

## Research Report – Update

*Investors should consider this report as only a single factor in making their investment decision.*

### Phunware, Inc.

**Rating: Speculative Buy**

Howard Halpern

May 15, 2023

**PHUN \$0.59 — (NASDAQ)**

	2020 A	2021 A	2022 A	2023 E	2024 E
Revenue (in millions)	\$10.0	\$10.6	\$21.8	<b>\$20.0</b>	<b>\$24.6</b>
Earnings (loss) per share	(\$0.50)*	(\$0.71)**	(\$0.51)***	<b>(\$0.21)</b>	<b>(\$0.20)</b>

52-Week range	\$1.96 – \$0.55	Fiscal year ends:	December
Shares outstanding a/o 5/10/23	104.7 million	Revenue/shares (ttm)	\$0.20
Approximate float	100.1 million	Price/Sales (ttm)	3.0X
Market Capitalization	\$61.8 million	Price/Sales (2024) E	2.6X
Tangible Book value/shr	(\$0.11)	Price/Earnings (ttm)	NMF
Price/Book	NMF	Price/Earnings (2024) E	NMF

\* Includes (\$0.10) per share legal settlement \*\* Includes (\$0.43) per share in net charges from extinguishment of debt, impairment of digital currencies and warrant liabilities

\*\*\* Includes approximately (\$0.23) per share in impairment of digital currencies and a \$0.03 per share gain from fair value warrant liabilities adjustment

Phunware Inc., headquartered in Austin, Texas, offers a fully integrated software platform that equips companies with the products, solutions and services necessary to engage, manage and monetize their anytime, anywhere users worldwide through its location-based software-as-a-service platform that provides an entire mobile lifecycle of applications and media in one login through one procurement relationship. Lyte by Phunware provides high performance computer systems.

#### Key Investment Considerations:

**Maintaining our Speculative Buy rating but reducing our 12-month price target to \$1.20 per share from \$1.35 per share due primarily to reductions in valuation multiples and our 2024 sales per share forecast.**

**Phunware has substantial growth potential for its location-based software-as-a-Service technology platform that includes its patented location based service technology and service offerings within markets such as healthcare, hospitality, smart cities, and corporate campuses. Analysts project the worldwide mobile apps market could reach \$140 billion in 2030, up from \$59.7 billion in 2021 for annualized growth of 13.4%.**

**Entering 2023, the company's Lyte operations have been relocated to Texas along with the implementation of a new enterprise resource planning system that should drive profitable growth through our forecast period.**

**PHUN reported (on 5-11-23) a 1Q23 loss of (\$0.04) per share on a 30% revenue decrease to \$4.7 million from nearly \$6.8 million in 1Q22. The loss per share was (\$0.14) in 1Q22. The current period included \$0.03 gain on sale of digital currencies. We projected a (\$0.07) per share loss on revenue of \$5.2 million.**

**For 2023, we project a loss of (\$0.21) per share on revenue of \$20 million. We previously projected a loss per share of (\$0.25) on revenue of \$21.4 million. The decrease in our revenue forecast reflects 1Q23 results. The improvement in our loss per share forecast reflects initiatives to reduce operating expenses that should generate operating leverage.**

**For 2024, we project a loss of (\$0.20) per share on revenue growth of 23% to \$24.6 million. We previously projected a loss of (\$0.19) per share on revenue of \$27.8 million. While we anticipate gross margins expanding to 42.2% from an estimated 27.2% in 2023, higher interest expense will restrain bottom line improvement.**

**Please view our Disclosures pages 14 – 16.**

## ***Appreciation Potential***

**Maintaining our Speculative Buy rating but reducing our 12-month price target to \$1.20 per share from \$1.35 per share due primarily to reductions in valuation multiples and our 2024 sales per share forecast.** Our price target should be supported by the company's ability to drive higher margin revenue growth in 2024. We anticipate a growing customer base of higher margin recurring platform (that includes the company's location-based technology platform, application transaction, and blockchain technology offerings) revenue through 2024. In 2024, this segment should contribute \$9.1 million to total revenue, up from an estimated \$6.1 million in 2023.

**Our 12-month price target of \$1.20 per share implies shares could double over the next twelve months.** According to finviz, the average trailing twelve-month price-to-sales multiple with equivalent market capitalizations for companies in the Software – Application/Infrastructure and Information Technology Services sectors is 8.6X (prior was 9X). PHUN's trailing twelve-month price-to-sales multiple is 3X (prior was 3.2X). We anticipate investors are likely to accord PHUN a multiple approaching that of the sector. We applied a price-to-sales multiple of 7X (prior was 7.5X) to our 2024 sales per share forecast of \$0.22 (prior was \$0.23), discounted for execution risks to obtain a year-ahead price target of approximately \$1.20 per share.

A higher valuation of Phunware is likely to be supported by revenue growth, a narrowing of operating losses, a reduction in cash losses, an increase in its recurring revenue customer-base, as well as growth of the operations of Lyte. In 2024, we forecast PHUN's operating losses narrowing to \$17.2 million from an estimated loss of \$23.4 million in 2023. PHUN's cash loss of an estimated \$18.9 million in 2023 should narrow to an estimated cash loss of \$15.9 million in 2024.

**We believe Phunware, Inc. is most suitable for risk tolerant investors seeking exposure to an emerging growth company that provides a location-based recurring revenue mobile technology platform to its customer base.**

## ***Overview***

Phunware Inc., headquartered in Austin, Texas, offers a fully integrated software platform that equips companies with the products, solutions and services necessary to engage, manage and monetize their anytime, anywhere users worldwide through its location-based software-as-a-service platform that provides an entire mobile lifecycle of applications and media in one login through one procurement relationship. PHUN's technology includes its patented location based service technology that provides real-time unique features that include indoor and offshore tracking (as well as outdoor and onshore tracking) on the ground, in large buildings, and in the air. The offering meets the needs of the hearing and visually impaired and people that are in wheelchairs.

The company's mission is to deploy technology at the intersection of mobile, cloud, big data, and blockchain in order to help any brand in any industry improve the engagement, management and monetization of their global audiences and communities. PHUN's long-term vision is to create a Phunware ID for every person that has a device touching a computer network through their favorite brands, venues, and applications that interface or intersect with PHUN's software solutions and application transaction infrastructure.

In October 2021, PHUN completed the acquisition of Lyte Technology that provides customers' high performance computer systems. The company should complete the integration of this new Lyte by Phunware segment.

## ***Recent Developments***

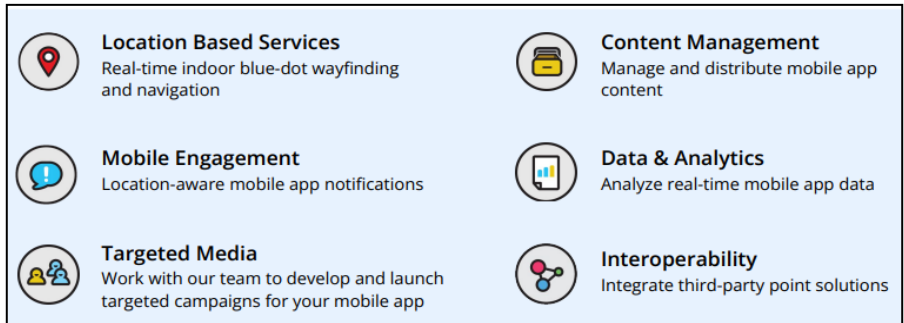
**During April 2023**, PHUN announced the United States Patent and Trademark Office issued a Notice of Allowance for the company's US patent application 17/362,765 titled Method and Apparatus for Geofence Event Predictions. This capability will significantly enhance the capabilities of Phunware's location-based services and enable brands to deliver personalized, context-aware experiences to their users.

**During April 2023**, the company announced it joined the Siemens Connect Ecosystem, which is a network that brings together experts in software development, IT, cybersecurity, remote and digital services, and business

intelligence. The Siemens Ecosystem brings together the tools, processes, training, and support necessary for third-party solution providers to create solutions that integrate seamlessly with Siemens’ platforms, including its Building Management System Desigo CC, the APOGEE Automation System. This relationship should provide PHUN with an avenue to gain customer for its already established Smart Workplace and Multi-Dwelling Unit solutions that empower building facilities and tenants to easily manage everything they do around a property from a single sign-on interface.

### ***Technology Platform***

PHUN’s location-based software-as-a-service cloud-based technology platform and services are designed for its customer to engage, manage and monetize their anytime, anywhere users worldwide throughout an entire mobile lifecycle of applications and media in one login through one procurement relationship. Pictured on the right (company’s April 2023 presentation) are the key elements of the company’s value proposition. These modules are designed to assist PHUN’s customers in better understand their users, by providing the tools to engage them at the right time and in the right context.



Phunware offerings should generate a stream of recurring revenue through the licensing of its technology platforms and services. The higher margin recurring revenue subscription model is offered to customers typically on one, three, or five year contracts.

### Software Development Kits (SDKs)

SDKs are a collection of software development tools in one installable package and ease the creation of applications. Phunware offers SDKs for organizations developing their own applications via customized development services and prepackaged solutions.

### Mobile Application Framework and Data

PHUN’s mobile application framework and data products offer real-time mobile audience targeting, reach, engagement, and monetization for insights and interactions globally at scale, as well as pre-integration of all the company’s software technology modules for use within mobile application portfolios, solutions, and services. A long-term goal of Phunware is to empower and enable consumers or end users of mobile applications to own, control and be rewarded for the use of their personal data and information.

### Location-based Services

A critical element for the company’s future deployments and customer growth is its location-based services technology and service offerings. This module includes mapping, navigation, wayfinding, workflow, asset management and policy enforcement. A key differentiator of Phunware’s location-based services is the ability to track (a mobile device) indoors and offshore within a hospital, buildings, stadiums/arenas, cruise ships, and airplane. The company’s real-time blue-dot position uses Bluetooth Low Energy beacons, or Wi-Fi, GPS and/or Li-Fi (wireless communication utilizing light to transmit data and position between devices). Its location-based services comply with the Americans with Disability Act (i.e., for the wheelchair bound and visually impaired).

### Lyte by Phunware

In October 2021, the company acquired privately-held Lyte Technology, Inc., which provides its customers with high performance computer systems. Lyte, founded in 2018, is a profitable, system integrator that specializes in marketing and distributing custom, high-end computer systems (off-the-shelf) with advanced graphic processing units for gaming, streaming and cryptocurrency mining. Its customer base are gamers, developers, content creators

and crypto enthusiasts who should support the adoption, scale and infrastructure required for Phunware to deploy its decentralized data economy powered by PhunCoin and PhunToken.

### Blockchain Ecosystem

In 2019, the company launched PhunToken that acts as a medium of exchange within its blockchain technology enabled rewards marketplace and data exchange. In May 2021, PHUN began selling PhunToken through its Phun Token International subsidiary. Sales are recorded with the company's platform revenue generating segment.

### ***Growth Strategy***

The company's growth strategy reflects the new CEO vision of improving the features and scalability of PHUN's offerings to not only increase customer adoption and shorten sales cycle, but enhance the overall margin profile of each technology deployment.

### Customer Base

The company aims to grow its customer base through an expansion of its go-to-market strategy with indirect sales and channel partners and partnerships. The company is seeking more active partnerships. New partnerships Diversified, Ingram Micro, and Siemens. Ingram Micro is committed to bring in up to five qualified leads per quarter, while Diversified in 1Q23 has already had its representatives train to begin sales calls. In 2H23, the company's older established partnerships should begin seeing sales of PHUN's location-based recurring revenue technology offerings within their own already established customer bases.

The company's has two significant reference customers such as Gaylord Hotels by Marriott and Atlantis Resort in the Bahamas (the later contributed approximately \$1.2 million to top line result in 4Q22).

By expanding its number of partnerships and achievements, the company should be able to have its location-based technology platform and service offerings marketed to a broad base of potential new customers.

### Lyte

In 1H22, the company had two strategic supplier relationships that should mitigate supply chain constraints for Lyte compared to many of its competitors. These relationships should support the increased demand that is being driven by newly initiated spending on social media marketing initiatives. The company is focused on driving profitability within this segment. The relocation of Lyte's manufacturing plant to Texas from Illinois and implementation of a new enterprise resource planning software system are two initiatives to streamline operations and drive expanded gross margin through our forecast period.

### Healthcare

We anticipate the mobile and virtual healthcare market is likely to be a key growth vertical for the company. In 3Q21, the company announced it delivered the digital front door on mobile for that Virginia Hospital Center that covers more than 850,000 square-feet of indoor medical space. In 4Q21, PHUN announced its mobile digital front door solution for healthcare is available on the Epic App Orchard marketplace. EPIC controls one-third of the electronic health record market.

In 1Q23, PHUN announced a contract expansion to extend its Location Based Services offering to the 250,000 square foot Outpatient Pavilion at VHC Health and integrate TIBA Parking Systems with VHC Health's mobile digital front door.

### ***Projections***

#### Basis of Forecast

We anticipate PHUN's focus through 2024 will be to drive higher margin revenue growth within both of the company's segments - Lyte and recurring location-based technology platform offerings.

In 2023 and 2024, we anticipate Lyte should contribution revenue of at \$13.9 million and \$15.5 million, respectively, from customer growth for its high performance gaming computer systems through implementation of a low cost social media marketing effort. We anticipate the relocation of Lyte's manufacturing plant and implementation of a new enterprise resource planning software system should drive gross margin for this segment to 23.7% in 2024 from an estimated 14.1% in 2023. This segment reported gross margin of 9.7% in 2022.

#### Operations – 2023

We project revenue of nearly \$20 million (prior was \$21.4 million) compared to nearly \$21.8 million in 2022. Our forecast reflects 1Q23 results and slower than anticipated efforts by the company to build a committed pipeline of new customer deployments due in part to a longer sales cycle.

Gross profit should increase 7.3% to \$5.4 million from nearly \$5.1 million due to gross margin improving to 27.2% compared to 23.3% in 2022, partly offset by a \$1.4 million decrease in our revenue forecast. Gross margin improvement should result from the company's strategy of seeking higher margin projects and incremental improvement in the operations of Lyte. However, gross margin will be restrained by 1Q23 results that were negatively impacted by a mismatch of costs of goods sold (the full cost to complete a customer deployment) compared to the ability to recognize only the small recurring amount of revenue that will continue over a five year period.

We project the operating loss narrowing to \$23.4 million compared to a loss of \$29.5 million in 2022 due primarily to gross margin expansion and operating margin expense improving to 144% from 159% in 2022. We anticipate operating expenses decreasing \$5.8 million to \$28.8 million as the company streamlines its operations to create operating leverage. We project G&A expense decreasing by \$1.3 million to \$18.2 million, sales and marketing expenses decreasing by \$2.2 million to \$4.6 million, and R&D expense decreasing by \$127,000 to \$6 million. Also, the current period does not include nearly \$2.1 million related to the impairment of goodwill in 2022.

We project interest expense increasing to \$2.6 million from \$2.4 million in 2022 due to an increase in average debt balances. Base on 1Q23 results, we anticipate the company recording a \$3.3 million gain on sale of digital assets and other, as well as a \$253,000 positive change in fair value adjustment for warrant liabilities, partly offset by a \$50,000 digital currencies impairment. In 2022, the company reported a \$22.9 million impairment of digital currencies and a \$3.3 million positive change in fair value of warrant liabilities in 2022.

We project a net loss of \$22.5 million or (\$0.21) per share on average shares outstanding of 105.4 million. We previously projected a net loss of nearly \$27.1 million or (\$0.25) per share on average shares outstanding of 107.3 million.

#### Finances – 2023

We project a cash loss of \$18.7 million and a decrease in working capital of \$8 million. We anticipate proceeds from the sale of digital currencies, issuance of debt, and common stock is unlikely to cover cash used in operations of \$10.7 million and repayment of a convertible note. Cash should decrease by \$1.7 million to \$267,000 at December 31, 2023.

#### Operations – 2024

We project revenue increasing 23% to \$24.6 million (prior was \$27.8 million) from an estimated \$20 million due primarily to a growing customer base for the company's computer hardware products from its Lyte operations and recurring location-based revenue platform segment offerings. We anticipate recurring platform sales growth of 48.1% to \$9.1 million driven by an increase in customer deployments, along with an 11.9% increase in Lyte sales to \$15.5 million.

Gross profit should increase 90.4% to \$10.4 million from an estimated \$5.4 million due to revenue growth, gross margin improving to 42.2% compared to an estimated 27.2% in 2023. Gross margin improvement should be due to sustained recurring revenue growth (we are not anticipated a quarterly mismatch of cost of goods sold to revenue), as well as the company's Lyte operations achieving gross margin of 23.7% from an estimated 184.1% in 2023.

We project the operating loss narrowing to \$17.2 million compared to an estimated loss of \$23.4 million in 2023 due primarily to revenue growth, gross margin expansion and operating margin expense improving to 112% from an estimated 144% in 2023. We anticipate operating expenses decreasing by approximately \$1.2 million to \$27.6 million from an estimated \$28.8 million. We anticipate the continued rationalization of operating expenses should still enable the company to build a sustained pipeline of recurring revenue projects.

We project interest expense increasing to \$4.8 million from an estimated \$2.6 million in 2023 due to an increase in average debt balances and interest rates. We are not recording any change in warrant liabilities, impairment of digital currencies, or proceeds from sale of digital currencies.

We project a net loss of \$22 million or (\$0.20) per share on average shares outstanding of 111.1 million. We previously projected a net loss of \$23.1 million or (\$0.19) per share on average shares outstanding of 119.1 million.

#### Finances – 2024

We project a cash loss of \$15.9 million and a decrease in working capital of \$5.1 million. We anticipate the company's issuance of debt and common stock is likely to cover cash used in operations of \$10.8 million and capital expenditures of \$150,000. Cash should increase by \$103,000 to \$370,000 at December 31, 2024.

### **1Q23 Results**

#### 1Q23 Results

Revenue decreased 30% to \$4.7 million from \$6.8 million in 1Q22. Platform revenue decreased 46% to \$1.3 million from nearly \$2.5 million in the year-ago period stemming from approximately \$1 million in PhunToken sales last year that did not occur in the current period. Hardware sales from the company's Lyte operations decreased 20.6% to \$3.4 million from \$4.3 million last year due primarily to a lower order backlog at the end of 2022.

Gross profit decreased to \$361,000 from nearly \$1.8 million in 1Q22 due primarily gross margin contraction to 7.6% from 26.1% last year. Gross margin contraction reflects a mismatch of cost of goods sold and associated revenue associated recognized in the quarter.

Operating expenses increased 12.1% to \$7.6 million compared to \$6.8 million in the year-ago period. G&A expenses increased to \$4.7 million from \$4.3 million in the year-ago period due primarily to due increased stock-based compensation. R&D expense increased to nearly \$1.8 million from \$1 million last year reflecting higher compensation costs and outside contract labor expenses. Partly offsetting the higher expenses was a \$350,000 decrease in sales and marketing expenses to \$1.1 million stemming from a reduction in marketing expenditures for its Lyte operations.

Non-operating income was \$3 million compared to an expense of \$9.9 million in 1Q22. In the current period, PHUN reported a \$3.3 million gain on sale of digital assets and other, as well as a \$253,000 positive change in fair value adjustment for warrant liabilities, partly offset by interest expense of \$557,000 and a \$50,000 digital currencies impairment. In the year-ago period, the company reported interest expense of \$381,000, a \$213,000 charge related to the fair value adjustment for warrant liabilities, and \$9.4 million impairment of digital currency.

The net loss was \$4.3 million or (\$0.04) per share on 103.2 million outstanding average shares. Excluding one-time gains of \$0.03 per share stemming from sales of digital assets and warrant liabilities, the loss per share was (\$0.07). We forecast a net loss of \$7.2 million or (\$0.07) per share on revenue of \$5.2 million.

#### Finances

In 1Q23, cash burn of \$5.7 million and a \$1.7 million increase in working capital resulted in cash used in operations of \$7.4 million. Proceeds of \$10.8 million from the sales of digital currencies did not cover cash used in operations and repayment of debt. Cash decreased by nearly \$1.3 million to \$694,000 at March 31, 2023.

### Capital Structure

At March 31, 2023, the company had total outstanding debt (all short-term) of \$5.7 million. The company also has \$1.2 million PhunCoin rights listed as long-term deposits on its balance sheet. At March 31, 2023, the company had a digital currency asset balance of \$2.5 million (compared to \$10.1 million at December 31, 2022) based on owning approximately 122 Bitcoin and 377 Ethereum. (At December 31, 2022, the company held 605 Bitcoin and 400 Ethereum).

In February 2022, the company's prospectus was declared effective by the SEC, pursuant to which PHUN may issue up to \$200 million in common stock, preferred stock, warrants and units. It is a supplement to its prior commitment to sell up to \$100 million of common stock in an at the market offering pursuant to an At Market Issuance Sales Agreement entered into with H.C. Wainwright on January 31, 2022. As of March 31, 2023, 95.4 million of shares of PHUN's common stock remains issuable pursuant to the sales agreement with Wainwright. Subsequent to the end of 1Q23 to May 12, 2023, approximately 222,000 shares of common stock were sold pursuant to the terms of the At Market Issuance Sales Agreement with Wainwright for aggregate net cash proceeds of \$129,000.

In July 2022, the company completed the sale of an unsecured promissory note (original principal amount of \$12.8 million with a \$634,000 debt discount) in a private placement. Net proceeds after transaction fees was \$11.8 million. No interest will accrue on the promissory note unless and until the occurrence of an event of default. The company may prepay the promissory note with a prepayment premium of 110%. The company can also defer payments that could extend the start of payments by a year.

On March 15, 2023, PHUN entered into a waiver agreement with the holder of its 2022 promissory note, waiving the payment deferral conditions. The company agreed to compensate the noteholder an amount equal to 5% of the outstanding balance immediately before entering into the waiver agreement. In connection with the agreement, PHUN elected to defer the monthly payments under for the months of April 2023, May 2023, June 2023, and July 2023. As a result of the deferral, the monthly payments and the outstanding balance will increased 1.85% on the first day of each month beginning on April 1, 2023 and concluding on July 1, 2023. The waiver fee and the additional principal will be paid in connection with the monthly installment payments once the deferral period concludes. Beginning on August 1, 2023, the company will be required to pay to the noteholder the new monthly amortization payment in the amount of nearly \$1.8 million until the new maturity date of November 1, 2023.

On January 5, 2023, a stock repurchase program was approved for the repurchase of up to \$5 million worth of the company's outstanding common shares. In 1Q23, the company repurchased 461,500 shares at an aggregate repurchase price of \$475,000.

## ***Mobile Markets***

### **Mobile Applications Market**

Grandview Research forecasts that the global mobile apps market could approach \$140 billion in 2030, up from \$59.7 billion in 2021 for annualized growth of approximately 13.4%. Growth should driven by the rapid increase in global Internet usage, as well as the arrival of 5G and the introduction of advanced mobile capabilities.

### **Location-based Services**

In July 2022, Meticulous Research published a report projecting the global location-based services market to reach \$239.7 billion in 2029, up from an estimated \$89 billion in 2022 for annualized growth of 15.1%. Primary drivers are expected to be increased smartphone usage as the United Nations reported that approximately 41.5% of the total world population used a smartphone in 2019. As technology advances, industries seem to be willing to adopt new systems, primarily to improve their efficiency. Driving location-based services growth should be increased usage within the healthcare sector.

### **Healthcare**

In 2022, Precedence Research (a market intelligence firm) published a report indicating that the global mHealth (mobile) Solutions Market could grow annually by 18.2% reaching \$243.6 billion in 2030 from nearly \$54.3 billion in 2021. The mHealth market should be driven by the increases in the adoption of smartphones, penetration of

3G/4G networks, as well as the adoption of 5G technology, utilization of connected devices, and mHealth apps for the management of chronic diseases.

### **High-End PC Gaming Hardware Segment**

In June 2022, market research firm Technavio published a report projecting the gaming computer market reaching \$50 billion by 2026 from \$24.5 billion in 2021 for estimated annual growth of approximately 15.7%.

### **Competitive Landscape**

The mobile applications technology and solutions market is highly competitive and fragmented. The introduction of new technologies and the potential entry of new competitors into the market would result in increased competition. PHUN competes primarily with companies offering cloud-based software solutions for location-based services, mobile marketing automation, content management, analytics and audience monetization, as well as data and advocacy solution offerings for audience building and engagement used for political or other types of rallies. Primary publicly trading competitors include Adobe and Oracle, along with private companies such as Urban Airship, Chaotic Moon, and Adroll.

Phunware's competitors are likely to have the ability to devote greater resources to the development, promotion and sale of their products and services. The major competitive factors in this market include product features and functionality, location accuracy, customer satisfaction, deployment options and hardware flexibility, functionality, implementation services and customer support, as well as total cost of ownership.

### **Risks**

In our view, these are the principal risks underlying the stock.

#### **Operating Losses**

Phunware Inc. has yet to generate an operating profit. At March 31, 2023, the company's accumulated deficit was approximately \$254.5 million, up from \$102 million in 2017. Losses are likely to continue but diminish through our forecast period. The lack of operating profits could result in the company's inability to execute its growth strategy and diminish its operations. Common stock offerings in 2021 and 2022 provided proceeds of close to \$100 million and the July 2022 promissory note offering for net proceeds of \$11.8 million, as well as projected issuances of common stock and/or debt, should allow for the company to execute its growth strategy during our forecast period.

#### **Digital Assets**

As of March 31, 2023, there was no clearing house for the company's digital assets, including its bitcoin holdings, nor is there a central or major depository for the custody of those digital assets. There is a risk that some or all of the company's digital asset holdings could be lost or stolen since there can be no assurance that the custodians will maintain adequate insurance or that such coverage will cover losses. Stolen or incorrectly transferred digital assets may be irretrievable. As a result, any incorrectly executed transactions could adversely affect the company's financial condition. The aggregate cost basis of the company's digital asset holdings was \$8.8 million at March 31, 2023 compared to \$2.5 million recorded on its balance sheet for a paper loss of \$6.3 million.

#### **Delisting/Default**

On April 13, 2023, PHUN was notified that the closing bid price of its common stock had been below \$1.00 for the last 30 consecutive business days meaning it was not in compliance with the minimum bid price requirement for continued inclusion on the Nasdaq Capital Market. The company until October 10, 2023 (the "Compliance Date"), to regain compliance with the minimum bid price requirement, which call for the closing bid price of PHUN's common stock to be at least \$1.00 for a minimum of ten consecutive business days. To regain compliance the company may have to implement a reverse stock split, subject to approval of its board of directors and stockholders. If a delisting were to occur it would likely negatively impact trading volume, the number and type of investors willing to hold or acquire stock in the company, as well as ability to raise additional capital.



Also, if PHUN's common stock were to be removed from listing on NASDAQ, it would trigger a default under its 2022 Promissory Note, and the outstanding balance would be immediately due and payable in cash at the mandatory default amount.

#### Legal Proceedings

On February 18, 2022, certain stockholders filed a lawsuit against Phunware. The plaintiffs invested in various early rounds of financing while the company was private and claim Phunware should not have subjected their shares to a 180-day lock up period. Plaintiffs allege that Phunware's stock price dropped significantly during the lock up period and seek damages, costs and professional fees. On April 4, 2023, both parties argued their positions before the Court of Chancery during a hearing. V The court did not rule from the bench at the hearing, but instead took the matter under advisement and will rule in due course. PHUN will defend against this lawsuit and any appeals.

On March 31, 2021, PHUN filed an action (a single cause of action for negligence) against its former counsel Wilson Sonsini Goodrich & Rosati, PC. PHUN is seeking compensatory and consequential damages, attorney's fees and costs, interest and other relief the court deems just and proper. Both cases are in the early stages of litigation and the outcomes are uncertain.

#### Intellectual Property

The company protects its intellectual property through trade secrets law, patents, copyrights, trademarks and contracts, as well as the establishment of business procedures designed to maintain the confidentiality of proprietary information such as the use of its licenses with customers and use of confidentiality agreements and intellectual property assignment agreements with employees, consultants, business partners, etc.

In the US, PHUN has 16 patents issued and 5 non-provisional patent applications that expire between 2027 and 2037.

Third parties may infringe on or misappropriate IP rights, or otherwise independently develop substantially equivalent products and/or services. The loss of intellectual property protection or the inability to secure or enforce intellectual property protection could harm its business and/or ability to compete.

#### Cyber Security

PHUN operates large and complex technology networks and systems to process, transmit and securely store electronic information and to communicate among locations and customers that contain significant amounts of client data. Unauthorized third parties could attempt to gain entry to its computer systems for the purpose of stealing data or disrupting the systems. The company believes appropriate measures are in place to protect client data from intrusion, and will constantly work to improve and enhance its computer systems. However, if its systems prove not to be secure, the company could suffer significant harm since client contracts typically contain provisions that require their data to remain confidential.

#### Shareholder Control

Executive officers and directors combined, own 4.2% of the outstanding voting stock (February 28, 2023). All of these owners could influence the outcome of matters requiring stockholder approval, which decisions may or may not be in the best interests of the other shareholders.

#### Miscellaneous Risk

The company's financial results and equity values are subject to other risks and uncertainties, including competition, operations, financial markets, regulatory risk, and/or other events. These risks may cause actual results to differ from expected results.

#### Trading Volume

Based on our calculations, the average daily-volume in 2021 was 14.3 million shares, which decreased to 6.2 million in 2022. During the three months period ending May 12, 2023, volume decreased to 874,000. The company has a float of 100.1 million shares and shares outstanding of 104.7 million.

Phunware, Inc.  
Consolidated Balance Sheets  
FY2020A – FY2024E  
(in thousands)

	FY20A	FY21A	FY22A	1Q23A	FY23E	FY24E
<b>ASSETS</b>						
Current assets:						
Cash	\$ 3,940	\$ 23,137	\$ 1,955	\$ 694	\$ 267	\$ 370
Accounts receivable, net	664	967	958	1,200	879	888
Inventory	-	2,636	2,780	2,671	2,800	3,000
Digital currencies	-	32,581	10,137	2,530	2,530	2,530
Prepaid expenses and other current assets	304	686	1,033	807	700	738
<b>Total current assets</b>	<u>4,908</u>	<u>60,007</u>	<u>16,863</u>	<u>7,902</u>	<u>7,176</u>	<u>7,526</u>
Property and equipment, net	13	-	221	206	205	205
Goodwill	25,900	33,260	31,113	31,136	31,136	31,136
Intangible assets, net	111	3,213	2,524	2,357	1,856	1,188
Deferred tax asset - long term	537	1,278	-	-	-	-
Restricted cash	91	-	-	-	-	-
Right-of-use asset	-	1,260	3,712	3,489	2,657	1,492
Other assets	276	276	402	367	367	150
<b>Total assets</b>	<u>\$ 31,836</u>	<u>\$ 99,294</u>	<u>\$ 54,835</u>	<u>\$ 45,457</u>	<u>\$ 43,397</u>	<u>\$ 41,697</u>
<b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>						
Current liabilities:						
Accounts payable	8,462	6,589	7,699	7,765	11,115	11,265
Accrued expenses	5,353	9,621	2,895	2,506	5,599	7,380
Accrued legal settlement	3,000	-	-	-	-	-
Lease liability	-	399	954	961	961	961
Deferred revenue	2,397	3,973	2,904	1,512	2,000	2,400
PhunCoin deposits	1,202	1,202	1,202	1,202	1,202	1,202
Factored receivables payable	-	-	-	-	-	-
Current portion of long-term debt, net	4,435	4,904	9,667	5,687	-	-
Warrant liability	1,614	3,605	256	3	3	3
<b>Total current liabilities</b>	<u>26,463</u>	<u>30,293</u>	<u>25,577</u>	<u>19,636</u>	<u>20,881</u>	<u>23,211</u>
Debt	3,762	-	-	-	4,000	10,000
Promisory note, net	-	-	-	-	-	-
Debt - related party	195	-	-	-	-	-
Deferred tax liabilities	537	1,278	-	-	-	-
Deferred revenue	2,678	1,299	1,274	1,072	4,000	7,000
Deferred rent	180	-	-	-	-	-
Lease liability	-	1,147	3,103	2,848	3,000	3,000
Redeemable convertible preferred stock, \$0.0001	-	-	-	-	-	-
<b>Stockholders' equity:</b>						
Common stock, \$0.0001 par value; authorized 1,00,000,000 shares;	6	10	10	10	11	11
Treasury stock at cost	-	-	-	(475)	(475)	(475)
Additional paid-in capital	144,156	264,944	275,562	277,303	285,612	294,612
Accumulated other comprehensive	(338)	(352)	(472)	(449)	(929)	(929)
Retained earnings (accumulated deficit)	(145,803)	(199,325)	(250,219)	(254,488)	(272,703)	(294,733)
<b>Total stockholders' equity</b>	<u>(1,979)</u>	<u>65,277</u>	<u>24,881</u>	<u>21,901</u>	<u>11,516</u>	<u>(1,514)</u>
<b>Total liabilities and stockholders' equity</b>	<u>\$ 31,836</u>	<u>\$ 99,294</u>	<u>\$ 54,835</u>	<u>\$ 45,457</u>	<u>\$ 43,397</u>	<u>\$ 41,697</u>
SHARES OUT	56,380	96,752	103,153	104,008	109,000	116,000

Source: Company reports and Taglich Brothers estimates

Phunware, Inc.  
Annual Income Statement  
FY2020 – FY2024E  
(in thousands)

	<u>FY20 A</u>	<u>FY21 A</u>	<u>FY22 A</u>	<u>FY23 E</u>	<u>FY24 E</u>
Net revenues	\$ 10,001	\$ 10,643	\$ 21,794	\$ 19,997	\$ 24,600
Cost of sales	<u>3,357</u>	<u>7,030</u>	<u>16,718</u>	<u>14,551</u>	<u>14,230</u>
<b>Gross Profit</b>	<u>6,644</u>	<u>3,613</u>	<u>5,076</u>	<u>5,446</u>	<u>10,370</u>
<b>Operating Expenses:</b>					
Sales and marketing	1,653	3,022	6,814	4,578	4,950
General and administrative	15,361	13,256	19,554	18,212	17,850
Research and development	2,628	4,179	6,149	6,022	4,800
Legal settlement / impairment of goodwill	4,500	-	2,061	-	-
Total Operating Expenses	<u>24,142</u>	<u>20,457</u>	<u>34,578</u>	<u>28,812</u>	<u>27,600</u>
<b>Operating Income (loss)</b>	(17,498)	(16,844)	(29,502)	(23,366)	(17,230)
Interest (expense) income	(3,413)	(4,481)	(2,406)	(2,637)	(4,800)
Gain (loss) on extinguishment of debt (PPP forgiveness)	(2,158)	(5,102)	-	-	-
Fair value adjustment for warrant liabilities	872	(18,139)	3,349	253	-
Impairment of digital currencies	-	(9,383)	(22,911)	(50)	-
Other income (expense) includes sale of digital assets	<u>-</u>	<u>1</u>	<u>580</u>	<u>3,316</u>	<u>-</u>
Total Other Income (expense)	<u>(4,699)</u>	<u>(37,104)</u>	<u>(21,388)</u>	<u>882</u>	<u>(4,800)</u>
<b>Pre-Tax Income (loss)</b>	(22,197)	(53,948)	(50,890)	(22,484)	(22,030)
Income Tax Expense (Benefit)	<u>2</u>	<u>(426)</u>	<u>4</u>	<u>-</u>	<u>-</u>
Net income (loss)	<u>(22,199)</u>	<u>(53,522)</u>	<u>(50,894)</u>	<u>(22,484)</u>	<u>(22,030)</u>
<b>Earning (loss) per share</b>	<u>\$ (0.50)</u>	<u>\$ (0.71)</u>	<u>\$ (0.51)</u>	<u>\$ (0.21)</u>	<u>\$ (0.20)</u>
Avg Shares Outstanding	44,269	75,447	98,982	105,417	111,125
Adjusted EBITDA	\$ (8,353)	\$ (11,662)	\$ (23,506)	\$ (16,914)	\$ (10,630)
<b>Margin Analysis</b>					
Gross margin	66.4%	33.9%	23.3%	27.2%	42.2%
Sales and marketing	16.5%	28.4%	31.3%	22.9%	20.1%
General and administrative	153.6%	124.6%	89.7%	91.1%	72.6%
Research and development	26.3%	39.3%	28.2%	30.1%	19.5%
Operating margin	(175.0%)	(158.3%)	(135.4%)	(116.8%)	(70.0%)
Pre-tax margin	(221.9%)	(506.9%)	(233.5%)	(112.4%)	(89.6%)
Tax rate	(0.0%)	0.8%	(0.0%)	0.0%	0.0%
<b>YEAR / YEAR GROWTH</b>					
Total Revenues	(47.8%)	6.4%	104.8%	(8.2%)	23.0%

Source: Company reports and Taglich Brothers estimates

Phunware, Inc.  
Income Statement Model  
Quarters FY2022A – 2024E  
(in thousands)

	Q1 22 A	Q2 22 A	Q3 22 A	Q4 22 A	FY22 A	Q1 23 A	Q2 23 E	Q3 23 E	Q4 23 E	FY23 E	Q1 24 E	Q2 24 E	Q3 24 E	Q4 24 E	FY24 E
Net revenues	\$ 6,778	\$ 5,485	\$ 4,758	\$ 4,773	\$ 21,794	\$ 4,747	\$ 4,700	\$ 4,950	\$ 5,600	\$ 19,997	\$ 6,100	\$ 5,700	\$ 5,800	\$ 7,000	\$ 24,600
Cost of sales	5,007	3,965	3,963	3,783	16,718	4,386	3,180	3,405	3,580	14,551	3,720	3,445	3,390	3,675	14,230
<b>Gross Profit</b>	<b>1,771</b>	<b>1,520</b>	<b>795</b>	<b>990</b>	<b>5,076</b>	<b>361</b>	<b>1,520</b>	<b>1,545</b>	<b>2,020</b>	<b>5,446</b>	<b>2,380</b>	<b>2,255</b>	<b>2,410</b>	<b>3,325</b>	<b>10,370</b>
<b>Operating Expenses:</b>															
Sales and marketing	1,485	1,928	1,819	1,582	6,814	1,128	1,135	1,150	1,165	4,578	1,200	1,225	1,250	1,275	4,950
General and administrative	4,305	5,251	5,189	4,809	19,554	4,712	4,600	4,500	4,400	18,212	4,425	4,450	4,475	4,500	17,850
Research and development	1,003	1,876	1,665	1,605	6,149	1,772	1,500	1,400	1,350	6,022	1,200	1,200	1,200	1,200	4,800
Legal settlement / impairment of goodwill	-	-	-	2,061	2,061	-	-	-	-	-	-	-	-	-	-
Total Operating Expenses	6,793	9,055	8,673	10,057	34,578	7,612	7,235	7,050	6,915	28,812	6,825	6,875	6,925	6,975	27,600
<b>Operating Income (loss)</b>	<b>(5,022)</b>	<b>(7,535)</b>	<b>(7,878)</b>	<b>(9,067)</b>	<b>(29,502)</b>	<b>(7,251)</b>	<b>(5,715)</b>	<b>(5,505)</b>	<b>(4,895)</b>	<b>(23,366)</b>	<b>(4,445)</b>	<b>(4,620)</b>	<b>(4,515)</b>	<b>(3,650)</b>	<b>(17,230)</b>
Interest (expense) income	(381)	(273)	(991)	(761)	(2,406)	(537)	(600)	(700)	(800)	(2,637)	(1,200)	(1,200)	(1,200)	(1,200)	(4,800)
Gain (loss) on extinguishment of debt (PPP forgiveness)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fair value adjustment for warrant liabilities	(213)	2,682	797	83	3,349	253	-	-	-	253	-	-	-	-	-
Impairment of digital currencies	(9,353)	(12,158)	-	(1,400)	(22,911)	(50)	-	-	-	(50)	-	-	-	-	-
Other income (expense) includes sale of digital assets	52	213	54	261	580	3,316	-	-	-	3,316	-	-	-	-	-
Total Other Income (expense)	(9,895)	(9,536)	(140)	(1,817)	(21,388)	2,982	(600)	(700)	(800)	882	(1,200)	(1,200)	(1,200)	(1,200)	(4,800)
<b>Pre-Tax Income (loss)</b>	<b>(14,917)</b>	<b>(17,071)</b>	<b>(8,018)</b>	<b>(10,884)</b>	<b>(50,890)</b>	<b>(4,269)</b>	<b>(6,315)</b>	<b>(6,205)</b>	<b>(5,695)</b>	<b>(22,484)</b>	<b>(5,645)</b>	<b>(5,820)</b>	<b>(5,715)</b>	<b>(4,850)</b>	<b>(22,030)</b>
Income Tax Expense (Benefit)	-	-	-	4	4	-	-	-	-	-	-	-	-	-	-
Net income (loss)	(14,917)	(17,071)	(8,018)	(10,888)	(50,894)	(4,269)	(6,315)	(6,205)	(5,695)	(22,484)	(5,645)	(5,820)	(5,715)	(4,850)	(22,030)
<b>Earning (loss) per share</b>	<b>\$ (0.15)</b>	<b>\$ (0.17)</b>	<b>\$ (0.08)</b>	<b>\$ (0.11)</b>	<b>\$ (0.51)</b>	<b>\$ (0.04)</b>	<b>\$ (0.06)</b>	<b>\$ (0.06)</b>	<b>\$ (0.05)</b>	<b>\$ (0.21)</b>	<b>\$ (0.05)</b>	<b>\$ (0.05)</b>	<b>\$ (0.05)</b>	<b>\$ (0.04)</b>	<b>\$ (0.20)</b>
Avg Shares Outstanding	96,844	97,742	98,822	102,520	98,982	103,169	105,000	106,500	107,000	105,417	108,000	110,000	112,500	114,000	111,125
Adjusted EBITDA	\$ (4,246)	\$ (6,602)	\$ (6,741)	\$ (5,917)	\$ (23,506)	\$ (5,599)	\$ (4,115)	\$ (3,905)	\$ (3,295)	\$ (16,914)	\$ (2,795)	\$ (2,970)	\$ (2,865)	\$ (2,000)	\$ (10,630)
<b>Margin Analysis</b>															
Gross margin	26.1%	27.7%	16.7%	20.7%	23.3%	7.6%	32.3%	31.2%	36.1%	27.2%	39.0%	39.6%	41.6%	47.5%	42.2%
Sales and marketing	21.9%	35.2%	38.2%	33.1%	31.3%	23.8%	24.1%	23.2%	20.8%	22.9%	19.7%	21.5%	21.6%	18.2%	20.1%
General and administrative	63.5%	95.7%	109.1%	100.8%	89.7%	99.3%	97.9%	90.9%	78.6%	91.1%	72.5%	78.1%	77.2%	64.3%	72.6%
Research and development	14.8%	34.2%	35.0%	33.6%	28.2%	37.3%	31.9%	28.3%	24.1%	30.1%	19.7%	21.1%	20.7%	17.1%	19.5%
Operating margin	(74.1%)	(137.4%)	(165.6%)	(190.0%)	(135.4%)	(152.7%)	(121.6%)	(111.2%)	(87.4%)	(116.8%)	(72.9%)	(81.1%)	(77.8%)	(52.1%)	(70.0%)
Pre-tax margin	(220.1%)	(311.2%)	(168.5%)	(228.0%)	(233.5%)	(89.9%)	(134.4%)	(125.4%)	(101.7%)	(112.4%)	(92.5%)	(102.1%)	(98.5%)	(69.3%)	(89.6%)
Tax rate	0.0%	0.0%	0.0%	(0.0%)	(0.0%)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<b>YEAR / YEAR GROWTH</b>															
Total Revenues	311.8%	282.0%	120.3%	(11.6%)	104.8%	(30.0%)	(14.3%)	4.0%	17.3%	(8.2%)	28.5%	21.3%	17.2%	25.0%	23.0%

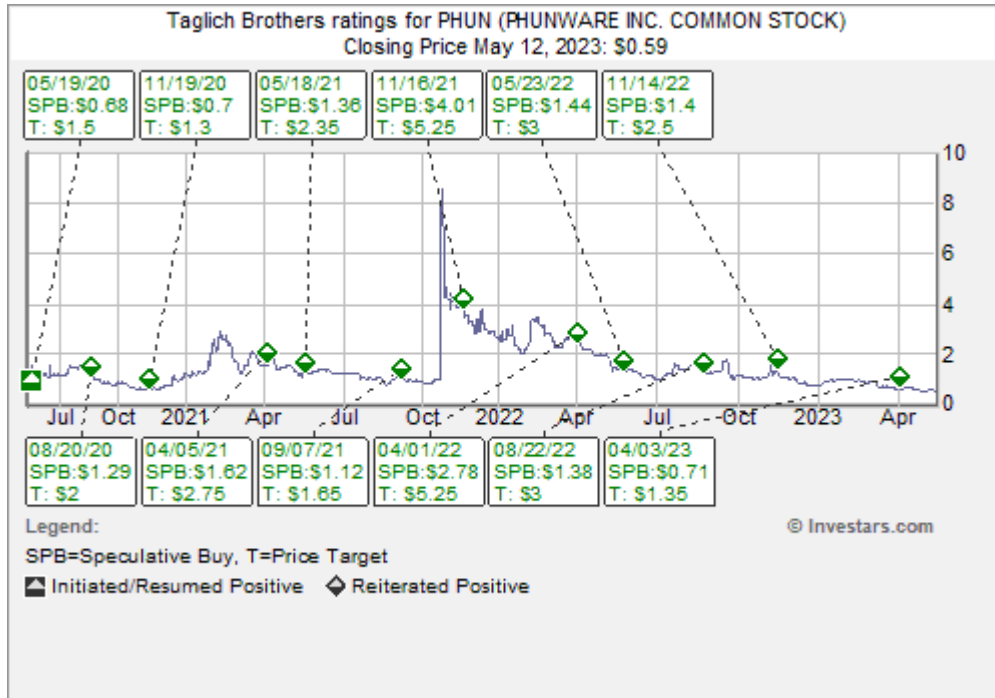
Source: Company reports and Taglich Brothers estimates

Phunware, Inc.  
Cash Flow Statement  
FY2020 – FY2024E  
(in thousands)

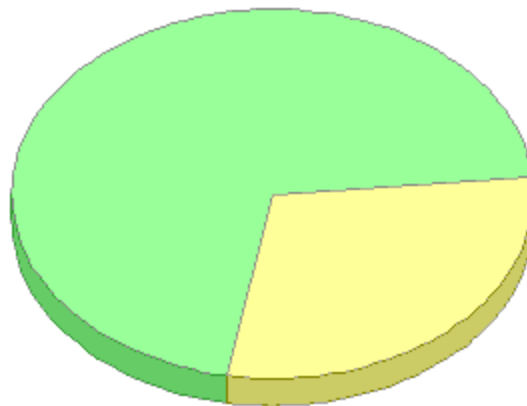
	<u>FY2020A</u>	<u>FY2021A</u>	<u>FY2022A</u>	<u>1Q23A</u>	<u>FY2023E</u>	<u>FY2024E</u>
<i>Cash Flows from Operating Activities</i>						
Net Income (loss)	\$ (22,199)	\$ (53,522)	\$ (50,894)	\$ (4,269)	\$ (22,484)	\$ (22,030)
Depreciation and amortization	11	-	-	-	-	-
Impairment of goodwill	-	-	2,061	50	50	-
Bad debt expense (recovery)	205	-	-	-	-	-
Amortization of intangibles and right-of-use asset	142	-	-	-	-	-
Amortization of debt discount and deferred financing costs	2,185	2,942	1,034	289	1,155	1,000
Loss on extinguishment of debt	2,158	7,952	-	-	-	-
Gain on forgiveness of PPP Loan	-	(2,850)	-	-	-	-
Non-cash interest expense	55	-	-	-	-	-
Change in fair value of warrants	(872)	18,139	(3,349)	(253)	-	-
Impairment of digital currencies and right-of-use asset	-	9,383	22,911	-	-	-
Settlement of accounts payable	(453)	-	-	-	-	-
Stock-based compensation	4,492	4,941	3,009	1,362	5,450	4,000
Deferred income taxes and other and sale of digital assets	-	(478)	1,466	(2,857)	(2,857)	1,100
Cash earnings (burn)	<u>(14,276)</u>	<u>(13,493)</u>	<u>(23,762)</u>	<u>(5,678)</u>	<u>(18,686)</u>	<u>(15,930)</u>
<i>Changes In:</i>						
Accounts receivable	796	(16)	4	(245)	79	(9)
Inventory	-	(949)	(412)	241	(20)	(200)
Prepaid expenses and other assets	65	(383)	(476)	261	333	(38)
Accounts payable	427	(1,568)	1,111	67	3,416	150
Accrued expenses	1,064	(1,131)	(1,258)	(89)	2,704	1,781
Accrued legal settlement	3,000	(3,000)	-	-	-	-
Lease liability	-	(802)	(905)	(345)	(345)	-
Deferred revenue	<u>(2,049)</u>	<u>(1,172)</u>	<u>(1,129)</u>	<u>(1,594)</u>	<u>1,822</u>	<u>3,400</u>
(Increase)/decrease in Working Capital	<u>3,303</u>	<u>(9,021)</u>	<u>(3,065)</u>	<u>(1,704)</u>	<u>7,990</u>	<u>5,083</u>
<b>Net cash provided (used in) Operations</b>	<u>(10,973)</u>	<u>(22,514)</u>	<u>(26,827)</u>	<u>(7,382)</u>	<u>(10,696)</u>	<u>(10,847)</u>
<i>Cash Flows from Investing Activities</i>						
Proceeds received from sale of digital currencies	-	-	1,282	10,790	10,790	-
Purchase of digital currencies	-	(41,284)	(923)	-	-	-
Acquisitions, net of cash acquired	-	(5,101)	(2,375)	-	-	-
Capital expenditures	-	-	(271)	(6)	(50)	(150)
<b>Cash flow provided (used in) Investing Activities</b>	<u>-</u>	<u>(46,385)</u>	<u>(2,287)</u>	<u>10,784</u>	<u>10,740</u>	<u>(150)</u>
<i>Cash Flows from Financing Activities</i>						
Net proceeds (payment) from factoring agreement	(1,077)	-	-	-	-	-
Proceeds (payment) on debt net	14,815	14,711	11,795	-	4,000	6,000
Bridge loans - related parties	560	-	-	-	-	-
Payments on senior convertible note	(8,418)	(26,243)	(8,066)	(4,270)	(9,957)	-
Payments on related party notes	(560)	-	-	-	-	-
Proceeds from common stock, net of issuance costs	9,177	94,737	4,298	-	4,600	5,000
Proceeds from warrant exercise	-	4,635	-	-	-	-
Proceeds from exercise of options to purchase common stock	99	179	28	58	100	100
Payment for stock repurchase	-	-	-	(475)	(475)	-
<b>Net cash provided (used) by Financing</b>	<u>14,596</u>	<u>88,019</u>	<u>8,055</u>	<u>(4,687)</u>	<u>(1,732)</u>	<u>11,100</u>
<b>Effect of exchange rates</b>	46	(14)	(123)	24	-	-
Net change in Cash and restricted cash	3,669	19,106	(21,182)	(1,261)	(1,688)	103
Cash and restricted cash Beginning of Period	<u>362</u>	<u>4,031</u>	<u>23,137</u>	<u>1,955</u>	<u>1,955</u>	<u>267</u>
Cash (and restricted) End of Period	<u>\$ 4,031</u>	<u>\$ 23,137</u>	<u>\$ 1,955</u>	<u>\$ 694</u>	<u>\$ 267</u>	<u>\$ 370</u>

Source: Company reports and Taglich Brothers estimates

**Price Chart**



**Taglich Brothers Current Ratings Distribution**



70.83 % Buy | 29.17 % Hold

<b>Investment Banking Services for Companies Covered in the Past 12 Months</b>		
<u>Rating</u>	<u>#</u>	<u>%</u>
Buy	5	26
Hold		
Sell		
Not Rated		

**Important Disclosures**

As of the date of this report, we, our affiliates, any officer, director or stockholder, or any member of their families do not have a position in the stock of the company mentioned in this report. Taglich Brothers, Inc. does not currently have an Investment Banking relationship with the company mentioned in this report and was not a manager or co-manager of any offering for the company with in the last three years.

All research issued by Taglich Brothers, Inc. is based on public information. In April 2020, the company paid Taglich Brothers a monetary fee of \$4,500 (USD) representing payment for the creation and dissemination of research reports for three months. In September 2020, the company began paying Taglich Brothers a monthly monetary fee of \$1,500 (USD) for the creation and dissemination of research reports.

**General Disclosures**

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**Analyst Certification**

**I, Howard Halpern, the research analyst of this report, hereby certify that the views expressed in this report accurately reflect my personal views about the subject securities and issuers; and that no part of my compensation was, is, or will be directly or indirectly related to the specific recommendations or views contained in this report.**

**Public Companies mentioned in this report:**

Adobe, Inc.

(NASDAQ: ADBE)

CISCO Systems, Inc.

(NASDAQ: CSCO)

**Meaning of Ratings**

**Buy** – The growth prospects, degree of investment risk, and valuation make the stock attractive relative to the general market or comparable stocks.

**Speculative Buy** – Long-term prospects of the company are promising but investment risk is significantly higher than it is in our BUY-rated stocks. Risk-reward considerations justify purchase mainly by high risk-tolerant accounts. In the short run, the stock may be subject to high volatility and could continue to trade at a discount to its market.

**Neutral** – Based on our outlook the stock is adequately valued. If investment risks are within acceptable parameters, this equity could remain a holding if already owned.

**Sell** – Based on our outlook the stock is significantly overvalued. A weak company or sector outlook and a high degree of investment risk make it likely that the stock will underperform relative to the general market.

**Discontinued** – Research coverage discontinued due to the acquisition of the company, termination of research services (includes non-payment for such services), diminished investor interest, or departure of the analyst.

**Some notable Risks within the Microcap Market**

**Stocks in the Microcap segment of the market have many risks that are not as prevalent in Large-cap, Blue Chips or even Small-cap stocks. Often it is these risks that cause Microcap stocks to trade at discounts to their peers. The most common of these risks is liquidity risk, which is typically caused by small trading floats and very low trading volume which can lead to large spreads and high volatility in stock price. In addition, Microcaps tend to have significant company-specific risks that contribute to lower valuations. Investors need to be aware of the higher probability of financial default and higher degree of financial distress inherent in the microcap segment of the market.**

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From time to time our analysts may choose to withhold or suspend a rating on a company. We continue to publish informational reports on such companies; however, they have no ratings or price targets. In general, we will not rate any company that has too much business or financial uncertainty for our analysts to form an investment conclusion, or that is currently in the process of being acquired.