective under the laws of certain jurisdictions or that our customers may not agree to these limitations. Although we have not experienced any product liability or infringement claims to date, as our business focus continues to transition to the sale of our own proprietary products, the sale and support of our products and services may be subject to such claims in the future. There is a risk that any such claims or liabilities may exceed, or fall outside, the scope of our insurance coverage, and we may be unable to obtain adequate liability insurance in the future. A product liability, infringement or other legal claim brought against us, whether successful or not, could negatively impact our business and operating results.

Risks Related to Our Common Stock

Our common stock has experienced and may continue to experience price and volume fluctuations, which could lead to costly litigation for us and make an investment in us less appealing.

Stock markets are subject to significant price and volume fluctuations that may be unrelated to the operating performance of particular companies and the market price of our common stock may therefore frequently change as a result. Our stock price has at times appeared to be disassociated with our financial condition or results of operations. The market price of our common stock has fluctuated in the past and may continue to fluctuate substantially due to a variety of other factors, including quarterly fluctuations in our results of operations (including as a result of fluctuations in our revenue recognition), our ability to execute on our current growth strategy in a timely fashion, announcements about technological innovations or new products or services by us or our competitors, market acceptance of new products and services offered by us, developments in the IoT market, changes in our relationships with our suppliers or customers, our ability to meet analysts’ expectations, changes in the information technology environment, changes in earnings estimates by analysts, sales of our common stock by existing holders and the loss of key personnel. Possible exogenous incidents and trends may also impact capital markets and our own common stock prices, including but not limited to foreign and cross border altercations, political unrest, cyberterrorism on a global scale, and increasingly disruptive weather systems.

In the past, following periods of volatility in the market price of a company’s stock, class action securities litigation has often been instituted against such companies. Such litigation, if instituted against us, could result in substantial costs and diversion of management’s attention and resources, which would materially adversely affect our business, financial condition and operating results.

You may experience future dilution as a result of future equity offerings.

In order to raise additional capital, we may in the future offer additional shares of our common stock or other securities convertible into or exchangeable for our common stock. We may not be able to sell shares or other securities in any offering at a price per share that is equal to or greater than prevailing market prices, and investors purchasing shares or other securities in the future could have rights superior to existing shareholders. The price per share at which we sell additional shares of our common stock or other securities convertible into or exchangeable for our common stock in future transactions may be higher or lower than currently prevailing prices per share.

If securities or industry analysts fail to continue publishing research about our business, if they change their recommendations adversely or if our results of operations do not meet their expectations, our stock price and trading volume could decline.

The trading market for our common stock will be influenced by the research and reports that industry or securities analysts publish about us or our business. If one or more of these analysts cease coverage of our company or fail to publish reports on us regularly, we could lose visibility in the financial markets, which in turn could cause our stock price or trading volume to decline. In addition, it is likely that in some future period our operating results will be below the expectations of securities analysts or investors. If one or more of the analysts who cover us downgrade our stock, or if our results of operations do not meet their expectations, our stock price could decline.

Because we do not intend to declare cash dividends on our shares of common stock in the foreseeable future, shareholders must rely on appreciation of the value of our common stock for any return on their investment.

We currently anticipate that we will retain future earnings for the development, operation and expansion of our business and do not anticipate declaring or paying any cash dividends in the foreseeable future. In addition, the terms of any existing or future debt agreements may preclude us from paying dividends. As a result, we expect that only appreciation of the price of our common stock, if any, will provide a return to investors in this offering for the foreseeable future.

It might be difficult for a third party to acquire us even if doing so would be beneficial to our shareholders.

Certain provisions of our articles of incorporation, bylaws and Washington law may discourage, delay or prevent a change in the control of us or a change in our management, even if doing so would be beneficial to our shareholders. Our Board of Directors has the authority under our articles of incorporation to issue preferred stock with rights superior to the rights of the holders of common stock. As a result, preferred stock could be issued quickly and easily with terms calculated to delay or prevent a change in control of our company or make removal of our management more difficult. In addition, our Board of Directors is divided into three classes. The directors in each class serve for three-year terms, one class being elected each year by our shareholders. This system of electing and removing directors may discourage a third party from making a tender offer or otherwise attempting to obtain control of our company because it generally makes it more difficult for shareholders to replace a majority of our directors. In addition, Chapter 19 of the Washington Business Corporation Act generally prohibits a “target corporation” from engaging in certain significant business transactions with a defined “acquiring person” for a period of five years after the acquisition, unless the transaction or acquisition of shares is approved by a majority of the members of the target corporation’s Board of Directors prior to the time of acquisition. This provision may have the effect of delaying, deterring or preventing a change in control of our company. The existence of these anti-takeover provisions could also limit the price that investors might be willing to pay in the future for shares of our common stock.

Item 1B. ***Unresolved Staff Comments.***

None.

Item 2. ***Properties.***

We lease a 6,780 square-foot facility in downtown Seattle, Washington. We also lease 8,217 square feet of office space in Trowbridge, England, U.K. See Footnote 8 – Leases for additional information.

We believe that our facilities meet our current operational needs now and in the near-term future.

Item 3. ***Legal Proceedings.***

None.

Item 4. ***Mine Safety Disclosures.***

Not applicable.

PART II

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

Market Information

Our common stock is traded on The NASDAQ Stock Market, LLC under the symbol "BSQR."

Holders

As of February 28, 2023, there were 108 holders of record of our common stock. Because many shares of our common stock are held by brokers and other institutions on behalf of shareholders, we are unable to determine the total number of shareholders represented by these holders of record.

Item 6. *[Reserved]*

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

The following Management's Discussion and Analysis of Financial Condition and Results of Operations should be read in conjunction with our consolidated financial statements and related notes. This Management's Discussion and Analysis of Financial Condition and Results of Operations may contain some statements and information that are not historical facts but are forward-looking statements. For a discussion of these forward-looking statements, and of important factors that could cause results to differ materially from the forward-looking statements contained in this report, see Item 1 of Part I, "Business—Cautionary Note Regarding Forward-Looking Statements," and Item 1A of Part I, "Risk Factors."

Overview

Bsquare develops and deploys technologies for the makers and operators of connected devices. These fleets of business-oriented devices, often called the Internet of Things (IoT), offer a powerful means to connect organizations, people, information, and ideas. Hundreds of millions of connected devices have already been deployed and it is estimated that billions more will be. Despite their growing prevalence, these devices and the systems in which they operate remain a significant source of complexity, unplanned and often uncontrolled expense, and operational risk. Our customers are undergoing a massive change in their business practices and Bsquare provides technology that helps them capture the value of connected devices and reduces the cost and risk of doing so.

Since our founding in 1994, Bsquare has helped embedded device manufacturers ("Original Equipment Manufacturers" or "OEMs") design and build cost-effective products. For most of our history, we operated at the intersection of hardware and software, helping our customers select, develop, and configure system software for a variety of purpose-built devices, from mobile computing to point-of-sale systems to healthcare equipment to hospitality, gaming, and more. Our expertise in hardware, device configuration, and operating systems became essential to our customers' design cycles and purchasing decisions. As our customers deployed ever-larger fleets of devices, our understanding of the requirements for large-scale device operations increased.

More recently, our expertise and business prospects have shifted to cloud-connected devices that have been connected to create intelligent systems. This shift coincides with the overall growth of IoT technologies and with our customers' recognition that connected intelligent devices create significant business opportunities. Device makers have increasingly specified their products not only to be connection-ready, but also to be enhanced by the breadth and depth of functionality that connection creates. We have taken to market a valuable and expanding portfolio of products and services that meet the needs of connected device makers. This portfolio captures our experience and our expertise can enable our customers to be more productive, flexible, and financially successful. And, in turn, our customers can then help make people and organizations more productive, improve quality of life, and reduce demands on the limited resources of our planet.

2022 Key Highlights

Continued supply chain disruptions and other macroeconomic factors affected the ordering patterns of our Partner Solutions customers in 2022, resulting in a year-over-year revenue decrease in that segment. We believe our Partner Solutions revenue is also affected by other Microsoft distributors offering deep discounts on Windows IoT OS software as part of hardware/software bundles. We expect this market trend may continue in future quarters. We are working to retain and attract customers with superior service and technical support, pricing that rewards loyalty, and a path to IoT operations.

In our Edge to Cloud segment, we continue to focus our efforts on a relatively small number of key customers that help us gain credibility as a reliable technology partner. For example, we support Itron, Inc. with its intelligent utility grid. We believe our experience serving Itron and our other large IoT customers positions us to improve our IoT software and services in 2023 and beyond.

Our focus on expense discipline continued in 2022. As planned, we made targeted and strategic investments in marketing, which was the primary driver of the year-over-year increase in our selling, general and administrative expenses.

Throughout 2021 and 2022, we invested in the development of new product offerings for our customers. In 2022, our product development investment totaled over $1.5 million, of which $0.5 million was capitalized as internally developed software and the remainder is captured on the consolidated statement of operations and comprehensive loss as research and development expense. We experienced a year-over-year decrease in research and development expenses because in 2022 a larger portion of those expenses related to product development and, accordingly, were capitalized and reflected on the consolidated balance sheet.

During the fourth quarter of 2022, we executed a reduction in force ("RIF") as part of broader efforts to align our cost base with our 2023 strategic and operating priorities, which include breakeven operations. Our headcount was reduced by nearly 20% and we incurred $0.2 million of expense related to one-time termination benefits provided to impacted employees.

In the fourth quarter of 2022, we also announced a plan to repurchase up to $5 million of our common stock (the "Share Repurchase Plan"). The Share Repurchase Plan is intended to return value to shareholders without compromising our ability to pursue organic growth or strategic alternatives. During the fourth quarter of 2022, we repurchased 178,857 shares for approximately $0.2 million.

Our cash, cash equivalents, restricted cash and short-term investments decreased by $4.5 million during 2022. The decrease was driven primarily by operations and, to a lesser degree, the investment in new product offerings and the share repurchase program.

Cash will be invested strategically to grow our business and enhance our value proposition to customers.

Critical Accounting Estimates

Revenue recognition

Our revenue recognition accounting methodology contains uncertainties because it requires us to make significant estimates and assumptions, and to apply judgment. For example, for arrangements that have multiple performance obligations, we must exercise judgment and use estimates in order to (1) determine whether performance obligations are distinct and should be accounted for separately; (2) determine the standalone selling price of each performance obligation; (3) allocate the transaction price among the various performance obligations on a relative standalone selling price basis; and (4) determine whether revenue for each performance obligation should be recognized at a point in time or over time. For revenue recognized over-time, we use either the input or output method, whichever most faithfully depicts the transfer of goods or services.

Our contracts with customers sometimes include promises to transfer multiple products and services, such as professional services, a perpetual or term software license, and support and maintenance. A performance obligation is a promise in a contract with a customer to transfer products or services that are concluded to be distinct. In contracts with multiple performance obligations, we identify each performance obligation and evaluate whether the performance obligations are distinct within the context of the contract at contract inception. Performance obligations that are not distinct at contract inception are combined. Determining whether products and services are distinct performance obligations that should be accounted for separately or combined as one unit of accounting may require significant judgment. We allocate the transaction price to each distinct performance obligation based on the estimated standalone selling price (“SSP”) for each performance obligation.

Judgment is required to determine the SSP for each distinct performance obligation. Where possible, we determine SSP based on list prices or other observable inputs. In instances where SSP is not directly observable, we determine the SSP using information that may include internal costs, market conditions, and other observable inputs. In some cases, when the selling price is highly uncertain or variable, we may utilize the residual method to determine SSP. When using the residual method the SSP of a performance obligations is calculated by subtracting the sum of the SSPs of all other goods and services promised under the contract from the total transaction price.

We have not made any changes to the significant estimates utilized to determine the total transaction price and stand-alone selling prices at contract inception. Our customer contracts that involve perpetual licenses are less sensitive to changes in estimates than contracts involving SaaS as those arrangements require us to estimate customer usage. Changes to our customer usage estimates could have a material impact on the total transaction price.

In addition, we exercise judgment in certain transactions when determining whether we should recognize revenue based on the gross amount billed to a customer (as a principal) or the net amount retained (as an agent). These judgments are based on our determination of whether or not we control the service before it is transferred to the customer.

Taxes

As part of the process of preparing our consolidated financial statements, we are required to estimate income taxes in each of the countries and other jurisdictions in which we operate. This process involves estimating our current tax expense together with assessing temporary differences resulting from the differing treatment of items for tax and accounting purposes. These differences result in deferred tax assets and liabilities. Net operating losses and tax credits, to the extent not already utilized to offset taxable income or income taxes, also give rise to deferred tax assets. We must then assess the likelihood that any deferred tax assets will be realized from future taxable income, and, to the extent we believe that recovery is not likely, we must establish a valuation allowance. We are required to use judgment as to the appropriate weighting of all available evidence when assessing the need for the establishment or the release of valuation allowances. As part of this analysis, we examine all available evidence on a jurisdiction-by-jurisdiction basis and weigh the positive and negative information when determining the need for full or partial valuation allowances. The evidence considered for each jurisdiction includes, among other items, (i) the historical levels of income or loss over a range of time periods that extends beyond the two years presented, (ii) the historical sources of income and losses, (iii) the expectations and risk associated with underlying estimates of future taxable income, (iv) the expectations and risk associated with new product offerings and uncertainties with the timing of future taxable income, and (v) prudent and feasible tax planning strategies. Significant judgment is required in determining our provision for income taxes, deferred tax assets and liabilities and any valuation allowance recorded against our deferred tax assets. We estimate the valuation allowance related to our deferred tax assets on a quarterly basis.

Our sales may be subject to other taxes, particularly withholding taxes, due to our sales to customers in countries other than the United States. The tax regulations governing withholding taxes are complex, causing us to have to make assumptions about the appropriate tax treatment. Further, we make sales in many jurisdictions across the United States, where tax regulations are varied and complex. We must therefore continue to analyze our state tax exposure and determine what the appropriate tax treatments are, and make estimates for sales, franchise, income and other state taxes.

Results of Operations - Year-over-Year Comparison

The following table presents our summarized results of operations for the periods indicated. Our historical operating results are not necessarily indicative of the results for any future period.

(In thousands, except percentages)	Year Ended December 31, 2022	2021	$ Change	% Change
Revenue	$ 36,487	$ 40,367	$ (3,880)	(10)%
Cost of revenue	31,034	34,952	(3,918)	(11)%
Gross profit	5,453	5,415	38	1%
Operating expenses	9,719	9,307	412	4%
Loss from operations	(4,266)	(3,892)	(374)	(10)%
Other income, net	408	1,650	(1,242)	(75)%
Loss before income taxes	(3,858)	(2,242)	(1,616)	(72)%
Income tax expense	—	—	—	0%
Net loss	$ (3,858)	$ (2,242)	$ (1,616)	(72)%

Revenue

We generate revenue from the sale of software, both embedded operating system software that we resell and our own proprietary software, and related professional services. Total revenue decreased in 2022 compared to 2021, due to decreased sales in our Partner Solutions segment, primarily in North America and Europe, as well as decreased revenue in our Edge to Cloud segment.

Additional revenue details are as follows:

(In thousands, except percentages)	Year Ended December 31, 2022	2021	$ Change	% Change
Revenue:				
Partner Solutions	$ 33,119	$ 36,516	$ (3,397)	(9)%
Edge to Cloud	3,368	3,851	(483)	(13)%
Total revenue	$ 36,487	$ 40,367	$ (3,880)	(10)%
As a percentage of total revenue:				
Partner Solutions	91%	90%		
Edge to Cloud	9%	10%		

Partner Solutions revenue

Partner solutions revenue decreased $3.4 million or 9% in 2022 compared to 2021. We believe customer demand for embedded operating systems was adversely impacted by supply chain disruptions and economic uncertainty.

Edge to Cloud revenue

Edge to Cloud revenue decreased $0.5 million or 13% in 2022 compared to 2021. The first quarter of 2021 included a significant amount of one-time revenue recognition that that did not recur in 2022. In addition, our relationships with some smaller customers concluded and we have strategically shifted our focus to a small number of key customers and product development opportunities.

Gross profit and gross margin

Cost of revenue for the Partner Solutions segment consists primarily of embedded operating system software royalties payable to third-party vendors, net of rebate credits earned through Microsoft's distributor incentive program.

Cost of revenue for Edge to Cloud revenue consists primarily of salaries, benefits, rebillable expenses, and, in 2021, amortization of certain intangible assets related to acquisitions. These intangibles were fully amortized as of December 31, 2021.

Gross profit and gross margin were as follows:

(In thousands, except percentages)	Year Ended December 31, 2022	2021	$ Change	% Change
Partner Solutions gross profit	$ 4,856	$ 5,038	$ (182)	(4)%
Partner Solutions gross margin	15%	14%	—	1.0
Edge to Cloud gross profit	$ 597	$ 377	$ 220	58%
Edge to Cloud gross margin	18%	10%	—	8.0
Total gross profit	$ 5,453	$ 5,415	$ 38	1.0%
Total gross margin	15%	13%	—	2.0

(1) For gross margin, amounts represent percentage point change.

Partner Solutions gross profit and gross margin

The year-over-year decline in Partner Solutions gross profit was driven by lower third-party software sales, partially offset by an improvement in gross margin rate driven by a large high-margin sale and higher rebate recognition compared to the prior period.

Partner Solutions gross profit is impacted by rebate credits earned through Microsoft's distributor incentives program. Based on the nature of the incentives, we record a portion of them as a reduction of Partner Solutions cost of revenue with the remaining portion recognized as an offset to qualified marketing expenses during the period in which the expenditure claims are approved. See Footnote 12 – Significant Concentrations for further information about these rebates.

Edge to Cloud gross profit and gross margin

Edge to Cloud gross profit dollars and gross margin rate increased in 2022 compared to 2021 driven by decreased costs of revenue. The prior period included amortization expense related to intangible assets that were fully amortized as of December 31, 2021.

Operating expenses

Operating expenses were as follows:

	Year Ended December 31,			
(In thousands, except percentages)	2022	2021	$ Change	% Change
Operating expenses:				
Selling, general and administrative	$ 8,472	$ 8,003	$ 469	6%
Research and development	1,042	1,304	(262)	(20)%
Restructuring	205	—	205	100%
Total operating expenses	$ 9,719	$ 9,307	$ 412	4%
As a percentage of total revenue:				
Selling, general and administrative	23%	20%		
Research and development	3%	3%		

Selling, general and administrative

Selling, general and administrative ("SG&A") expenses consist primarily of salaries and related benefits, commissions and bonuses for our sales, marketing and administrative personnel, facilities and depreciation costs, as well as professional services fees (such as consulting, legal, audit and tax). SG&A expenses increased in 2022 compared to 2021 due to an increase in marketing expenditures, partially offset by a decrease in selling costs and professional fees.

Research and development

Research and development ("R&D") expenses consist primarily of salaries and benefits for software development and quality assurance personnel, and contractor and consultant costs. R&D expenses decreased in 2022 compared to 2021 due to increased capitalization of personnel costs, partially offset by new product amortization expense.

Restructuring

During the fourth quarter of 2022 we executed a RIF as part of broader efforts to align our cost base with our 2023 strategic and operating priorities, which include breakeven operations. Our headcount was reduced by nearly 20%, and we recorded expenses of $0.2 million to one-time termination benefits provided to impacted employees.

Other income (loss), net

Other income and loss typically consist primarily of interest income on our cash and investments, gains and losses we may recognize on our investments, gains and losses on foreign exchange transactions and other items. During the second quarter of 2021, we recorded on the consolidated statement of operations and comprehensive loss, a $1.6 million gain on the extinguishment of debt related to the forgiveness of our Paycheck Protection Program loan. In 2022, other income is primarily comprised of interest income from our investments in US treasuries.

Income taxes

Income tax expense was not recorded in either 2022 or 2021.

Results of Operations - Quarter-over-Quarter Comparison

The following is a discussion of our fourth quarter 2022 results as compared to our third quarter 2022 results.

Revenue for the quarter was $8.0 million, a decrease of $0.5 million or 5% from the third quarter of 2022, driven primarily by a decline in the Partner Solutions segment.

Gross profit increased $0.1 million driven by gross margin rate improvement in both segments. The margin rate improvement in Partner Solutions was driven by increased rebate recognition and the rate improvement in Edge to Cloud was due to the increase in revenue combined with a slight decrease in cost of revenue.

Total operating expenses for the quarter were $2.7 million, an increase of $0.5 million compared to the third quarter of 2022. The increase was driven by marketing expenses and a restructuring charge related to the fourth quarter reduction in force action.

Interest income for the fourth quarter was primarily comprised of interest income on our investments. We began making investments late in the third quarter of 2022 and, as such, interest income for that period is less because our investments were in place for less time.

In the fourth quarter of 2022, the Company announced a plan to repurchase up to $5 million of its common stock. The plan is intended to return value to shareholders without compromising the Company's ability to pursue organic growth or strategic alternatives. During the quarter, we repurchased 178,857 shares for approximately $0.2 million.

Liquidity and Capital Resources

Overview

As of December 31, 2022 we had $35.6 million of cash, cash equivalents, restricted cash and short-term investments, compared to $40.1 million at December 31, 2021 reflecting a decrease of approximately $4.5 million. We generally invest our excess cash in high quality marketable investments. These investments generally include corporate notes and bonds, commercial paper and money market funds, although specific holdings can vary from period to period depending upon our cash requirements. Cash equivalent investments held at December 31, 2022 totaled $33.2 million. Cash equivalent investments held at December 31, 2021 totaled $37.0 million.

We believe that our existing cash and cash equivalents will be sufficient to meet our needs for working capital and capital expenditures for at least the next 12 months.

Cash flows from operating activities

Operating activities used cash of approximately $3.7 million during the year ended December 31, 2022. The cash use was primarily driven by a net loss, adjusted for non-cash items of $0.8 million, a decrease in deferred revenue of $0.9 million, and changes in working capital of $0.2 million.

Cash flows from investing activities

Investing activities used cash of $0.4 million during the year ended December 31, 2022. The cash use related primarily to property and equipment additions in the form of internally developed software, partially offset by proceeds from short-term investments.

Cash flows from financing activities

Financing activities used cash of $0.3 million during the year ended December 31, 2022. This cash use was driven by the cash settlement of PSUs and repurchase of the Company's common stock, partially offset by proceeds from the exercise of stock options. See Footnote 10 – Shareholders' Equity.

Material cash requirements and sources of liquidity

Cash requirements arising from contractual obligations relate to our office leases, see Footnote 8 – Leases for further information. Other significant cash requirements include software royalties, which become a liability at the point we sell third-party software to our customers, and salary and benefit expenditures related to our personnel. Our sources of liquidity include cash and cash equivalents currently on-hand, short-term investments and cash generated from operations. We believe that our existing cash and cash equivalents are sufficient to meet our cash requirements for the foreseeable future.

Recently Issued Accounting Standards

See Note 1, "Description of Business and Accounting Policies" in the Notes to Consolidated Financial Statements in Item 8.

Item 7A. ***Quantitative and Qualitative Disclosures About Market Risk.***

Not applicable.

Item 8. ***Financial Statements and Supplementary Data.***

BSQUARE CORPORATION

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and the Board of Directors of
Bsquare Corporation

Opinion on the Financial Statements

We have audited the consolidated balance sheets of Bsquare Corporation (the "Company") as of December 31, 2022 and 2021, the related consolidated statements of operations and comprehensive loss, shareholders' equity, and cash flows for the years then ended, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Company as of December 31, 2022 and 2021, and the consolidated results of its operations and its cash flows for the years then ended, in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

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

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

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

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that (1) relates to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of 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 matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Edge to Cloud Revenue Recognition

As described in Notes 1 and 2 to the consolidated financial statements, the Edge to Cloud revenue stream comprises multiple performance obligations, and may include professional services, a perpetual or term software license, and support and maintenance. Due to the multiple element nature of the Company's contracts, appropriate revenue recognition requires the Company to exercise significant judgment in the following areas:

- Determination of how to account for a new or amended contract under the contract modification guidance of ASC Topic 606, Revenue from Contracts with Customers, ("Topic 606").
- Determination of whether products and services are considered distinct performance obligations that should be accounted for separately versus combined, such as software licenses and related services.
- Determination of stand-alone selling prices for each distinct performance obligation and for products and services that are not sold separately.
- The pattern of delivery (i.e., timing of when revenue is recognized) for each distinct performance obligation.
- Identification and treatment of contract terms that may impact the timing and amount of revenue recognized (e.g., variable consideration and material right).

Given these factors, the related audit effort in evaluating management's judgments in determining revenue recognition for significant Edge to Cloud customer agreements was extensive and required a high degree of auditor judgment and subjectivity in applying and evaluating the results of our audit procedures. These were the principal considerations that led us to determine that the matter was a critical audit matter.

The primary procedures we performed to address this critical audit matter are as follows:

- We evaluated management's significant accounting policies related to the Edge to Cloud revenue stream for reasonableness.
- For any significant new or amended contracts entered into during the audit period, we obtained and evaluated management's application of Topic 606 to the applicable contract(s). As part of this evaluation, we performed the following procedures:
  - Obtained and read contract source documents for each significant new or amended contract entered into during the year, including master agreements, and other documents that were part of the original agreement or contract modification.
  - Assessed whether management has properly accounted for the new or amended contracts appropriately under Topic 606.
  - Analyzed the contract to determine if arrangement terms with the potential to have an impact on revenue recognition were identified and properly considered in management's evaluation of the accounting for the contract.
  - Assessed management's identification of distinct performance obligations based on the terms of the contract.
  - Evaluated the reasonableness of management's methodology and assumptions in determining estimates of stand-alone selling prices for products and services that are not sold separately. We performed testing of the completeness and accuracy of reports used in determining the estimated stand-alone selling prices.
  - Evaluated the total transaction price determined by management based on the terms of the contract, including any variable consideration, and recalculated the allocation of the total transaction price to each distinct performance obligation based on

respective standalone selling prices.

- Evaluated when the customer obtained control of each performance obligation and the timing of revenue recognized as either over time or at a point in time.
- Tested the mathematical accuracy of management's calculations of recognized revenue and the associated timing of revenue recognized in the consolidated financial statements. Obtained invoices, cash receipts, and proof of delivery.

/s/ Moss Adams LLP

Seattle, Washington
March 7, 2023

We have served as the Company’s auditor since 2006.

BSQUARE CORPORATION

CONSOLIDATED BALANCE SHEETS
(In thousands, except share amounts)

	December 31, 2022	December 31, 2021
ASSETS		
Current assets:		
Cash and cash equivalents	$ 35,414	$ 39,529
Restricted cash	221	557
Short-term investments	7	—
Accounts receivable, net of allowance for doubtful accounts of $50 at December 31, 2022 and December 31, 2021	3,985	4,914
Prepaid expenses and other current assets	410	364
Contract assets	—	46
Total current assets	40,037	45,410
Property and equipment, net of accumulated depreciation	813	726
Deferred tax assets	—	—
Right-of-use lease assets, net	1,297	1,598
Other non-current assets	24	24
Total assets	$ 42,171	$ 47,758
LIABILITIES AND SHAREHOLDERS' EQUITY		
Current liabilities:		
Third-party software fees payable	$ 4,073	$ 4,628
Accounts payable	414	426
Accrued compensation	430	502
Other accrued expenses	232	219
Deferred revenue	201	944
Operating leases	362	357
Total current liabilities	5,712	7,076
Deferred revenue, long-term	9	194
Operating leases, long-term	1,051	1,363
Shareholders' equity:		
Preferred stock, no par value: 10,000,000 shares authorized; no shares issued and outstanding	—	—
Common stock, no par value: 37,500,000 shares authorized; 20,337,906 and 20,374,406 issued and outstanding on December 31, 2022 and December 31, 2021, respectively	172,558	172,397
Accumulated other comprehensive loss	(1,053)	(1,024)
Accumulated deficit	(136,106)	(132,248)
Total shareholders' equity	35,399	39,125
Total liabilities and shareholders' equity	$ 42,171	$ 47,758

See notes to consolidated financial statements.

BSQUARE CORPORATION

CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS
(In thousands, except per share amounts)

	Year Ended December 31, 2022	Year Ended December 31, 2021
Revenue:		
Partner Solutions	$ 33,119	$ 36,516
Edge to Cloud	3,368	3,851
Total revenue	36,487	40,367
Cost of revenue:		
Partner Solutions	28,263	31,478
Edge to Cloud	2,771	3,474
Total cost of revenue	31,034	34,952
Gross profit	5,453	5,415
Operating expenses:		
Selling, general and administrative	8,472	8,003
Research and development	1,042	1,304
Restructuring	205	—
Total operating expenses	9,719	9,307
Loss from operations	(4,266)	(3,892)
Other income, net	408	1,650
Loss before income taxes	(3,858)	(2,242)
Income taxes	—	—
Net loss	$ (3,858)	$ (2,242)
Basic and diluted loss per share	$ (0.19)	$ (0.13)
Shares used in per share calculations:		
Basic and diluted	20,449	16,640
Comprehensive loss:		
Net loss	$ (3,858)	$ (2,242)
Other comprehensive (loss) income:		
Foreign currency translation, net of tax	(29)	(39)
Total other comprehensive (loss) income	(29)	(39)
Comprehensive loss	$ (3,887)	$ (2,281)

See notes to consolidated financial statements.

BSQUARE CORPORATION

CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY
(In thousands, except share amounts)

	Preferred Stock		Common Stock		Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Total Shareholders' Equity
	Shares	Amount	Shares	Amount			
Balance as of December 31, 2020	—	—	13,235,038	$ 139,726	$ (992)	$ (130,006)	$ 8,728
Exercise of stock options	—	—	37,380	68	—	—	68
Issuance of common stock upon settlement of restricted stock units (RSUs)	—	—	199,311	—	—	—	—
Sale of common stock	—	—	6,902,677	31,936	—	—	31,936
Stock-based compensation	—	—	—	674	—	—	674
Net loss	—	—	—	—	—	(2,242)	(2,242)
Foreign currency translation adjustment, net of tax	—	—	—	(7)	(32)	—	(39)
Balance as of December 31, 2021	—	—	20,374,406	172,397	(1,024)	(132,248)	39,125
Exercise of stock options	—	—	69,631	81	—	—	81
Issuance of common stock upon settlement of restricted stock units (RSUs)	—	—	72,726	—	—	—	—
Repurchase of common stock	—	—	(178,857)	(203)	—	—	(203)
Stock-based compensation	—	—	—	420	—	—	420
Cash settlement of performance stock units	—	—	—	(137)	—	—	(137)
Net loss	—	—	—	—	—	(3,858)	(3,858)
Foreign currency translation adjustment, net of tax	—	—	—	—	(29)	—	(29)
Balance as of December 31, 2022	—	—	20,337,906	$ 172,558	$ (1,053)	$ (136,106)	$ 35,399

See notes to consolidated financial statements.

BSQUARE CORPORATION

CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)

	Year Ended December 31, 2022	Year Ended December 31, 2021
Cash flows from operating activities:		
Net loss	$ (3,858)	$ (2,242)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	435	485
Accretion of discount on investments	(87)	—
Stock-based compensation	420	674
Gain on extinguishment of PPP loan	—	(1,584)
Changes in operating assets and liabilities:		
Accounts receivable	929	1,263
Prepaid expenses and other assets	(52)	167
Contract assets	46	(46)
Third-party software fees payable	(555)	(1,830)
Accounts payable and accrued expenses	(71)	(275)
Deferred revenue	(928)	(978)
Net cash used in operating activities	(3,721)	(4,366)
Cash flows from investing activities:		
Additions to property and equipment	(522)	(474)
Proceeds from maturity of short-term investments	10,750	—
Purchases of short-term investments	(10,670)	—
Net cash used in investing activities	(442)	(474)
Cash flows from financing activities:		
Proceeds from sale of common stock, net of issuance fees	—	31,936
Proceeds from exercise of stock options	81	68
Cash settlement of performance stock units	(137)	—
Repurchases of common stock	(203)	—
Net cash (used in) provided by financing activities	(259)	32,004
Effect of exchange rates on cash	(29)	(38)
Net increase in cash, restricted cash, and cash equivalents	(4,451)	27,126
Cash, restricted cash, and cash equivalents, beginning of year	40,086	12,960
Cash, restricted cash, and cash equivalents, end of year	$ 35,635	$ 40,086

See notes to consolidated financial statements.

BSQUARE CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Description of Business and Accounting Policies

Description of business

Bsquare Corporation ("Bsquare", "we", "us" or "the Company") develops and deploys technologies for the makers and operators of connected devices. These fleets of business-oriented devices, often called the Internet of Things (IoT), offer a powerful means to connect organizations, people, information, and ideas. Hundreds of millions of connected devices have already been deployed and it is estimated that billions more will be. Despite their growing prevalence, these devices and the systems in which they operate remain a significant source of complexity, unplanned and often uncontrolled expense, and operational risk. Our customers are undergoing a massive change in their business practices and Bsquare provides technology that helps them capture the value of connected devices and reduces the cost and risk of doing so.

Since our founding in 1994, Bsquare has helped embedded device manufacturers (“Original Equipment Manufacturers” or “OEMs”) design and build cost-effective products. For most of our history, we operated at the intersection of hardware and software, helping our customers select, develop, and configure system software for a variety of purpose-built devices, from mobile computing to point-of-sale systems to healthcare equipment to hospitality, gaming, and more. Our expertise in hardware, device configuration, and operating systems became essential to our customers’ design cycles and purchasing decisions. As our customers deployed ever-larger fleets of devices, our understanding of the requirements for large-scale device operations increased.

More recently, our expertise and business prospects have shifted to cloud-connected devices that have been connected to create intelligent systems. This shift coincides with the overall growth of IoT technologies and with our customers’ recognition that connected intelligent devices create significant business opportunities. Device makers have increasingly specified their products not only to be connection-ready, but also to be enhanced by the breadth and depth of functionality that connection creates. We have taken to market a valuable and expanding portfolio of products and services that meet the needs of connected device makers. This portfolio captures our experience and our expertise can enable our customers to be more productive, flexible, and financially successful. And, in turn, our customers can then help make people and organizations more productive, improve quality of life, and reduce demands on the limited resources of our planet.

Basis of consolidation

The consolidated financial statements include the accounts of Bsquare and our wholly owned subsidiary. All intercompany balances and transactions have been eliminated.

Standards issued and not yet implemented

In June 2016, the Financial Accounting Standards Board issued ASU 2016-13, Financial Instruments - Credit Losses (Topic 326). Topic 326 is effective for reporting periods beginning after December 15, 2022. Topic 326 replaces the incurred loss impairment methodology under current Generally Accepted Accounting Principles ("GAAP") with a methodology that reflects expected credit losses and requires the use of a forward-looking expected credit loss model for accounts receivables, loans, and other financial instruments. The standard requires a modified retrospective approach through a cumulative-effect adjustment to retained earnings as of the beginning of the first reporting period in which the guidance is effective. We plan to adopt the new credit loss standard effective January 1, 2023. We do not expect the new credit loss standard to have a material impact on our financial condition, results of operations and cash flows, or financial statement disclosures.

Use of estimates

Preparing financial statements requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses. Examples include provisions for bad debts and income taxes, estimates related to contracts with customers, useful lives of property and equipment, fair value of stock-based awards, and assumptions used to determine the net present value of operating lease liabilities, among other estimates. Actual results may differ from these estimates.

Income (loss) per share

We compute basic per share amounts using the weighted average number of common shares outstanding during the period and exclude any dilutive effects of common stock equivalent shares, such as options and restricted stock units (“RSUs”). We consider RSUs as outstanding and include them in the computation of basic income or loss per share only when vested. We compute diluted per share amounts using the weighted average number of common shares outstanding plus common stock equivalent shares outstanding during the period using the treasury stock method. We exclude common stock equivalent shares from the computation if their effect is anti-dilutive. Unvested but outstanding RSUs are included in the diluted per share calculation. In a period where we are in a net loss position, the diluted loss per share is computed using the basic share count.

The following table presents a reconciliation of the number of shares used in the calculation of basic and diluted per share amounts (in thousands):

	Year Ended December 31,	
	2022	**2021**
Weighted average common shares outstanding, basic	20,449	16,640
Dilutive potential common shares	—	—
Weighted average common shares outstanding, diluted	20,449	16,640

Common stock equivalent shares of approximately 1,189,460 and 480,000 were excluded from the computation of diluted per share amounts for the years ended December 31, 2022 and 2021, respectively, because their effect was anti-dilutive.

Cash, cash equivalents and investments

We invest our excess cash primarily in one or more of the following: highly liquid debt instruments of U.S. government agencies and municipalities, debt instruments issued by foreign governments, corporate commercial paper, money market funds, and corporate debt securities. We classify all highly liquid investments with stated maturities of three months or less from date of purchase as cash equivalents and all highly liquid investments with stated maturities of greater than three months and not longer than 12 months as short-term investments.

Restricted cash

Restricted cash represents security on our corporate card credit lines.

Financial instruments and concentrations of risk

Financial instruments that potentially subject us to concentrations of credit risk consist principally of cash, cash equivalents, short-term investments, and accounts receivable.

Allowance for doubtful accounts

We record accounts receivable at the invoiced amount net of an estimated allowance for doubtful accounts to reserve for potentially uncollectible receivables. We review customers that have past due invoices to identify specific customers with known disputes or collectability issues. In determining the amount of the allowance, we make judgments about the creditworthiness of significant customers based on ongoing credit evaluations.

Property and equipment

We account for property and equipment at cost less accumulated depreciation and amortization. We compute depreciation of equipment and furniture using the straight-line method over the estimated useful lives of the assets, generally three years. Leasehold improvements are amortized using the straight-line method over the shorter of the lease term or estimated useful lives, generally seven years. We expense maintenance and repair costs as incurred. When assets are retired or otherwise disposed of, gains or losses are included in the consolidated statements of operations. When facts and circumstances indicate that the value of long-lived assets may be impaired, we perform an evaluation of recoverability comparing the carrying value of the asset to projected undiscounted future cash flows. Upon indication that the carrying value of such assets may not be recoverable, we recognize an impairment loss as a charge against current operations based on the difference between the carrying value of the asset and its fair value.

Capitalized software development costs, discussed below under the Internally developed software heading, is also classified as property and equipment on our consolidated balance sheet.

Leases

We lease office facilities, primarily under operating leases, which expire at various dates through 2027. These leases generally contain renewal options for a defined number of years at the then-fair market rental rate or rate stipulated in the lease agreement, which the Company has an option to exercise at the end of the initial lease term.

We determine if an arrangement is a lease at inception. On our balance sheet, our office facility leases, with a lease term greater than 12-months, are included in Right-of-Use (“ROU”) assets and related lease liabilities are included in the Operating leases and Operating leases, long-term statement line items. ROU assets represent our right to use the underlying assets for the lease term and operating lease liabilities represent our obligation to make lease payments arising from the lease agreements. Operating lease ROU assets and liabilities are recognized at the lease commencement date based on the present value of lease payments over the term of the lease. For leases that do not provide an implicit rate, we use an incremental borrowing rate based on information available at the commencement date to determine the present value of lease payments. We will use the implicit rate in the lease when readily determinable. The Company accounts for its lease expense with free rent periods and step-rent provisions on a straight-line basis over the original term of the lease and any extension options that the Company more likely than not expects to exercise, from the date the Company has control of the property. Certain leases provide for periodic rental increases based on price indices. Lease expense for lease payments is recognized on a straight-line basis over the lease term.

Third-party software fees payable

We record all royalties owed related to the sale of embedded operating system software, such as Microsoft Windows IoT and Windows Mobile operating systems, as third-party software fees payable.

Research and development

Research and development costs are expensed as incurred except as noted below under the heading Internally developed software. Research and development costs include compensation and benefit costs for engineering and product development personnel, third-party contractor expenses, software development tools and other expenses related to researching and developing new solutions, or upgrading and enhancing existing solutions, that do not qualify for capitalization.

Internally developed software

We incur certain costs associated with the development of internal-use software, which are primarily related to activities performed to develop our SaaS solutions. Internal and external costs incurred in the preliminary project stage of internal-use software development are expensed as incurred. Once the software being developed has reached the application development stage, qualifying internal costs including payroll and payroll-related costs of employees who are directly associated with, and devote time to, the project are capitalized. Capitalization ceases at the point at which the developed software is substantially complete and ready for its intended use, which is typically upon completion of all substantial testing. Capitalized software development costs are classified as property and equipment on our consolidated balance sheet. We capitalized $0.5 million and $0.4 million in 2022 and 2021, respectively.

Qualifying capitalized software development costs are amortized over the software asset's estimated useful life. Amortization expense is classified as research and development on our consolidated statement of operations. We evaluate the useful lives of these assets on an annual basis and test for impairment whenever events or changes in circumstances occur that could impact the recoverability of these assets. There were no impairment charges related to capitalized software development costs during the years ended December 31, 2022 and 2021.

Advertising costs

All costs of advertising are expensed as incurred. Advertising expense was approximately $861,000 and $375,000 in 2022 and 2021, respectively. A portion of these expenses are offset by rebates received from Microsoft. See Footnote 12 - Significant Concentrations for additional information.

Stock-based compensation

The estimated fair value of stock-based awards is recognized as compensation expense over the requisite service period and we account for forfeitures of stock-based awards as they occur. The fair value of RSUs is determined based on the number of shares granted and the quoted price of our common stock on the date of grant. The fair value of stock options is estimated at the grant date based on the fair value of each vesting tranche as calculated by the Black-Scholes-Merton ("BSM") option-pricing model. The BSM model requires various highly judgmental assumptions including expected volatility and option life. If any of the assumptions used in the BSM model change significantly, stock-based compensation expense may differ materially in the future from that recorded in the current period. The fair value of performance stock units ("PSUs") is estimated at the grant date based on the fair value of each vesting tranche as calculated by a Monte Carlo simulation.

Comprehensive loss

Comprehensive loss refers to net loss and other revenue, expenses, gains and losses that, under generally accepted accounting principles, are recorded as an element of shareholders' equity but are excluded from the calculation of net loss.

Income taxes

We are subject to income taxes in the U.S. and certain foreign jurisdictions. Significant judgment is required in determining our provision for income taxes. We compute income taxes using the asset and liability method, under which deferred income taxes are provided for on the temporary differences between the financial reporting basis and the tax basis of our assets and liabilities. Our deferred tax amounts are measured using currently enacted tax rates that are expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled.

We apply judgment as to the appropriate weighting of all available evidence when assessing the need for the establishment or the release of valuation allowances. As part of this analysis, we examine all available evidence on a jurisdiction-by-jurisdiction basis and weigh the positive and negative information when determining the need for full or partial valuation allowances. The evidence considered for each jurisdiction includes, among other items, (i) the historical levels of income or loss over a range of time periods that extends beyond the two years presented, (ii) the historical sources of income and losses, (iii) the expectations and risk associated with underlying estimates of future taxable income, (iv) the expectations and risk associated with new product offerings and uncertainties with the timing of future taxable income, and (v) prudent and feasible tax planning strategies. Based on the analysis conducted as of December 31, 2022, we determined that we would not release, in full or in part, the valuation allowance against our U.S. gross deferred tax assets.

We recognize tax benefits from an uncertain position only if it is “more likely than not” that the position is sustainable, based on its technical merits. The tax benefit of a qualifying position is the largest amount of tax benefit that is greater than fifty percent likely of being realized upon ultimate settlement with a taxing authority having full knowledge of all relevant information. Interest and penalties related to uncertain tax positions are classified in the consolidated financial statements as income tax expense.

Foreign currency

The functional currency of our foreign subsidiary is their local currency. Accordingly, assets and liabilities are translated into U.S. dollars at exchange rates in effect at the balance sheet date. Resulting translation adjustments are included in other comprehensive loss and accumulated other comprehensive loss, a separate component of shareholders’ equity. The net gains and losses resulting from foreign currency transactions are recorded in the period incurred and were not significant for any of the periods presented.

Revenue recognition

We recognize revenue when control of the promised goods or services is transferred to our customers, in an amount that reflects the consideration that we expect to receive in exchange for those goods or services. We generate all of our revenue from contracts with customers.

Partner Solutions

We sell embedded operating system software licenses based upon a customer purchase order, shipping a Certificate of Authenticity ("COA") to satisfy this single performance obligation. These shipments are subject to limited return rights; historically, returns have been insignificant. In accordance with ASC Topic 606, Revenue from Contracts with Customers, (“Topic 606”), we recognize revenue from these products at the time of shipment which is when the customer accepts control of the COA (point-in-time revenue recognition).

Edge to Cloud

We analyze each customer contract within the Edge to Cloud segment and determine revenue recognition through the following steps: (i) identification of the contract, or contracts, with a customers; (ii) identification of the performance obligations in the contract; (iii) determination of the transaction price, including variable consideration that is properly constrained; (iv) allocation of the transaction price to the performance obligations in the contracts; and (v) recognition of revenue when (point-in-time) or as (over-time) we satisfy performance obligations.

Our contracts with customers sometimes include promises to transfer multiple products and services, such as professional services, a perpetual or term software license, and support and maintenance. A performance obligation is a promise in a contract with a customer to transfer products or services that are concluded to be distinct. In contracts with multiple performance obligations, we identify each performance obligation and evaluate whether the performance obligations are distinct within the context of the contract at contract inception. Performance obligations that are not distinct at contract inception are combined. Determining whether products and services are distinct performance obligations that should be accounted for separately or combined as one unit of accounting may require significant judgment. We allocate the transaction price to each distinct performance obligation based on the estimated standalone selling price (“SSP”) for each performance obligation.

Judgment is required to determine the SSP for each distinct performance obligation. Where possible, we determine SSP based on list prices or other observable inputs. In instances where SSP is not directly observable, we determine the SSP using information that may include internal costs, market conditions, and other observable inputs. In some cases, when the selling price is highly uncertain or variable, we may utilize the residual method to determine SSP. When using the residual method the SSP of a performance obligations is calculated by subtracting the sum of the SSPs of all other goods and services promised under the contract from the total transaction price.

Going concern

In connection with preparing financial statements for each annual and interim reporting period, the Company's management evaluates whether there are conditions and events, considered in the aggregate, that raise substantial doubt about the Company's ability to continue as a going concern within one year after the date that the consolidated financial statements are issued. Management has concluded that the Company has sufficient cash and cash equivalents to meet its obligations and continue as a going concern within one year after the date the consolidated financial statements are issued.

2. Revenue Recognition

Disaggregation of revenue

The following table provides information about disaggregated revenue by primary geographical area and operating segment (in thousands):

	Year Ended December 31, 2022			Year Ended December 31, 2021		
	Partner Solutions	Edge to Cloud	Total	Partner Solutions	Edge to Cloud	Total
Primary geographical area:						
North America	$ 30,165	$ 3,265	$ 33,430	$ 31,226	$ 3,615	$ 34,841
Europe	303	103	406	360	236	596
Asia	2,651	—	2,651	4,930	—	4,930
Total	$ 33,119	$ 3,368	$ 36,487	$ 36,516	$ 3,851	$ 40,367

For the years ended December 31, 2022 and 2021, $34.2 million and $38.1 million of revenue was recorded at a point-in-time, respectively. For each of the years ended December 31, 2022 and 2021, $2.3 million of revenue was recorded over-time.

Contract Balances

We receive payments from customers based upon contractual billing schedules. Our average customer payment terms range from 30 - 60 days. Accounts receivable are recorded when the right to consideration becomes unconditional. Contract assets include amounts related to our contractual right to consideration for completed performance obligations not yet invoiced. We had no asset impairment charges related to contract assets during 2022 or 2021. Contract liabilities, presented as deferred revenue on our consolidated balance sheet, include payments received in advance of performance under the contract and are recognized as revenue when performance obligations are satisfied.

The following table provides information about receivables, contract assets and contract liabilities from contracts with customers (in thousands):

	December 31, 2022	December 31, 2021
Receivables	$ 3,985	$ 4,914
Short-term contract assets	—	46
Short-term contract liabilities (deferred revenue)	201	944
Long-term contract liabilities (deferred revenue)	9	194

Our accounts receivable balance as of January 1, 2021 was $6,177,000, net of an allowance for doubtful accounts of $50,000.

Significant changes in the balances of contract assets and liabilities were as follows (in thousands):

	Year Ended December 31,	
	2022	2021
	Contract Assets	Contract Assets
Balance at beginning of period	$ 46	$ 456
Revenue recognized	49	181
Amounts invoiced	(45)	(135)
Reclassifications and other	(50)	(456)
Balance at end of period	$ —	$ 46

	Year Ended December 31,	
	2022	2021
	Contract Liabilities	Contract Liabilities
Balance at beginning of period	$ 1,138	$ 2,116
Revenue recognized	(1,495)	(1,977)
Amounts invoiced	617	999
Reclassifications and other	(50)	—
Balance at end of period	$ 210	$ 1,138

Contract acquisition costs

We capitalize certain contract acquisition costs consisting primarily of commissions paid when contracts are signed. We capitalized contract acquisition costs for contracts with a life exceeding one year. Amortization of contract acquisition costs was $14,000 and $61,000 for fiscal years ended December 31, 2022 and December 31, 2021, respectively. There were no asset impairment charges for contract acquisition costs for the periods noted above.

Transaction Price Allocated To Remaining Performance Obligations

The following table includes estimated revenue expected to be recognized in the future related to performance obligations that are unsatisfied or partially unsatisfied at the end of the reporting period (in thousands). The estimated revenue does not include contracts with original durations of one year or less, amounts of variable consideration attributable to royalties, or contract renewals that were unexercised as of December 31, 2022.

	2023	2024	2025	2026	2027	Thereafter
Edge to Cloud	$ 1,612	$ 1,330	$ —	$ —	$ —	$ —

Practical expedients and exemptions

We generally expense sales commissions when incurred because the amortization period would have been less than one year. We record these costs within selling, general and administrative expenses.

When applicable and appropriate, the Company utilizes the 'as-invoiced' practical expedient which permits revenue recognition upon invoicing.

3. Cash and Investments

Cash, cash equivalents, restricted cash and short-term investments consisted of the following (in thousands):

	December 31,	
	2022	2021
Cash	$ 2,243	$ 2,506
Cash equivalents (see detail in Note 4)	33,171	37,023
Restricted cash (see detail in Note 4)	221	557
Total cash, cash equivalents and restricted cash	35,635	40,086
Short-term investments	7	—
Total cash, cash equivalents, restricted cash and short-term investments	$ 35,642	$ 40,086

4. Fair Value Measurements

We measure our cash equivalents and restricted cash at fair value. Fair value is an exit price, representing the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. As such, fair value is a market-based measurement that should be determined based on assumptions that market participants would use in pricing an asset or a liability. A three-tier fair value hierarchy is established as a basis for considering such assumptions and for inputs used in the valuation methodologies in measuring fair value:

- Level 1: Quoted prices in active markets for identical assets or liabilities.
- Level 2: Directly or indirectly observable market-based inputs or unobservable inputs used in models or other valuation methodologies.
- Level 3: Unobservable inputs that are not corroborated by market data. The inputs require significant management judgment or estimation.

We classify our cash equivalents and restricted cash within Level 1 because our cash equivalents are valued using quoted market prices or alternative pricing sources and models utilizing market observable inputs.

Assets and liabilities measured at fair value on a recurring basis were as follows (in thousands):

	December 31, 2022		
	Quoted Prices in Active Markets for Identical Assets (Level 1)	Direct or Indirect Observable Inputs (Level 2)	Total
Assets			
Cash equivalents:			
Money market funds	$ 13,461	$ —	$ 13,461
U.S. treasury securities	19,710	—	19,710
Total cash equivalents	33,171	—	33,171
Restricted cash:			
Money market funds	221	—	221
Total assets measured at fair value	$ 33,392	$ —	$ 33,392

	December 31, 2021		
	Quoted Prices in Active Markets for Identical Assets (Level 1)	Direct or Indirect Observable Inputs (Level 2)	Total
Assets			
Cash equivalents:			
Money market funds	$ 37,023	$ —	$ 37,023

Total cash equivalents	37,023	—	37,023
Restricted cash:			
Money market funds	557	—	557
Total assets measured at fair value	$ 37,580	$ —	$ 37,580

5. Property and Equipment

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

	December 31, 2022	December 31, 2021
Computer equipment and software	$ 594	$ 691
Office furniture and equipment	141	146
Leasehold improvements	184	187
Internally developed software	1,139	583
Total	2,058	1,607
Less: Accumulated depreciation and amortization	(1,245)	(881)
Property and equipment, net of accumulated depreciation and amortization	$ 813	$ 726

Depreciation and amortization expense related to these assets was $435,000 and $485,000 in 2022 and 2021, respectively.

6. Other Income and Loss

Other income and loss consisted of the following (in thousands):

	Year Ended December 31, 2022	Year Ended December 31, 2021
Interest income	$ 394	$ 34
Other income (loss)	14	1,616
Total other income (loss)	$ 408	$ 1,650

We obtained a $1.6 million loan (the "PPP Loan") from JPMorgan Chase Bank, N.A. (the “Lender”) under the Paycheck Protection Program ("PPP") in April 2020 (the “Note”). In April 2021, we applied for forgiveness of this loan in accordance with the program, and in June 2021, we received confirmation that the loan principal (and related accrued interest) was forgiven in its entirety. The gain on loan forgiveness is included in other income (loss), net on the consolidated statement of operations and comprehensive loss for the year ended December 31, 2021, and as a gain on extinguishment of debt in the consolidated statement of cash flows for the year ended December 31, 2021.

7. Income Taxes

Pre-tax loss consisted of the following (in thousands):

	Year Ended December 31, 2022	Year Ended December 31, 2021
U.S.	$ (1,852)	$ (820)
Foreign	(2,006)	(1,422)
Total	$ (3,858)	$ (2,242)

Income tax expense consisted of the following (in thousands):

	Year Ended December 31, 2022	Year Ended December 31, 2021
Current taxes:		
Federal	$ —	$ —
State and local	—	—
Foreign	—	—
Current taxes	—	—
Deferred taxes:		
Federal	—	—
State and local	—	—
Foreign	—	—
Deferred taxes	—	—
Total	$ —	$ —

Net deferred tax assets and liabilities consisted of the following (in thousands):

	December 31, 2022	December 31, 2021
Deferred tax assets:		
Net operating loss carryforwards	$ 17,309	$ 19,230
Research and development credit carryforwards	2,302	2,747
Capitalized research and development	(31)	—
Stock-based compensation	377	382
Accrued expenses and reserves	38	58
Depreciation and amortization	37	-
Deferred revenue	53	107
Lease liability	289	318
Other	46	7
Gross deferred tax assets	20,420	22,849
Less: valuation allowance	(20,161)	(22,544)
Net deferred tax assets	259	305
Deferred tax liabilities:		
Depreciation and amortization	—	(16)
Right-of-use asset	(259)	(289)
Net deferred tax assets	$ —	$ —

Net deferred tax assets and liabilities were recorded as follows (in thousands):

	December 31, 2022	December 31, 2021
Deferred tax assets, non-current	$ —	$ —
Deferred tax liability, non-current	—	—
Net deferred tax assets	$ —	$ —

As of December 31, 2022, our deferred tax assets were primarily the result of U.S. net operating loss, research and development credit carryforwards and stock-based compensation expense. We have applied a full valuation allowance against the U.S. deferred tax assets in the U.S. and foreign jurisdictions.

We use judgment as to the appropriate weighting of all available evidence when assessing the need for the establishment or the release of valuation allowances. As part of this analysis, we examine all available evidence on a jurisdiction-by-jurisdiction basis and weigh the positive and negative information when determining the need for full or partial valuation allowances. The evidence considered for each jurisdiction includes, among other items, (i) the historical levels of income or loss over a range of time periods that extends beyond the two years presented, (ii) the historical sources of income and losses, (iii) the expectations and risk associated with underlying estimates of future taxable income, (iv) the expectations and risk associated with new product offerings and uncertainties with the timing of future taxable income, and (v) prudent and feasible tax planning strategies. Based on the analysis conducted as of December 31, 2022, we determined that we would maintain a full valuation allowance against our U.S. gross deferred tax assets.

The provision for income taxes differed from the amount of expected income tax expense determined by applying the applicable U.S. statutory federal income tax rate to pre-tax loss as follows (in thousands, except percentages):

	Year Ended December 31,			
	2022		2021	
U.S. Federal tax benefit at statutory rates	$ (811)	21.0%	$ (471)	21.0%
Impact of:				
State income tax	(71)	1.8	(83)	3.7
International operations	218	(5.7)	28	(1.3)
Stock-based compensation	32	(0.8)	93	(4.2)
Valuation allowance	(2,383)	61.7	429	(19.1)
Expiration of tax attributes	3,000	(77.7)	311	(13.9)
PPP loan forgiveness	—	—	(333)	14.9
Other, net	15	(0.4)	26	(1.1)
Tax expense and effective tax rate	$ —	0.0%	$ —	0.0%

At December 31, 2022, we had approximately $73.7 million of federal and $14.1 million of state net operating loss carryforwards, which have begun to expire. Of the federal net operating loss carryforwards, approximately $50.9 million will expire by 2037 and $22.8 million are indefinite. We also have approximately $2.3 million of tax credit carryforwards, which have begun to expire. Use of these carryforwards may subject us to an annual limitation due to Section 382 of the U.S. Internal Revenue Code that restricts the ability of a corporation that undergoes an ownership change to use its carryforwards. Under the applicable tax rules, an ownership change occurs if holders of more than five percent of an issuer's outstanding common stock, collectively, increase their ownership percentage by more than 50 percentage points over a rolling three-year period. We have performed analyses of possible ownership changes in the past, which included consideration of third-party studies, and do not believe that an ownership change of more than 50 percentage points has occurred.

We have evaluated all the material income tax positions taken on our income tax filings to various tax authorities, and we determined that we did not have unrealized tax benefits related to uncertain tax positions recorded at December 31, 2022 and 2021.

Because of net operating loss and tax credit carryforwards, substantially all of our tax years remain open and subject to examination.

8. Leases

In December 2019, we entered into an operating lease agreement for a new corporate office facility in Seattle, Washington. The term of the lease is 87 months, with a rent date starting on May 1, 2020 and the lease term ending on July 31, 2027. The lease has renewal option that can be exercised 9-15 months prior to the end of current term. The renewal option is for a 60-month period.

In November 2020, we renewed the lease for our office facility in the UK. The term of the lease is 120 months, with rent payments starting on November 30, 2020 and the lease term ending on November 8, 2030. The Company has an opportunity to break the lease at the five-year mark in November 2025. As it is reasonably certain that we will utilize this option, the accounting for this lease utilized November 2025 as the end date. The lease commencement date was November 9, 2020.

Our leases have remaining terms of four to six years. Both of our leases contain renewal options. Because of changes in our business, we are not able to determine with reasonable certainty whether we will renew our Seattle or Trowbridge, UK lease. As a result, we have not considered renewal options when recording ROU assets, lease liabilities or lease expense.

	Twelve months ended	
Total component lease expense was as follows (in thousands):	**December 31, 2022**	**December 31, 2021**
Operating leases	$ 370	$ 450
Supplemental cash flow information related to leases was as follows (in thousands):		
Cash paid for amounts included in the measurement of lease liabilities	$ 377	$ 452

Supplemental balance sheet information related to leases was as follows (dollars in thousands):	December 31, 2022	December 31, 2021
Operating leases:		
Right-of-use	$ 1,297	$ 1,598
Current portion of operating leases liability	362	357
Operating leases liability, net of current portion	1,051	1,363
Total operating leases liabilities	$ 1,413	$ 1,720
Weighted average remaining lease term (in years)	4.25	5.18
Weighted average discount rate	8.5%	8.5%

Future operating lease commitments are as follows (in thousands):

As of December 31, 2022, maturities of lease liabilities were as follows:	Operating leases
Years Ended December 31,	
2023	$ 364
2024	371
2025	360
2026	276
2027	164
Total minimum lease payments	$ 1,535
Less: amount representing imputed interest	(122)
Present value of lease liabilities	$ 1,413

9. Commitments and Contingencies

Lease and rent obligations

Our commitments include obligations outstanding under operating leases, which expire through 2027. We have lease commitments for office space in Seattle, Washington and Trowbridge, UK. See Note 8 - Leases.

Loss contingencies

From time to time, we are subject to legal proceedings, claims, and litigation arising in the ordinary course of business including tax assessments. We defend ourselves vigorously against any such claims. When (i) it is probable that an asset has been impaired, or a liability has been incurred and (ii) the amount of the loss can be reasonably estimated, we record the estimated loss. We provide disclosure in the notes to the consolidated financial statements for loss contingencies that do not meet both of these conditions if there is a reasonable possibility that a loss may have been incurred that would be material to the financial statements. Significant judgment is required to determine the probability that a liability has been incurred and whether such liability is reasonably estimable. We base accruals made on the best information available at the time, which can be highly subjective. The final outcome of these matters could vary significantly from the amounts included in the accompanying consolidated financial statements.

10. Shareholders' Equity

Equity compensation plans

We have a stock plan (the "Stock Plan") for equity awards to eligible service providers and an inducement stock plan for newly hired employees (the "Inducement Plan") (collectively the "Plans"). We stopped using the Inducement Plan in 2019, although it continues to govern outstanding awards granted under it. Under the Stock Plan, stock options may be granted with a fixed exercise price that is equivalent to the fair market value of our common stock on the date of grant. These options have a term of up to 10 years and vest over a predetermined period, generally four years. Incentive stock options granted under the Stock Plan may only be granted to our employees. The Stock Plan also allows for awards of non-qualified stock options, stock appreciation rights, restricted and unrestricted stock awards, RSUs and PSUs.

Stock-based compensation

The estimated fair value of stock-based awards is recognized as compensation expense over the vesting period of the award, and we account for forfeitures as they occur. The fair value of RSUs is determined based on the number of shares granted and the quoted price of our common stock on the date of grant. The fair value of PSUs is estimated at the grant date based on the fair value of each vesting tranche as calculated by a Monte Carlo simulation. The fair value of stock options is estimated at the grant date based on the fair value of each vesting tranche as calculated by the Black-Scholes-Merton ("BSM") option-pricing model. The BSM model requires various highly judgmental assumptions including expected volatility and option life. If any of the assumptions used in the BSM model change significantly, stock-based compensation expense may differ materially in the future from that recorded in the current period. The fair values of our stock option grants were estimated with the following weighted average assumptions:

	Year Ended December 31,	
	2022	2021
Dividend yield	0%	0%
Expected life (in years)	5.9	4.9
Expected volatility	96%	111%
Risk-free interest rate	2.9%	1.0%

The impact on our results of operations from stock-based compensation expense was as follows (in thousands, except per share amounts):

	Year Ended December 31,	
	2022	2021
Cost of revenue — Edge to Cloud	$ 12	$ 35
Selling, general and administrative	401	625
Research and development	7	14
Total stock-based compensation expense	$ 420	$ 674
Per basic and diluted share	$ 0.02	$ 0.04

Stock option activity

The following table summarizes stock option activity:

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (in years)	Aggregate Intrinsic Value
Balance at December 31, 2020	1,786,891	$ 3.10	7.75	$ 330,831
Granted	195,000	2.76		
Exercised	(36,130)	1.88		
Forfeited	(180,592)	1.95		
Expired	(101,155)	3.24		
Balance at December 31, 2021	1,664,014	2.07	6.64	$ 405,223
Granted	112,000	1.57		
Exercised	(69,631)	1.16		
Forfeited	(97,867)	1.53		
Expired	(69,238)	3.21		
Balance at December 31, 2022	1,539,278	2.05	5.17	$ 43,783
Vested and expected to vest at December 31, 2022	1,539,278	2.05	5.17	43,783
Exercisable at December 31, 2022	1,169,731	$ 2.22	4.53	$ 31,617

At December 31, 2022, total compensation cost related to stock options granted but not yet recognized was approximately $137,000. This cost will be amortized on the straight-line method over a weighted-average period of approximately 0.9 years.

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The following table summarizes certain additional information about stock options:

	Year Ended December 31,	
	2022	2021
Weighted average grant-date fair value for options granted during the year	$ 1.21	$ 2.86
Vested options in-the-money	237,720	327,476
Aggregate intrinsic value of options exercised during the year	$ 2,057	$ 1.88

The aggregate intrinsic value represents the difference between the exercise price of the underlying options and the quoted price of our common stock for the number of options that were exercised during the periods indicated. We issue new shares of common stock upon exercise of stock options.

Restricted stock unit activity

The following table summarizes RSU activity:

	Number of Shares	Weighted Average Award Price
Unvested at December 31, 2020	164,697	$ 1.48
Granted	90,343	2.72
Vested	(199,311)	1.83
Forfeited	(21,115)	1.48
Unvested at December 31, 2021	34,614	2.72
Granted	83,221	3.25
Vested	(72,726)	3.00
Forfeited	—	—
Unvested at December 31, 2022	45,109	3.25
Expected to vest after December 31, 2022	45,109	$ 3.25

At December 31, 2022, total compensation cost not yet recognized related to granted RSUs was approximately $62,000. This cost will be amortized on the straight-line method over a weighted-average period of approximately 0.4 years.

Performance Stock Units

In January 2021, we awarded PSUs to our CEO and CFO. The PSUs vest based on a combination of Bsquare's stock price performance and continued employment. The first vesting measurement date was January 5, 2022 and the final measurement date is July 5, 2025. We estimated the fair value of the awards utilizing Monte Carlo simulations, and we record the expense in the selling, general and administrative line of our consolidated statement of operations. For the years ended December 31, 2022 and 2021, we recorded expense of approximately $36,000 and $77,000, respectively. At December 31, 2022, total compensation cost not yet recognized related to granted PSUs was approximately $23,300 and will be amortized over a weighted-average period of approximately 2.5 years.

In January 2022, the Compensation Committee of the Board of Directors (the "Committee") amended the PSU agreements, updating the definition of stock price performance, and reducing the total number of PSUs available to the CEO and CFO by 50,000 and 33,333 shares of common stock, respectively (the "2021 Shares"). In lieu of any claim to the 2021 Shares, each of the CEO and CFO received in February 2022 a cash settlement in an amount equal to the number of 2021 Shares multiplied by the closing price per share on January 5, 2022. Because the cash settlement was equal to the fair value of the 2021 Shares, we recognized the cash settlement as a charge to equity in the amount paid to settle the 2021 Shares.

Common stock reserved for future issuance

The following table summarizes our shares of common stock reserved for future issuance under the Plans as of December 31, 2022:

Stock options outstanding	1,539,278
Restricted stock units and performance stock units outstanding	461,776
Stock options available for future grant	905,551
Common stock reserved for future issuance	2,906,605

Common Stock Sales

In the second and third quarters of 2021, we sold 108,879 and 6,793,798 shares of our common stock, respectively, pursuant to a registration statement on Form S-3 under the Securities Act of 1933, as amended (the "Securities Act") filed in March 2021. We received proceeds of approximately $31,936,000, net of issuance costs of $1,157,000. The issued shares and total paid-in capital are reflected in the consolidated statement of shareholders' equity.

Share Repurchase Program

In November 2022, the our Board of Directors authorized a share repurchase program (the “Program”) pursuant to which we can repurchase up to $5.0 million of our common stock. The Program has an expiration date of June 30, 2023, but provides for termination at any time.

A summary of common stock repurchase activity for the twelve months ended December 31, 2022 is presented in the following table:

	Year Ended December 31,	
	2022	2021
Shares repurchased	178,857	—
Total cost of shares repurchased	$ 202,947	$ —

11. Employee Benefit Plan

We maintain a Profit Sharing and Deferred Compensation Plan, the BSQUARE Corporation 401(k) Plan and Trust (the “Profit Sharing Plan”) under Section 401(k) of the Internal Revenue Code. Substantially all full-time employees are eligible to participate in the Profit-Sharing Plan. We typically elect to match the participants’ contributions to the Profit-Sharing Plan up to a certain amount subject to vesting. Participants will receive their share of the value of their investments, and any applicable vested match, upon retirement or termination. We made matching contributions of $175,000 and $200,000 in 2022 and 2021, respectively.

12. Significant Concentrations

Significant customer

No customers accounted for 10% or more of total revenue and accounts receivable during 2022 or 2021.

Significant supplier

We are authorized to sell Microsoft Windows IoT operating systems in Canada, the United States, Argentina, Brazil, Chile, Mexico, Peru, Venezuela, Puerto Rico, Columbia, and several Caribbean countries.

We were previously party to certain Original Equipment Manufacturer Distribution Agreements ("ODAs") with Microsoft pursuant to which we were licensed to sell Microsoft Windows Mobile operating systems to customers in North America, South America, Central America (excluding Cuba), Japan, Taiwan, Europe, the Middle East, and Africa. The ODAs to sell Windows Mobile operating systems expired on April 30, 2022 and were not renewed thereafter.

Our current distribution agreements with Microsoft have no automatic renewal provisions and may be terminated unilaterally by Microsoft at any time.

The majority of our revenue continues to be derived from reselling Microsoft Windows Embedded and IoT operating system software to device makers. The sale of Microsoft operating systems has historically accounted for substantially all of our Partner Solutions revenue.

Microsoft currently offers a distributor incentives program through which we earn rebates pursuant to predefined objectives related to sales of Microsoft Windows IoT operating systems. Based on the nature of the incentives, we record a portion of the incentive earnings as a reduction to Partner Solutions cost of revenue with the remaining portion recorded as an offset to qualified marketing expenses in the period the expenditures are claimed and approved.

Under this incentive program, we recorded earnings credits as follows (in thousands):

	Year Ended December 31,	
	2022	**2021**
Reductions to Partner Solutions cost of revenue	$ 327	$ 311
Reductions to marketing expense	290	373

13. Information about Operating Segments and Geographic Areas

Our operations are conducted in two reportable segments: Partner Solutions and Edge to Cloud. We define our segments as those operations whose results the chief operating decision maker regularly reviews to analyze performance and allocate resources. We operate within a single industry segment of computer software and services.

We measure the results of our segments using, among other measures, each segment's revenue and gross profit. Information for our segments is provided in the following table (in thousands):

	Year Ended December 31,	
	2022	2021
Partner Solutions:		
Revenue	$ 33,119	$ 36,516
Cost of revenue	28,263	31,478
Segment gross profit	4,856	5,038
Edge to Cloud:		
Revenue	3,368	3,851
Cost of revenue	2,771	3,474
Segment gross profit	597	377
Total gross profit	$ 5,453	$ 5,415

Revenue by geography is based on the sales region of the customer. See Footnote 2 - Revenue Recognition for a disaggregation of revenue by segment and geographic area.

We do not track assets at the segment level. The following table sets forth total property and equipment, net by geographic area (in thousands):

	December 31,	
	2022	2021
Property and equipment, net:		
North America	$ 813	$ 723
Europe	—	3
Total property and equipment, net	$ 813	$ 726

14. Restructuring

On December 5, 2022, we enacted a RIF as part of broader efforts to align our cost base with our 2023 strategic and operating priorities. We reduced our headcount by nearly 20% and recorded restructuring expense of $0.2 million, primarily consisting of severance payments, employee benefits and related costs.

15. Subsequent Events

The Company performed a review of events subsequent to the consolidated balance sheet date through the date the consolidated financial statements were issued and determined that there were no such events requiring recognition or disclosure in the consolidated financial statements.

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

None.

Item 9A. ***Controls and Procedures.***

Evaluation of Disclosure Controls and Procedures

We maintain disclosure controls and procedures that are designed to ensure that the information required to be disclosed in the reports that we file or submit under the Securities Exchange Act of 1934 ("Exchange Act") is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure. In connection with the preparation of this Form 10-K, our management carried out an evaluation, under the supervision and with the participation of our Chief Executive Officer and Chief Financial Officer, as of December 31, 2022, of the effectiveness of the design and operation of our disclosure controls and procedures, as such term is defined under Rule 13a-15(e) and 15d-15(e) under the Exchange Act. Based upon this evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective as of December 31, 2022.

Management's Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting. Our internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of our financial reporting and the preparation of our financial statements for external purposes in accordance with generally accepted accounting principles. Internal control over financial reporting is defined in Rules 13a-15(f) and 15d-15(f) promulgated under the Exchange Act and includes those policies and procedures that: (a) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of our assets; (b) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that our receipts and expenditures are being made only in accordance with authorizations of our management and directors; and (c) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our assets that could have a material effect on our financial statements. All internal controls, no matter how well designed, have inherent limitations. Therefore, even those systems determined to be effective can provide only reasonable assurance with respect to financial statement preparation and presentation.

Our management assessed the effectiveness of our internal control over financial reporting as of December 31, 2022. In making this assessment, management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission in *Internal Control—Integrated Framework (2013)*.

Based on its assessment, our management concluded that, as of December 31, 2022, our internal control over financial reporting was effective.

Changes in Internal Control over Financial Reporting

There have been no changes in our internal control over financial reporting during the fourth quarter of 2022 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. ***Other Information***

None.

Item 9C. ***Disclosure Regarding Foreign Jurisdictions that Prevent Inspections***

Not applicable.

PART III

Item 10. ***Directors, Executive Officers and Corporate Governance***

The information required by this Item is incorporated by reference to our definitive proxy statement for our 2023 annual meeting of shareholders which will be filed with the SEC no later than 120 days after December 31, 2022 (our "2022 Proxy Statement").

Item 11. ***Executive Compensation***

The information required by this Item is incorporated by reference to our 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 by reference to our 2023 Proxy Statement.

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

The information required by this Item is incorporated by reference to our 2023 Proxy Statement.

Item 14. ***Principal Accounting Fees and Services***

The information required by this Item is incorporated by reference to our 2023 Proxy Statement.

PART IV

Item 15. *Exhibits, Financial Statement Schedules*

(a) Financial Statements and Schedules

1. *Financial Statements*

See “Index to Consolidated Financial Statements” in Part II Item 8 of this report.

2. *Financial Statement Schedules*

Financial statement schedules not included herein have been omitted because they are either not required, not applicable, or the information is otherwise included herein.

3. *Exhibits*

Exhibits are incorporated herein by reference or are filed with this report as indicated below.

(b) Exhibits

Exhibit Number	Description	Filed or Furnished Herewith	Incorporated by Reference Form	Filing Date	Exhibit	File No.
3.1	Amended and Restated Articles of Incorporation		S-1	8/17/1999	3.1(a)	333-85351
3.1(a)	Articles of Amendment to Amended and Restated Articles of Incorporation		10-Q	8/7/2000	3.1	000-27687
3.1(b)	Articles of Amendment to Amended and Restated Articles of Incorporation		8-K	10/11/2005	3.1	000-27687
3.2	Amended and Restated Bylaws		8-K	8/11/2020	3.2	000-27687
4.1	Description of Capital Stock		10-K	2/25/2020	4.1	000-27687
10.1(1)	Fourth Amended and Restated Stock Plan, as amended		S-8	8/8/2017	4.1	333-219799
10.1(a)(1)	Form of Stock Option Agreement		10-Q	8/9/2012	10.19(a)	000-27687
10.1(b)(1)	Form of Restricted Stock Grant Agreement		10-Q	8/9/2012	10.19(b)	000-27687
10.1(c)(1)	Form of Restricted Stock Unit Agreement		10-Q	8/9/2012	10.19(c)	000-27687
10.2(1)	2011 Inducement Award Plan		10-Q	11/10/2011	10.1	000-27687
10.2(a)(1)	Form of Stock Option Agreement under the 2011 Inducement Award Plan		10-Q	11/10/2011	10.1(a)	000-27687
10.2(b)(1)	Form of Restricted Stock Unit Agreement under the 2011 Inducement Award Plan		10-K	2/19/2015	10.2(b)(1)	000-27687
10.3(1)	Executive Bonus Plan		8-K	3/20/2020	10.1	000-27687
10.4(1)	Form of Indemnification Agreement		10-K	2/21/2017	10.3	000-27687
10.5	Market Square Office Lease between 1415 Western LLC and Bsquare Corporation		10-K	3/18/2021	10.5	000-27687
10.6(1)	Employment letter agreement with Ralph Derrickson dated February 4, 2019		10-K	2/25/2020	10.11	000-27687
10.7(1)	Employment letter agreement with Christopher Wheaton dated August 20, 2019		8-K	8/23/2019	10.1	000-27687
10.8(2)	Microsoft OEM Distribution Agreement for Software Products for Embedded Systems with Microsoft Licensing, GP effective July 1, 2014		10-Q	8/14/2014	10.1	000-27687
10.9	Board Observer Agreement with Palogic Value Fund, L.P, Palogic Value Management, L.P. and Palogic Capital Management, LLC dated June 25, 2018		8-K	6/26/2018	10.1	000-27687
10.10	Promissory note, dated as of April 7, 2020 with JPMorgan Chase Bank, N.A.		8-K	4/16/2020	10.1	000-27687
10.11	Side Letter, dated July 6, 2021 between Bsquare Corporation and B. Riley Securities, Inc.		8-K	7/7/2021	10.1	000-27687
21.1	Subsidiaries of the registrant	X				
23.1	Consent of Independent Registered Public Accounting Firm	X				
31.1	Certification of Chief Executive Officer pursuant to Exchange Act Rule 13a-14(a) under the Securities and Exchange Act of 1934	X				
31.2	Certification of Chief Financial Officer pursuant to Exchange Act Rule 13a-14(a) under the Securities and Exchange Act of 1934	X				

Exhibit Number	Description	Filed or Furnished Herewith	Incorporated by Reference			
			Form	Filing Date	Exhibit	File No.
32.1	Certification of Chief Executive Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002	X				
32.2	Certification of Chief Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002	X				
101.INS	Inline XBRL Instance Document	X				
101.SCH	Inline XBRL Taxonomy Extension Schema Document	X				
101.CAL	Inline XBRL Taxonomy Extension Calculation Document	X				
101.DEF	Inline XBRL Taxonomy Extension Definitions	X				
101.LAB	Inline XBRL Taxonomy Extension Label Document	X				
101.PRE	Inline XBRL Taxonomy Extension Presentation Document	X				
104	Cover Page Interactive Data File (embedded within the Inline XBRL and contained in Exhibit 101)					

(1) Indicates a management contract or compensatory plan or arrangement.
(2) Confidential treatment has previously been granted by the SEC for certain portions of the referenced exhibit.

Item 16. ***Form 10-K Summary***

Not applicable.

SIGNATURES

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

BSQUARE CORPORATION

Date: March 7, 2023	By:	/S/ RALPH C. DERRICKSON **Ralph C. Derrickson** *President and Chief Executive Officer*
Date: March 7, 2023	By:	/S/ CHERYL A. WYNNE **Cheryl A. Wynne** *Chief Financial Officer*

POWER OF ATTORNEY

Each person whose individual signature appears below hereby authorizes and appoints Ralph C. Derrickson and Cheryl A. Wynne, and each of them, with full power of substitution and resubstitution and full power to act without the other, as his true and lawful attorney-in-fact and agent to act in his name, place and stead and to execute in the name and on behalf of each person, individually and in each capacity stated below, and to file, any and all amendments to this report, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in fact and agents, and each of them, full power and authority to do and perform each and every act and thing, ratifying and confirming all that said attorneys-in-fact and agents or any of them or their or his substitute or substitutes may lawfully do or cause to be done by virtue thereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on March 7, 2023, on behalf of the registrant and in the capacities indicated.

Signature	Title
/S/ RALPH C. DERRICKSON **Ralph C. Derrickson**	President and Chief Executive Officer (Principal Executive Officer)
/S/ CHERYL A. WYNNE **Cheryl A. Wynne**	Chief Financial Officer (Principal Financial Officer)
/S/ RYAN L. VARDEMAN **Ryan L. Vardeman**	Chairman of the Board
/S/ ROBERT J. CHAMBERLAIN **Robert J. Chamberlain**	Director
/S/ BERNEE D.L. STROM **Bernee D.L. Strom**	Director
/S/ MARY JESSE **Mary Jesse**	Director

Exhibit 21.1

SUBSIDIARIES OF THE REGISTRANT

The following is a list of subsidiaries of the registrant as of December 31, 2022.

Name	Jurisdiction of incorporation or organization
BSQUARE EMEA Limited	United Kingdom

Exhibit 23.1

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the Registration Statements on Form S-3 (No. 333-254458) and Form S-8 (Nos. 333-230726, 333-89333, 333-70210, 333-114104, 333-116279, 333-162925, 333-166804, 333-172904, 333-183668, 333-205706, 333-205707, 333-215095, and 333-259425) of Bsquare Corporation (the “Company”), of our report dated March 7, 2023, relating to the consolidated financial statements of the Company, appearing in this Annual Report on Form 10-K of the Company for the year ended December 31, 2022.

/s/ Moss Adams LLP

Seattle, Washington
March 7, 2023

Exhibit 31.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER PURSUANT TO RULE 13(a)-14(a) UNDER THE SECURITIES EXCHANGE ACT OF 1934

I, Ralph C. Derrickson, certify that:

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

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

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

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

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

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

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

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

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

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

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

Dated: March 7, 2023

/s/ Ralph C. Derrickson

Ralph C. Derrickson

President and Chief Executive Officer

Exhibit 31.2

CERTIFICATION OF CHIEF FINANCIAL OFFICER PURSUANT TO RULE 13(a)-14(a) UNDER THE SECURITIES EXCHANGE ACT OF 1934

I, Cheryl A. Wynne, certify that:

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

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

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

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

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

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

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

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

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

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

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

Dated: March 7, 2023

/s/ Cheryl A. Wynne
Cheryl A. Wynne
Chief Financial Officer

Exhibit 32.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER PURSUANT TO 18 U.S.C. SECTION 1350

Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, I, Ralph C. Derrickson, President and Chief Executive Officer, certify that:

1. To my knowledge, this report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

2. To my knowledge, the information contained in this report fairly presents, in all material respects, the financial condition and results of operations of Bsquare Corporation.

Dated: March 7, 2023	/s/ Ralph C. Derrickson
	Ralph C. Derrickson
	President and Chief Executive Officer

Exhibit 32.2

CERTIFICATION OF CHIEF FINANCIAL OFFICER PURSUANT TO 18 U.S.C. SECTION 1350

Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, I, Cheryl A. Wynne, Chief Financial Officer, certify that:

1. To my knowledge, this report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

2. To my knowledge, the information contained in this report fairly presents, in all material respects, the financial condition and results of operations of Bsquare Corporation.

Dated: March 7, 2023

/s/ Cheryl A. Wynne
Cheryl A. Wynne
Chief Financial Officer