



Phunware, Inc.

Initiating Coverage with BUY and \$4.00 Target

Strong growth potential for its Multiscreen-as-a-Service (MaaS) enterprise cloud platform for mobile devices. We expect a return to strong growth over the next year to be positive for stock.

Initiating with BUY: We are initiating coverage of Phunware with a BUY rating. Phunware is a software company providing Multiscreen-as-a-Service (MaaS) enterprise cloud platform for mobile devices worldwide.

Focused on mobile applications: Phunware's MaaS software platform enables companies and brands to engage, manage, and monetize their mobile applications. It offers enterprise mobile software, including content management, location-based services, marketing automation, business intelligence and analytics, alerts, notifications and messaging, audience engagement, and audience monetization, as well as vertical solutions, iOS and Android-based mobile application portfolios, solutions, and services.

Large market potential: The demand for its services continues to grow fueled by its participation in four rapidly growing and evolving markets: mobile cloud software, media, big data, and cryptonetworking. Each of these are driven by technological advancements including cloud, software-defined infrastructure, mobility, data analytics, IoT and decentralization.

Still early but high growth stage: Phunware's recent financial performance is reflective of its early commercialization stage. In its recent Q1 2020 report, the company reported revenue of \$2.6 million (vs. \$5.3 million y-o-y). The decline was due to the completion of work for Fox Networks Group (which had been a major customer of the company for the past several years) in Q3 2019. Q1 net loss was \$4.0 million and EPS was \$(0.10), compared with a net loss of \$3.5 million and EPS of \$(0.12) (y-o-y). The company expects annual revenue growth of 30% or more longer term.

Growth is key: We believe that the biggest potential variable and challenge to our financial model is the ability of the company to successfully develop and grow its MaaS platforms (both in the increase in number of customers and in revenue per customer). How the coronavirus impacts macroeconomic and technology spending is also a major variable.

However, challenges exist: Phunware operates in a highly competitive environment and competes against a wide range of other technology or software companies. Mobile technologies and software are constantly changing and improving, so this requires Phunware to constantly invest in its technology and software products. If Phunware is unable to keep its products innovative and useful, it may find its products obsolete.

Coronavirus impact: The current coronavirus pandemic has negatively impacted Phunware's business along with many other companies and has been a huge disruption to the U.S. (and global) economy. However, we believe the current crisis will ease during the summer and Phunware's business will return to normal growth soon after (by Q4).

Positive high risks versus rewards: Overall, concerns outweighed by growth prospects and valuation. We believe the demand for its software and services will grow fueled by continued large growth in mobile usage and devices. We believe the ~billion dollars market potentials presents high rewards for the risks.

Current valuation attractive: We calculate a 12-month price target for shares of Phunware to be \$4.00 based on a NPV analysis, representing significant upside from the current share price. We believe this valuation appropriately balances out the company's high risks with the company's high growth prospects and large upside opportunities.

Company Description

Based in Austin, TX, Phunware is a software company providing Multiscreenas-a-Service (MaaS) enterprise cloud platform for mobile devices worldwide. June 16, 2020

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Stock Data

Exchange:	NasdaqCM
52-week Range:	\$0.54 – 5.50
Shares Outstanding (million):	42
Market cap (\$million):	\$48
EV (\$million):	\$51
Debt (\$million):	\$4
Cash (\$million):	\$1
Avg. Daily Trading Vol. (\$million):	~\$4
Float (million shares):	34
Short Interest (million shares):	~2
Dividend, annual (yield):	\$0 (NA%)

Revenues (US\$ million)

	<u>2019A</u> (Cur.)	<u>2020E</u> (Cur.)	<u>2021E</u> (Cur.)	
Q1 Mar	5A	3A	3E	
Q2 Jun	6A	2E	3E	
Q3 Sep	6A	3E	4E	
Q4 Dec	<u>3A</u>	<u>3E</u>	<u>4E</u>	
Total	19A	11E	14E	
EV/Revs	2.7x	4.6x	3.6x	

Earnings per Share (pro forma)

	<u>2019A</u> (Cur.)	<u>2020E</u> (Cur.)	<u>2021E</u> (Cur.)
Q1 Mar	(0.12)A	(0.10)A	(0.08)E
Q2 Jun	(0.08)A	(0.09)E	(0.07)E
Q3 Sep	(0.06)A	(0.08)E	(0.08)E
Q4 Dec	<u>(0.10)</u> A	<u>(0.08)E</u>	<u>(0.08)E</u>
Total	(0.35)A	(0.34)E	(0.31)E
P/E	N/A	N/A	N/A

Important Disclosures

Ascendiant Capital Markets LLC seeks to do business with companies covered by its research team. Consequently, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making an investment decision.

For analyst certification and other important disclosures, refer to the Disclosure Section, located at the end of this report, beginning on page 24.

INITIATION

COVERAGE

Rating: BUY

Ticker:	PHUN	
Price:	\$1.14	
Target:	\$4.00	





Exhibit 1: Phunware, Inc. Stock Price (1.5-years since IPO December 2018)

Source: Nasdaq.com

INVESTMENT THESIS

We are initiating coverage of Phunware with a BUY rating and a 12-month price target of \$4.00.

Based in Austin, TX, Phunware is a software company providing Multiscreen-as-a-Service (MaaS) enterprise cloud platform for mobile devices worldwide. The company's platforms enables companies and brands to engage, manage, and monetize their mobile applications. It offers enterprise mobile software, including content management, location-based services, marketing automation, business intelligence and analytics, alerts, notifications and messaging, audience engagement, and audience monetization, as well as vertical solutions, iOS and Android-based mobile application portfolios, solutions, and services.

The company also provides Application Transaction, charging advertisers to deliver advertisements to users of mobile connected devices, and crypto networking solutions, such as the PhunCoin crypto ecosystem that directly connects and rewards mobile application users.

Phunware has a diverse enterprise customer base across multiple verticals because it offers a comprehensive digital platform with products and solutions for mobile that are seamless, flexible, cost-effective and proven at production scale globally. Phunware has historically supported the Healthcare, Media & Entertainment, Hospitality & Real Estate, Retail, Aviation and Sports verticals, but expects opportunities for COVID-19 focus within the Healthcare, Enterprise / Corporate Campus, Government / Smart City and Political Advocacy environments.







Source: Company reports.

The demand for its services continues to grow fueled by its participation in four rapidly growing and evolving markets: mobile cloud software, media, big data, and cryptonetworking. Each of these are driven by technological advancements including cloud, software-defined infrastructure, mobility, data analytics, IoT and decentralization.

- 1. *Mobile Cloud Software* The mobile cloud software market includes SaaS-based mobile software for all businesses, brands and consumers. The mobile application market is enormous, with worldwide smartphone users downloading more than 204 billion apps and spending over \$120 billion on them in 2019. (Source: App Annie, 2020 State of Mobile).
- 2. *Media Market* The digital media market includes display, native, video and other types of paid media campaigns rendered on a connected device and used for audience building, audience engagement or audience monetization. Mobile advertising is expected to grow to \$240 billion in 2020 from \$190 billion in 2019. (Source: App Annie, 2020 State of Mobile).
- Big Data Market The big data market includes businesses engaged in the creation, consumption and/or processing of big data (a field to analyze, extract information from, or otherwise deal with extremely large data sets to reveal patterns, trends, and associations from data that are too large or complex to be dealt with by traditional data-processing



applications). The global Big Data and Business Analytics Market size was valued at \$171 billion in 2018 and is projected to grow at a CAGR of 15% between 2019 and 2026. (Source: Valuates Reports).

4. Cryptonetworking — The cryptonetworking market includes currencies and other tokens that use distributed ledger technology and cryptography to secure transactions and verify asset transfers. The total market value of all cryptocurrencies are ~\$300 billion and larger than many national currencies and major payment networks. (Source: CoinMarketCap).

Exhibit 3: Phunware Investment Highlights

Everything You Need to Succeed on Mobile (R)





Phunware's Multiscreen as a Service (MaaS) Platform



Source: Company reports.

Phunware key growth strategy include:

- Expand mobile products and services.
- Deepen existing customer relationships.
- Develop new relationships to expand its customer base.
- Continue to grow its strong domestic footprint and expand internationally.
- Add new capabilities and geographic regions through strategic acquisition.
- Expand its partnership network with third-party providers of tools and services.

R



Phunware's recent financial performance is reflective of its early commercialization stage. In its recent Q1 2020 report, the company reported revenue of \$2.6 million (vs. \$5.3 million y-o-y). The decline was due to the completion of work for Fox Networks Group (which had been a major customer of the company for the past several years) in Q3 2019. Q1 net loss was \$4.0 million and EPS was \$(0.10), compared with a net loss of \$3.5 million and EPS of \$(0.12) (y-o-y).

We believe there are large uncertainties (along with key opportunities) with the current coronavirus pandemic which has negatively impacted Phunware's business along with many other companies and has been a huge disruption to the U.S. (and global) economy. However, we believe the current crisis will ease during the summer and Phunware's business will return to normal growth soon after (by Q4). The company expects annual revenue growth of 30% or more longer term.

For 2020, we expect revenues of \$11 million (vs. \$19 million y-o-y) and EPS of \$(0.34) (vs. \$(0.35) y-o-y), with almost all of the decline due to the loss of revenue from Fox (which accounted for ~\$10 million in revenue in 2019). For 2021, we expect a strong rebound in growth with revenues of \$14 million (+27% y-o-y) and EPS of \$(0.31).

Exhibit 4: Phunware Market Opportunity

Transformational Market Opportunity

· Phunware intends to dominate the intersection of mobile, cloud, big data and blockchain



Source: Company reports.

The company's balance sheet had ~\$1 million in cash (not counting the ~\$3 million in the PPP federal backed loan recently received in April) and ~\$4 million in debt as of March 2020. The company should have enough cash through 2020, but will likely need to raise additional cash to fund its operations by Q4.



Our investment thesis factors in an uncertain commercialization process for its MaaS software and services platform, a very competitive industry, uncertain macro environment, and balance sheet and investment uncertainties which is offset by the very large potential upside opportunities created from successful commercialization and growth. We believe that the current valuation for Phunware has already factored in many of its risks (principally its ability to grow revenues and customers) but is under valuing its overall growth and product prospects, resulting in a positive risk versus reward scenario for an investment in Phunware.

We believe the current valuation is attractive.

Our \$4.00 price target is based on a NPV analysis. Based on our expectations and assumptions, we calculate a 12-month price target for shares of Phunware to be \$4.00, representing significant upside from current share price. We believe this valuation appropriately balances out the company's high risks with the company's high growth prospects and large upside opportunities. We acknowledge that Phunware is still at an early stage in its commercialization, but we believe key commercial and high growth milestones over the next year should be positive catalysts for the stock.

INVESTMENT RISKS

Growth and Commercialization Risks

Phunware's goal is to develop and grow its MaaS software and services platform by increasing its customer base and to grow its product offerings. To be successful, Phunware will need to increase awareness to its target market (enterprise customers) and to demonstrate superiority (more effective, lower costs, and/or better technologies) of its MaaS software and services. While the company has a long history of successful R&D and product development, the company's sales and financial results have been choppy and volatile. The market for mobile software is characterized by frequent technological developments and innovations, new product and services, and evolving technology industry standards. This will require Phunware to develop its technologies, services, expertise and reputation, and continue to improve the effectiveness and ease of use of its MaaS software and services. While the market opportunities are large, there are always significant risks to grow (add new customers) and commercialize new products (grow or maintain revenue per customers).

Major Customers Concentration

The company has historically relied on a few major customers for a large portion of its business. Any substantial reduction in sales to these customers would have an adverse effect on its operations and financial results. Revenues from Fox Networks Group (Fox) accounted for 50% of its total revenue in 2019, and for 42% in 2018. Phunware has completed its contractual obligations with Fox in Q3 2019. While its underlying master services agreement with Fox remains in place, Phunware does not have any active or foreseeable work with Fox. If Phunware were to experience difficulties with commercialization or expansion of its customers or products, then it would have a material negative impact on its business and financials as there may not be any meaningful products or customers that can offset (particularly in the near term).

Competition

Phunware operates in a highly competitive environment and competes against a wide range of other technology or software companies that are attempting to replicate or have better technologies than the company's main MaaS software and services platform. Although Phunware believes that its products and services are superior to competing products and technologies, there are always the possibility of new entrants or difficulties with existing competition. Phunware 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 campaign management for audience building and engagement. Many of these competitors are much larger or have greater resources, and proprietary technology; which could result in lower projected sales for Phunware services and at higher costs, reduced margins, and lowered profitability for the company.

Privacy and Technology Risks

Increasing concerns and regulations on privacy and consumer information may limit consumers' acceptance of internet behavior and mobile tracking. This may limit the applicability, use and adoption of Phunware's platform software and application transaction



solutions. Privacy concerns may cause consumers to resist providing personal data needed to allow its customers and apps to work effectively. Mobile technologies and software are constantly changing and improving due to new technologies and changing consumer demands. This requires a company like Phunware to constantly invest in its technology and software products. If Phunware is unable to keep its products innovative and useful, it may find its products obsolete.

Coronavirus and Economic Uncertainties

While the mobile phone industry tends to be less correlated with economic activity and income levels due to their nondiscretionary nature, major deterioration in economic conditions tends to result in an overall decline in enterprise and consumer spending. This was demonstrated during the 2008 and 2009 Great Recession and global economic slowdown. While consumer spending levels and economic conditions have improved significantly since and have been strong (until recently), the global macroeconomic environment can change any time. This is now the case as in the past 3 months there is now huge uncertainties with the current coronavirus pandemic. This has negatively impacted Phunware's business along with many other companies and has been a huge disruption to the U.S. (and global) economy. Though, we also note that the current coronavirus pandemic has brought potential business opportunities for the company as well. Further economic weakness may result in depressed enterprise and consumer spending levels; this may have a negative impact on Phunware, its enterprise customers, its business partners, and consumers.

Capital Markets Risks

We believe Phunware has enough cash to fund its operations through this year, but we estimate that it will need to raise capital by Q4 2020. While the company's sales are expected to grow rapidly medium to long term, it has been generating losses and will need to expand its customers and products to grow revenue and achieve profitability. We believe that it will be at least a year and a half before the company can be cash flow self-sufficient and profitable from operations. Many early stage software technology companies fund their operations from the sale of equity or debt capital until their products or services reach commercial success. Early stage software technology companies valuations tend to fluctuate widely, particularly in the past 3 months with the volatility in the markets. There is always the chance that market interests and valuations for companies in this industry can decline significantly. The share price volatility in the past year (with a stock price range of 0.54 - 5.50) in Phunware's share price may make capital raising much more difficult and expensive.

VALUATION

We are initiating coverage of Phunware with a BUY rating and a 12-month price target of \$4.00, which is based on a NPV analysis. As the company is still early in its high growth and commercialization of its MaaS platform, it currently generates significant losses so traditional valuation metrics are not useful. We believe a more accurate valuation should take into consideration the potential value of its MaaS software and services platform. We do acknowledge that this valuation is complex and requires a large number of forward assumptions that we have to estimate that may be imprecise and may vary significantly from actual results. This is particularly so for a company like Phunware which is still in early high growth mode.

However, we believe our assumptions are fair and provide a reasonable basis for our valuation analysis. Our analysis considers future estimated profitability from its MaaS platform (based on estimated future profits and discounted this back to a current value), though our valuation is currently only focused on the products it has currently. We apply a high discount rate to capture the uncertainties associated generally with its early and high growth commercialization strategy. We then added up the values, made an assumption about future investments required and allocated the value based on the current share count. Based on our NPV analysis, we arrived at our 12-month price target of \$4.00, which we believe appropriately balances out the company's risks with its high growth prospects.

Phunware's share price YTD has been about flat (from \$1.19 on December 31, 2019), but it has been in a wide volatile range of \$0.54 - 5.50 within the past year. However, we believe that there are near term catalysts that may drive the stock (particularly for continued high growth expected in 2021). Offsetting this, are the huge uncertainties with the current coronavirus pandemic which has negatively impacted Phunware's business along with many other companies and has been a huge disruption to the U.S. (and global)



economy. That said, we believe the current crisis will ease during the summer and the overall business environment will return to normal soon after (by Q4). Over the long-term, we expect valuations for Phunware to improve as visibility into cash flow generation becomes clearer, resulting in significant upside to the current share price.

Exhibit 5: Company Valuation (DCF)

Product	Calcu	ulated NPV	Discount Rate	Estimated Annua	I Profits
Multiscreen-as-a-Service (MaaS) platform	\$	168	18%	\$	30
Total	\$	168			
Estimated additional investments required	\$	-			
Current Value for existing shareholders	\$	168			
Shares Outstanding (mils)		42	_		
Estimated Value per share	\$	4.00			

Source: Ascendiant Capital Markets estimates

COMPANY

Based in Austin, TX, Phunware is a software company providing Multiscreen-as-a-Service (MaaS) enterprise cloud platform for mobile devices worldwide. The company's platforms enables companies and brands to engage, manage, and monetize their mobile applications. It offers Software-as-a-Service (SaaS), Data-as-a-Service (DaaS), and application transactions media platforms; and enterprise mobile software, including content management, location-based services, marketing automation, business intelligence and analytics, alerts, notifications and messaging, audience engagement, and audience monetization, as well as vertical solutions, iOS and Android-based mobile application portfolios, solutions, and services.

The company also provides Application Transaction, charging advertisers to deliver advertisements to users of mobile connected devices, and crypto networking solutions, such as the PhunCoin crypto ecosystem that directly connects and rewards mobile application users.

Phunware has a diverse enterprise customer base across multiple verticals because it offers a comprehensive digital transformation platform with products and solutions for mobile that are seamless, flexible, cost-effective and proven at production scale globally. Phunware has historically supported the Healthcare, Media & Entertainment, Hospitality & Real Estate, Retail, Aviation and Sports verticals, but expects opportunities for COVID-19 focus within the Healthcare, Enterprise / Corporate Campus, Government / Smart City and Political Advocacy environments.

Founded in February 2009, Phunware has a history of acquisitions enhancing its MaaS platform, media and data capabilities including GoTV Networks, Inc. in 2011; Taplt Media Group, Inc. in 2012; and 30 Second Software, Inc. (DBA Digby), Simplikate Systems, LLC and Odyssey Mobile Marketing, Ltd. in 2014. Since inception, Phunware has raised over \$110 million in debt and equity financing. As of December 2019, Phunware had 93 employees.

The company completed its IPO in December 2018 through a "reverse merger" with Stellar Acquisition III Inc. Stellar was a blank check company (SPAC – special purpose acquisition company) created in 2015 to acquire businesses. Stellar raised \$70 million in an IPO in September 2016. In February 2018, Stellar and Phunware agreed to a merger that valued Phunware at \$300 million. The deal closed in December 2018 (with a share price of \$10.50).



Exhibit 6: Company Timeline



Source: Company reports.

Phunware Executive Team



Alan S. Knitowski

Founder and CEO, Vovida Networks (acquired by Cisco Systems)

Founder and Director, Telverse Communications (acquired by Level 3 Communications)

Director, vCIS (acquired first by Internet Security Systems and then IBM)

Cisco Systems, Nortel Networks, US Army, Curo Capital, Ecewa Capital Group

MSIE, Georgia Tech, MBA, UC Berkeley and BSIE, University of Miami (FL)



Randall Crowder

Co-Founder and Managing Partner, TEXO Ventures

Sole Founder and Managing Partner, Novē Ventures

Executive Director, Central Texas Angel Network (CTAN)

BS, United States Military Academy at West Point and MBA, McCombs School of Business at UT-Austin

Kauffman Fellow and Member of the Young Entrepreneur Council (YEC)



CFO

Global Technology Finance Lead, Sony Computer Entertainment

Head of Worldwide Financial Planning and Analysis, Midway Games

MBA, San Diego State University and BA, UC San Diego



Luan Dang

Founder, EVP and CTO, Vovida Networks (acquired by Cisco Systems)

Advisor and Architect, Telverse Communications (acquired by Level 3 Communications) Advisor, Bitfone (acquired

by Hewlett-Packard)

Cisco Systems, Nortel Networks, Unisys, Curo Capital, Sagoso Capital MSCS, Stanford and BSCE, UC San Diego

Source: Company reports.

Exhibit 7: Phunware Management Team



MULTISCREEN-AS-A-SERVICE (MaaS) FOR MOBILE DEVICES

Phunware offers a fully integrated software platform that provides companies with the products, solutions and services necessary to engage, manage and monetize their mobile application portfolios globally at scale. Phunware's Multiscreen-as-a-Service (MaaS) platform provides the entire mobile lifecycle of applications, media and data in one login through one procurement relationship. Additionally, the company plans to launch PhunCoin and Phun, blockchain-powered tokens, and its associated Token Ecosystem which will enable consumers, brands and application developers to transact directly and create a value-based and voluntary data exchange.

Phunware's product offerings include:

- Enterprise mobile software including content management, location-based services, marketing automation, business
 intelligence and analytics, alerts, notifications and messaging, audience engagement, audience monetization, vertical
 solutions and cryptonetworking, MaaS software application framework that pre-integrates all of its MaaS software
 ingredients for use within mobile application portfolios, solutions and services;
- Application transactions for mobile audience building, user acquisition, application discovery, audience engagement and audience monetization; and
- Data for data enrichment expanding connections and attributes of a Phunware ID and building custom audience for use in mobile media campaigns.

Phunware focuses its competitive efforts globally at the intersection of mobile, cloud, big data and blockchain through four key differentiators:

- 1. Building robust mobile ecosystems for enterprises that can't afford to fail at scale, including the unique requirements and challenges associated with both live events and remote engagement.
- 2. Locating and engaging mobile devices and mobile application users both indoors and outdoors, both onshore and offshore, and both on the ground and in the air, in real-time, including the needs of the hearing impaired, visually impaired and wheelchair bound.
- 3. Curating disparate, real-time data sets to make big data actionable, while enabling 1:1 interactions between brands and consumers anywhere and anytime globally, including geofence-based policy enforcement, workflow optimization and process compliance.
- 4. Leveraging blockchain technology to optimize media spend, reduce fraud, enhance transparency, drive profitable behaviors and maintain an immutable, auditable public record of brand interactions with consumers worldwide.

Given that so much of consumer's time and money is now being spent online on mobile devices, brands must establish a strong identity on mobile. Phunware helps brands define, create, launch, promote, monetize and scale their mobile identities as a means to anchor the consumer journey and improve brand interactions. This platform allows for the licensing and creation of category-defining mobile experiences for brands and their application users worldwide.



Exhibit 8: Phunware Multiscreen-as-a-Service (MaaS) Platform

Phunware Multiscreen-as-a-Service Platform (

PRODUCTS

Analytics Analyze real-time mobile app data

Audience Monetization Auction mobile app content with ads

Content Management Manage and distribute mobile app content

Developer Tools Build native mobile apps with SDKs

Location Based Services Real-time indoor blue-dot positioning and navigation

Mobile Engagement Location-aware mobile app notifications Audiences Target mobile media at scale globally

Targeted Media Work with our team to develop and launch targeted mobile campaigns

Data Exchange Share data, build audiences and reward ecosystem stakeholders with digital assets

Datasets Mobile data for analytics and data science

PhunWallet Manage personal data and digital assets (planned for release in 2020-H1)

SOLUTIONS

Advocacy Engage voters and policy makers

Corporate Campus Campus-wide navigation indoors and outdoors

Healthcare Digital front door for patients, visitors and staff

Hospitality Personalize the guest experience

Media and Entertainment Scale and personalize the entertainment experience

Residential Engage and serve property residents

Retail Drive in-store foot traffic and revenue

Source: Company reports.

Phunware's comprehensive solutions can be used across mobile application experience definition, application portfolio creation, user discovery, user acquisition, user engagement, and user monetization. Data from application analytics and its database of over one petabyte can be used to inform business decisions related to mobile strategy, marketing, operations and more. Phunware is developing creative solutions to solve complex technical problems and create competitive advantages for its customers.

Key competitive strengths include:

- Fully integrated and comprehensive solutions
- Data reach and scale
- Built to be mobile-first, native-first, cloud-based
- Results-driven culture
- Intellectual property portfolio development and world-class engineering resources



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Top-Tier Customers, Partners and Investors



Global investor and customer base provides unmatched distribution for Phunware's platform

Source: Company reports.

Phunware participates in four rapidly growing and evolving markets: mobile cloud software, media, big data, and cryptonetworking. Each of these are driven by technological advancements including cloud, software-defined infrastructure, mobility, data analytics, IoT and decentralization.

- Mobile Cloud Software The mobile cloud software market includes SaaS-based mobile software for all businesses, brands and consumers. The mobile application market is enormous, with worldwide smartphone users downloading more than 204 billion apps and spending over \$120 billion on them in 2019. (Source: App Annie, 2020 State of Mobile).
- Media Market The digital media market includes display, native, video and other types of paid media campaigns rendered on a connected device and used for audience building, audience engagement or audience monetization. Mobile advertising is expected to grow to \$240 billion in 2020 from \$190 billion in 2019. (Source: App Annie, 2020 State of Mobile).
- 3. Big Data Market The big data market includes businesses engaged in the creation, consumption and/or processing of big data (a field to analyze, extract information from, or otherwise deal with extremely large data sets to reveal patterns, trends, and associations from data that are too large or complex to be dealt with by traditional data-processing applications). The global Big Data and Business Analytics Market size was valued at \$171 billion in 2018 and is projected to grow at a CAGR of 15% between 2019 and 2026. (Source: Valuates Reports).
- 4. Cryptonetworking The cryptonetworking market includes currencies and other tokens that use distributed ledger technology and cryptography to secure transactions and verify asset transfers. The total market value of all cryptocurrencies are ~\$300 billion and larger than many national currencies and major payment networks. (Source: CoinMarketCap).



Exhibit 10: Phunware Addressable Markets

Massive Addressable Markets

Applications

175 billion app downloads annually⁽¹⁾ (+60% since 2015)

\$86 billion in worldwide mobile app spending⁽¹⁾ (+105% since 2015)

The average user spends 43 days per year in apps⁽¹⁾

The average user accesses ~40 apps per month⁽¹⁾

Transactions

Users spend 66% of online time on mobile devices⁽²⁾

Mobile advertising revenue now 54% of all digital ad revenues⁽²⁾

Big data market growing from \$130 billion in 2016 to \$203 billion in 2020⁽³⁾ (11.7% CAGR)

Blockchain

Global cryptocurrency market cap currently over \$200 billion⁽⁴⁾

\$12 billion average daily trading volume across all cryptocurrencies⁽⁴⁾

Altcoins (ex-bitcoin) now make up 46% of total cryptocurrency market cap⁽⁴⁾

Additive and rapidly expanding multi-billion dollar addressable markets

Source: Company reports.

Phunware enables customers to engage, manage and monetize their mobile application portfolios throughout the mobile application lifecycle, which occurs in four phases:

- Strategize Helping brands define the application experience and determine the operating systems, feature sets and use cases they want their mobile application to support.
- Create Helping brands build, buy or lease their application portfolio.
- Launch Helping brands launch their applications and build their mobile audience.
- Engage, Monetize and Optimize Helping brands activate, monetize and optimize their mobile application portfolios.

Phunware offers its platforms as Software-as-a-Service (SaaS), application transactions media, and data licensing. Phunware business model includes recurring subscriptions, often as one-year to five-year software or data licenses, or transaction-based media insertion orders and application development services.

Phunware key growth strategy include:

- Expand mobile products and services.
- Deepen existing customer relationships.
- Develop new relationships to expand its customer base.
- Continue to grow its strong domestic footprint and expand internationally.
- Add new capabilities and geographic regions through strategic acquisition.
- Expand its partnership network with third-party providers of tools and services.



Exhibit 11: The Phunware Process



Source: Company reports.



Exhibit 12: PhunCoin + Phun



Source: Company reports.

PhunCoin and Phun

Phunware is developing its vision of a future in which consumers own, control and are rewarded for the use of their personal data and information. In 2019, the company launched a dual token structure in conjunction with the commencement of the offering of Phun token outside the U.S. and Canada. In 2018, the company began offering rights to future issuances of PhunCoin. The dual-token economy both empowers consumers and re-imagines how brands engage with audiences by creating a blockchain-enabled data exchange (the "Token Ecosystem") that recognizes the value of data and engagement.

PhunCoin is intended to be the "Value of Data" that empowers consumers to take control of and be compensated for their data. Phun is intended to act as the "Value of Engagement" that empowers consumers to monetize their digital activity and the data they share with brands.

The development of PhunCoin and Phun is still very early as the company has not sold any Phun tokens while current sales of PhunCoins are expected to be minimal. The company is actively developing the Token Ecosystem for iOS and Android, which it plans to launch later this year.



Exhibit 13: Healthcare Case Study

Healthcare

Your key to a digital front door

Phunware is a leading healthcare provider in mobile patient experiences, with a focus on EHR integration, indoor location services and location-based engagement

- Provide patients convenience and control
- Consolidate multiple services into a unified platform
- Increase adoption of apps
- Improve operational efficiencies

90% of patients feel no obligation to stay with a healthcare system that doesn't offer digital tools.



Houston Methodist

Phunware was selected to build a custom app that includes wayfinding and mobile engagement along with integrations with EPIC (MyChart) and Amwell.

- Mobile engagement: Productive waiting alerts
- Wayfinding: Interactive indoor/outdoor map with searchable POIs, and real-time location updates
- MyChart Integration: Schedule and review appointments, access test results, pay bills and communicate with the doctor's office
- Amwell Integration: Get access to a suite of virtual services including video visits



Source: Company reports.

June 16, 2020



Exhibit 14: Corporate Campus Case Study

Corporate Campus

Manage all campus services with one employee and visitor-friendly app

- Employees: Help employees find their way around the campus, route to their co-workers location, and use the interactive directory for easy communications
- Facility Staff: Update maps as needed, send engaging push notifications that drive participation to events, and integrate with third party functionalities such as conference room bookings to create a seamless app experience





Source: Company reports.



FINANCIALS

Phunware fiscal year ends on December 31. We expect its next earnings report (for Q2 (ending June) 2020) to be in mid-August. Because the company is still early in its commercialization as a leading provider of MaaS enterprise cloud software for mobile devices, it currently generates relatively low (but expected fast growing) revenues and significant losses.

Phunware's revenues are mainly (~90% of revenues) derived from Platform Subscriptions and Services. Subscription revenue includes software license fees for its Software Development Kits (SDKs) which allows customers access to its MaaS platform, while application development service revenue includes services for designing and building new or improved customer applications (apps), and support fees.

The company also to a lesser extent (~10% of revenues) derives revenue from Application Transaction. This revenue is derived from charging advertisers to deliver advertisements (ads) to users of mobile connected devices. Approximately 90% of the company's total revenue are from the U.S.

Exhibit 15: Phunware's Historical Financials

FYE Dec 31				
(in millions except EPS)	2018A	2019A	2020E	2021E
	00 F	10.0	44.0	44.0
	22.5	19.2	11.0	14.0
Growth % (y/y)		-15%	-42%	27%
Operating income (loss)	(15.3)	(12.3)	(13.5)	(12.5)
Net income (pro forma)	(18.2)	(12.9)	(14.0)	(13.0)
EPS	\$ (0.71)	\$ (0.35)	\$ (0.34)	\$ (0.31)
EBITDA	(17.0)	(10.2)	(11.0)	(10.0)

Source: Company reports and Ascendiant Capital Markets estimates.

Recent Results (fiscal Q1 ending March 2020)

Phunware's recent financial performance is reflective of its early commercialization stage. In its Q1 2020 report (on May 15, 2020), the company reported revenue of \$2.6 million (vs. \$5.3 million y-o-y). The decline was due to the completion of work for Fox Networks Group (which had been a major customer of the company for the past several years) in Q3 2019. Revenue from Fox was \$3.3 million in Q1 2019 and zero in Q1 2020. Operating expenses were \$5.4 million, down from \$6.0 million (y-o-y). Q1 net loss was \$4.0 million and EPS was \$(0.10), compared with a net loss of \$3.5 million and EPS of \$(0.12) (y-o-y).

The company's backlog (backlog and deferred revenue of which ~50% should be recognized as revenue over the next 12 months) at the end of Q1 was \$11 million, down from \$13 million at the end of Q4. 2019 revenue was \$19 million (-15% y-o-y), and EPS was (0.35) (vs. (0.71) y-o-y).



The company does not provide specific quarterly financial guidance. However, it did provide qualitative Q2 guidance for revenue to be "flat to slightly down". The company believes Q2 will be a bottom for the year and revenues growth should re-accelerate sequentially in Q3 and Q4. Longer term, the company expects annual revenue growth of 30% or more.

However, we believe there are large uncertainties (along with key opportunities) with the current coronavirus pandemic which has negatively impacted Phunware's business along with many other companies and has been a huge disruption to the U.S. (and global) economy. However, we believe the current crisis will ease during the summer and Phunware's business will return to normal growth soon after (by Q4).

For 2020, we expect revenues of \$11 million (vs. \$19 million y-o-y) and EPS of \$(0.34) (vs. \$(0.35) y-o-y), with almost all of the decline due to the loss of revenue from its major customer Fox (which accounted for ~\$10 million in revenue in 2019). For 2021, we expect a strong rebound in growth with revenues of \$14 million (+27% y-o-y) and EPS of \$(0.31).

We believe that the biggest potential variable and challenge to our financial model is the ability of the company to successfully develop and grow its MaaS platforms (both in the increase in number of customers and in revenue per customer). How the coronavirus impacts macroeconomic and technology spending is also a major variable.

If the company can make significant progress towards their goals, then revenue and earnings will likely be able to grow significantly (though likely still at least a year and a half away before reaching sustained profitability). However, if the company has difficulties in making progress towards commercialization and growth, then revenue and earnings will likely grow at a low rate or even not at all. Investors will be focused on the key sales growth and customer acquisitions milestones expected this year, including mitigating impact from the coronavirus and growing its customers and revenue opportunities.

The company's balance sheet had ~\$1 million in cash and ~\$4 million in debt as of March 2020. In Q1, the company raised ~\$3 million in 7% Senior Convertible Note. The company just received (in April) ~\$3 million in the PPP federal backed loan. The company should have enough cash through 2020, but will likely need to raise additional cash to fund its operations by Q4.

Exhibit 16: Phunware's Key Financial Metrics

Recent Share Price (6/15/20)	\$ 1.14
52-Weeks Share Price (Low - High)	\$0.54 - 5.50
Shares Outstanding	42 million
Market Capitalization	\$48 million
Enterprise Value	\$51 million
Cash (3/31/20)	\$1 million
Debt (3/31/20)	\$4 million
2019A Revenue	\$19 million
2019A Net loss	\$13 million
2019A EPS	\$ (0.35)
2020E Revenue	\$11 million
2020E Net loss	\$14 million
2020E EPS	\$ (0.34)

Source: Company reports and Ascendiant Capital Markets estimates.



	Revenue (mil)			EPS	
	<u>2020E</u>	<u>2021E</u>		<u>2020E</u>	<u>2021E</u>
Q1 Mar	\$3A		Q1 Mar	\$(0.10)A	
Q2 Jun	\$2E		Q2 Jun	\$(0.09)E	
Q3 Sep	\$3E		Q3 Sep	\$(0.08)E	
Q4 Dec			Q4 Dec		
Total	\$12E	\$16E	Total	\$(0.33)E	\$(0.30)E

*Quarterly estimates may not add to annual estimates due to variations in contributing estimates and rounding.

Source: Company report, Thomson Reuters, and Ascendiant Capital Markets estimates



FINANCIAL MODEL

ncome Statement (\$ mils)	Mar-18	Jun-18	Sep-18	Dec-18	2018	Mar-19	Jun-19	Sep-19	Dec-19	2019	Mar-20	Jun-20	Sep-20	Dec-20	2020	Mar-21	Jun-21	Sep-21	Dec-21	2021
iscal Year End: December 31	Q1A	Q2A	Q3A	Q4A	FY-A	Q1A	Q2A	Q3A	Q4A	FY-A	Q1A	Q2E	Q3E	Q4E	FY-E	Q1E	Q2E	Q3E	Q4E	FY-E
Total Revenue	4.980	5.757	5.215	6.503	22.455	5.315	5.510	5.637	2.688	19.150	2.640	2.102	3.013	3.279	11.035	3.326	2.649	3.797	4.263	14.035
Cost of Revenues	<u>2.867</u>	3.069	2.707	<u>3.159</u>	<u>11.802</u>	<u>2.617</u>	<u>2.722</u>	<u>2.418</u>	1.263	<u>9.020</u>	<u>1.091</u>	0.862	1.235	1.345	4.533	<u>1.331</u>	1.059	<u>1.519</u>	1.705	<u>5.614</u>
Gross Profit	2.113	2.688	2.508	3.344	10.653	2.698	2.788	3.219	1.425	10.130	1.549	1.240	1.778	1.935	6.502	1.996	1.589	2.278	2.558	8.421
Sales and marketing	1.919	1.414	1.241	0.843	5.417	0.724	0.665	0.705	0.612	2.706	0.605	0.526	0.753	0.820	2.704	0.732	0.583	0.759	0.853	2.927
General and administrative	4.488	3.318	2.937	2.819	13.562	3.975	3.970	3.754	3.704	15.403	3.945	3.258	3.013	3.279	13.496	3.326	2.914	3.797	3.624	13.661
Research and development	2.300	1.718	1.671	1.276	6.965	1.309	1.077	1.052	0.895	4.333	0.861	0.946	1.055	0.984	3.845	0.998	0.927	1.139	1.279	4.343
Restructuring and other					0.000					0.000					0.000					0.000
Total operating expenses	8.707	6.450	5.849	4.938	25.944	6.008	5.712	5.511	5.211	22.442	5.411	4.730	4.821	5.083	20.045	5.056	4.423	5.695	5.755	20.930
Operating income (loss)	(6.594)	(3.762)	(3.341)	(1.594)	(15.291)	(3.310)	(2.924)	(2.292)	(3.786)	(12.312)	(3.862)	(3.490)	(3.044)	(3.148)	(13.543)	(3.060)	(2.834)	(3.417)	(3.197)	(12.509
Interest income (expense)	(0.202)	(0.183)	(0.148)	(0.191)	(0.724)	(0.188)	(0.151)	(0.145)	(0.097)	(0.581)	(0.101)	(0.081)	(0.121)	(0.121)	(0.424)	(0.121)	(0.121)	(0.121)	(0.121)	(0.484
Other income (expense)	<u>(0.368)</u>	<u>(0.011)</u>	<u>(0.031)</u>	<u>(2.180)</u>	(2.590)	0.004	0.013	0.011	<u>(0.001)</u>	0.027		<u>0.000</u>	0.000	<u>0.000</u>	0.000	<u>0.000</u>	<u>0.000</u>	0.000	<u>0.000</u>	0.000
Income before income taxes	(7.164)	(3.956)	(3.520)		(18.605)	(3.494)	· · · · · ·	(2.426)	(3.884)	(12.866)	(3.963)		1 C C		(13.968)	1 N N		(3.538)	(3.318)	(12.993
Income taxes				<u>(0.374)</u>	<u>(0.374)</u>		0.005			0.005		0.000	0.000	0.000	0.000	<u>0.000</u>	0.000	0.000	0.000	0.000
Net income (loss)	(7.164)	(3.956)	(3.520)	(3.591)	(18.231)	(3.494)	(3.067)	(2.426)	(3.884)	(12.871)	(3.963)	(3.571)	(3.165)	(3.269)	(13.968)	(3.181)	(2.955)	(3.538)	(3.318)	(12.993
Nonrecurring/noncash adjustme					0.000					0.000					0.000					0.000
Net income (pro forma)	(7.164)	(3.956)	(3.520)	(3.591)	(18.231)	(3.494)	(3.067)	(2.426)	(3.884)	(12.871)	(3.963)	(3.571)	(3.165)	(3.269)	(13.968)	(3.181)	(2.955)	(3.538)	(3.318)	(12.993
EBITDA	(6.689)	(3.593)	(3.200)	(3.515)	(16.997)	(3.204)	(2.411)	(1.521)	(3.037)	(10.173)	(3.178)	(2.854)	(2.408)	(2.512)	(10.951)	(2.424)	(2.198)	(2.781)	(2.561)	(9.965
Shares, Basic	25.0	25.4	25.9	26.3	25.6	30.3	38.8	39.0	39.4	36.9	40.1	41.0	41.3	41.6	41.0	41.9	42.2	42.5	42.8	42.4
Shares, Diluted	25.0	26.2	25.9	26.3	25.6	30.3	38.8	39.0	39.4	36.9	41.0	42.0	42.3	42.6	42.0	42.9	43.2	43.5	43.8	43.4
EPS Basic (pro forma)	(\$0.29)	(\$0.16)	(\$0.14)	(\$0.14)	(\$0.71)	(\$0.12)	(\$0.08)	(\$0.06)	(\$0.10)	(\$0.35)	(\$0.10)	(\$0.09)	(\$0.08)	(\$0.08)	(\$0.34)	(\$0.08)	(\$0.07)	(\$0.08)	(\$0.08)	(\$0.31
EPS Diluted (pro forma)	(\$0.29)	(\$0.15)	(\$0.14)	(\$0.14)	(\$0.71)	(\$0.12)	(\$0.08)	(\$0.06)	(\$0.10)	(\$0.35)	(\$0.10)	(\$0.09)	(\$0.07)	(\$0.08)	(\$0.33)	(\$0.07)	(\$0.07)	(\$0.08)	(\$0.08)	(\$0.30
Margins																				
Gross margin	42%	47%	48%	51%	47%	51%	51%	57%	53%	53%	59%	59%	59%	59%	59%	60%	60%	60%	60%	609
Sales and marketing	39%	25%	24%	13%	24%	14%	12%	13%	23%	14%	23%	25%	25%	25%	25%	22%	22%	20%	20%	219
General and administrative	90%	58%	56%	43%	60%	75%	72%	67%	138%	80%	149%	155%	100%	100%	122%	100%	110%	100%	85%	979
Research and development	46%	30%	32%	20%	31%	25%	20%	19%	33%	23%	33%	45%	35%	30%	35%	30%	35%	30%	30%	319
Operating margin	-132%	-65%	-64%	-25%	-68%	-62%	-53%	-41%	-141%	-64%	-146%	-166%	-101%	-96%	-123%	-92%	-107%	-90%	-75%	-899
Tax rate, GAAP	0%	0%	0%	9%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	09
Net margin	-144%	-69%	-67%	-55%	-81%	-66%	-56%	-43%	-144%	-67%	-150%	-170%	-105%	-100%	-127%	-96%	-112%	-93%	-78%	-939
Y/Y % change						70/	404	001	5001	450/	5001	600/	470/	00%	-42%	2601	000/	000/	2004	07
Total Revenue						7%	-4%	8%	-59%	-15%	-50%	-62%	-47%	22%		26%	26%	26%	30%	279
Gross margin						28%	4% -53%	28% -43%	-57% -27%	-5% -50%	-43% -16%	-56% -21%	-45% 7%	36% 34%	-36% 0%	29%	28%	28%	32% 4%	30 ⁴ 8 ⁴
Sales and marketing General and administrative						-62% -11%	-53% 20%	-43% 28%	-27%	-50% 14%	-16%	-21%	-20%	34% -11%	-12%	21% -16%	11% -11%	1% 26%	4% 11%	8 19
Research and development						-43%	-37%	-37%	-30%	-38%	-34%	-12%	0%	10%	-11%	16%	-2%	8%	30%	13
Operating income (loss)						-50%	-22% -22%	-31% -31%	138%	-19% -29%	17% 13%	19% 16%	33% 30%	-17% -16%	10% 9%	-21% -20%	-19% -17%	12% 12%	2% 2%	-89
Net income (loss) EPS Diluted (pro forma)						-51% -60%	-22% -48%		8% -28%	-29%	-16%	16% 8%	30% 20%	-16% -22%	-5%	-20%		12% 9%	-1%	7۰- 10۰-
Li o Diluteu (pro torma)	1					-00%	-40%	-04%	-20%	-01%	-10%	0%	20%	-2270	-3%	-23%	-20%	3%	- 1 70	-10

Source: Company reports and Ascendiant Capital Markets estimates.



Balance Sheet (\$ mils) M	lar-18	Jun-18	Sep-18	Dec-18	Mar-19	Jun-19	Sep-19	Dec-19	Mar-20	Jun-20	Sep-20	Dec-20	Mar-21	Jun-21	Sep-21	Dec-2
iscal Year End: December 31	Q1	Q2	Q3	Q4A	Q1A	Q2A	Q3A	Q4A	Q1A	Q2E	Q3E	Q4E	Q1E	Q2E	Q3E	Q4E
Assets																
				0.844	1.065	0.248	0.068	0.276	0.833	2.392	4,529	3.640	(2.052)	(0 5 4 4)	(0.724)	(7.09
Cash and cash equivalents				0.644	1.065	0.240	0.066	0.276	0.635				(3.853)	(9.544)	(6.734)	
Short term investments				0.000	0 700	0.540	0.044	4.074	0.913	0.000 0.467	0.000	0.000	0.000	0.000	0.000	0.0
Accounts receivable, net				3.606	2.738	3.546	3.241	1.671	0.913		1.038	1.130			1.308	1.4
Deferred income taxes										0.000	0.000	0.000	0.000	0.000	0.000	0.0
Prepaid expenses and other				0.272	1.036	0.740	0.637	0.368	0.475	0.210	0.301	0.328	0.599	0.477	0.683	0.7
Total current assets				4.722	4.839	4.534	3.946	2.315	2.221	3.070	5.868	5.097	(2.109)	(8.155)	(4.743)	(4.8
Property and equipment, net				0.066	0.050	0.036	0.038	0.024	0.016	0.015	0.014	0.013	0.012	0.011	0.010	0.0
Intangibles, net				26.342	26.294	26.195	26.101	26.110	25.996	25.996	25.996	25.996	25.996	25.996	25.996	25.9
Deferred income tax				0.064	0.064	0.064	0.064	0.241	0.241	0.241	0.241	0.241	0.241	0.241	0.241	0.2
Restricted cash				5.500				0.086	0.091	0.091	0.091	0.091	0.091	0.091	0.091	0.0
<u>Other</u>				0.187	0.187	<u>0.187</u>	0.276	0.276	0.276	<u>0.276</u>	0.276	0.276	0.276	<u>0.276</u>	<u>0.276</u>	0.2
Total assets				36.881	31.434	31.016	30.425	29.052	28.841	29.689	32.486	31.714	24.507	18.460	21.871	21.7
Liabilities and stockholders' equity																
Accounts payable				9.890	8,600	9.083	9.563	10.159	10.670	10.511	15.067	16.397	13.306	10.595	15.187	17.0
Accrued expenses				3.028	2,968	3.357	3.978	4.035	4,404	5.255	6.027	6.559	4.990	3.973	5.695	6.3
Deferred revenue				2.629	2.904	2.101	3.168	3.360	3,132	3,132	3,132	3,132	3,132	3.132	3,132	3.1
PhunCoin deposits				2.020	2.001	1.181	1.202	1.202	1.202	1.202	1.202	1.202	1.202	1.202	1.202	1.2
Deferred income tax							1.202			0.000	0.000	0.000	0.000	0.000	0.000	0.0
Factored receivables payable				2,434	1.631	1.775	1.546	1.077	0.450	0.450	0.450	0.450	0.450	0.450	0.450	0.4
Short term debt				1.993					1.195	1.195	1.195	1.195	1.195	1.195	1.195	1.1
Total current liabilities				19.974	16.103	17.497	19.457	19.833	21.053	21.745	27.073	28.935	24.274	20.547	26.862	29.4
Deferred income taxes				0.064	0.064	0.064	0.064	0.241	0.241	0.241	0.241	0.241	0.241	0.241	0.241	0.2
Warrant liabilities				0.004	0.004	0.004	0.004	0.241	0.241	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Other long term liabilities				0.017	0.013	0.014	0.006	0.083	0.135	0.135	0.135	0.135	0.135	0.135	0.135	0.0
Deferred revenue				5.622	4,447	5.048	4.167	3.764	3.200	4.200	4.200	4.200	4.200	4.200	4.200	4.2
Long term debt				0.022	4.447	0.250	0.250	1.105	2.859	4.859	4.859	4.859	4.859	4.859	4.859	4.8
Total other liabilities				5.703	4.524	5.376	4.487	5.193	6.435	9.435	9.435	9.435	9.435	9.435	9.435	9.4
Preferred stock				5.377												
Common stock				0.003	0.004	0.004	0.004	0.004	0.004	0.639	1.274	1.909	2,544	3.179	3.814	4.4
Additional paid-in capital				118.062	125.421	125.854	126.651	128.008	129.370	129.370		129.370	129.370		129.370	
Retained earnings				(111.820)	(114.227)	(117.294)	(119.720)						(140.753)			
Accumulated other comprehensive inco	me			(0.418)	(0.391)	(0.421)	(0.454)	(0.382)	(0.454)	(0.454)	(0.454)	(0.454)	(0.454)	(0.454)	(0.454)	(130.0
Non-controlling interest				(0.410)	(0.001)	(0.421)	(0.434)	(0.002)	(0.434)	0.091	0.091	0.091	0.091	0.091	0.091	0.0
Total stockholders' equity				11.204	10.807	8.143	6.481	4.026	1.353	(1.492)	(4.021)	(6.656)	(9.202)	(11.522)	(14.425)	
Total stockholders' equity and liabilitie				36.881	31.434	31.016	30.425	29.052	28.841	29.689	32.486	31.714	24.507	18.460	21.871	21.7

	Mar-18	Jun-18	Sep-18	Dec-18	Mar-19	Jun-19	Sep-19	Dec-19	Mar-20	Jun-20	Sep-20	Dec-20	Mar-21	Jun-21	Sep-21	Dec-21
	Q1A	Q2	Q3	Q4A	Q1A	Q2A	Q3A	Q4A	Q1A	Q2E	Q3E	Q4E	Q1E	Q2E	Q3E	Q4E
Prepaid as % of total rev				4%	19%	13%	11%	14%	18%	10%	10%	10%	18%	18%	18%	18%
Accounts payable as % of total rev				152%	162%	165%	170%	378%	404%	500%	500%	500%	400%	400%	400%	400%
Accrued expenses as % of total rev				47%	56%	61%	71%	150%	167%	250%	200%	200%	150%	150%	150%	150%
Activity Ratios																
A/R Days Sales Outstanding				50	46	58	52	56	31	20	31	31	31	31	31	31
Book & Cash Value (per share)																
Book Value per Share (diluted)				\$0.43	\$0.36	\$0.21	\$0.17	\$0.10	\$0.03	-\$0.04	-\$0.10	-\$0.16	-\$0.21	-\$0.27	-\$0.33	-\$0.39
Cash per Share (diluted)				\$0.03	\$0.04	\$0.01	\$0.00	\$0.01	\$0.02	\$0.06	\$0.11	\$0.09	-\$0.09	-\$0.22	-\$0.15	-\$0.16
Net cash per Share (diluted)				-\$0.04	\$0.04	\$0.00	\$0.00	-\$0.02	-\$0.08	-\$0.09	-\$0.04	-\$0.06	-\$0.23	-\$0.36	-\$0.29	-\$0.30

Source: Company reports and Ascendiant Capital Markets estimates



Cash Flow Statement (\$ mils)	Mar-18	Jun-18	Sep-18	Dec-18	2018	Mar-19	Jun-19	Sep-19	Dec-19	2019	Mar-20	Jun-20	Sep-20	Dec-20	2020	Mar-21	Jun-21	Sep-21	Dec-21	2021
iscal Year End: December 31	Q1A	Q2A	Q3A	Q4A	FY-A	Q1A	Q2A	Q3A	Q4A	FY-A	Q1A	Q2E	Q3E	Q4E	FY-E	Q1E	Q2E	Q3E	Q4E	FY-E
Cash flow from operating activitie	26																			
Net income	(7.164)	4.472	(3.520)	(3.591)	(9.803)	(3,494)	(3.067)	(2 426)	(3.884)	(12.871)	(3.963)	(3.571)	(3,165)	(3.269)	(13,968)	(3.181)	(2.955)	(3.538)	(3.318)	(12.99
Depreciation	0.015	0.017	0.016	0.014	0.062	0.016	0.014	0.016	0.013	0.059	0.008	0.001	0.001	0.001	0.011	0.001	0.001	0.001	0.001	0.0
Amortization	0.109	0.102	0.082	0.079	0.372	0.075	0.068	0.062	0.063	0.268	0.041	0.001	0.001	0.001	0.041	0.001	0.001	0.001	0.001	0.0
Debt related amortization expense		0.102	0.002	0.075	0.000	0.075	0.000	0.002	0.000	0.000	0.013				0.013					0.0
Stock comp	0.149	0.062	0.074	0.165	0.450	0.011	0.416	0.684	0.673	1.784	0.635	0.635	0.635	0.635	2.540	0.635	0.635	0.635	0.635	2.5
Deferred rent	0.110	0.002	0.07 1	0.100	0.000	0.011	0.110	0.001	0.070	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
A/R reserves		0.068	0.067	0.032	0.167	0.015	0.117	(0.053)	0.035	0.114	(0.016)				(0.016)					0.0
Deferred income taxes				(0.387)	(0.387)			(,		0.000	(,	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Change in fair value of warrant I	0.055	(0.001)		1.275	1.329					0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Writedowns and impairments		(**** /			0.000					0.000					0.000					0.0
Other gains/losses	0.313	0.011	0.031		0.355	0.004				0.004					0.000					0.0
Other					0.000					0.000					0.000					0.0
Changes in operating assets and lia	bilities:																			
Accounts receivable	1.569	(0.064)	0.409	0.525	2.439	0.850	(0.921)	0.362	1.526	1.817	0.783	0.446	(0.571)	(0.092)	0.566	(0.016)	0.233	(0.395)	(0.161)	(0.3
Inventory		(,			0.000		(,			0.000			(,	(,	0.000	(,		(,	(,	0.0
Prepaid expenses & other curre	(0.321)	0.439	0.048	(0.151)	0.015	(0.034)	(0.065)	0.013	0.270	0.184	(0.108)	0.265	(0.091)	(0.027)	0.039	(0.271)	0.122	(0.207)	(0.084)	(0.4
Income tax	(,			(,	0.000	(,	(,			0.000	(,		(,	(,	0.000	(,		(,	(,	0.0
Other assets		(0.857)	0.857		0.000					0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Accounts payable	1.656	0.411	1.324	0.765	4.156	(1.290)	0.483	0.480	1.067	0.740	0.851	(0.159)	4.556	1.330	6.578	(3.091)	(2.711)	4.592	1.865	0.6
Accrued expenses	(0.261)	(6.243)		0.533	(5,789)	(0.087)	0.417	0.643	0.160	1.133	0.643	0.851	0.771	0.532	2.798	· · ·	(1.017)		0.699	(0,1
Deferred revenue	0.584	(1.590)		0.099	0.042	(0.182)	0.788	0.186	(0.211)	0.581	(0.792)	1.000	••••		0.208	((,			0.0
Other liabilities		0.450		(0.450)	0.000	((0.000	()	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Net cash (used in) provided by	(3.296)	(2.723)	0.519	(5.500)	(6.592)	(4.116)	(1.750)	(0.033)	(0.288)	(6.187)	(1.905)	(0.532)	2.137	(0.890)	(1.189)	(7.493)	(5.691)	2.810	(0.362)	(10.7
Cook flow from investing activitie																				
Cash flow from investing activitie					0.000			(0.018)		(0.018)		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Purchases of property and equipn Purchases of short-term investr		0.051	0.601	(0.074)	0.000			(0.018)		0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
	(0.201)	0.051	0.601	(0.074)	0.000					0.000					0.000					0.0
Acquisitions					0.000	0.000				0.000					0.000					0.0
Other						0.088														
Net cash used in investing activ	(0.201)	0.051	0.601	0.451	0.377	0.088	0.000	(0.018)	0.000	0.070	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Cash flow from financing activitie	s																			
Issuance of debt	0.763	(0.242)	(1.205)	7.302	6.618		0.250		0.855	1.105	3.155	2.000	0.000	0.000	5.155	0.000	0.000	0.000	0.000	0.0
Repayment of debt					0.000	(7.043)	0.144	(0.229)	(0.469)	(7.597)	(0.627)				(0.627)					0.0
Issuance of stock	2.601	2.858	(0.011)		5.448	5.731	0.361			6.092		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Proceeds from stock option exe	0.025	0.103	0.011	0.013	0.152	0.035	0.017	0.113	0.122	0.287	0.015				0.015					0.0
Other				0.098	0.098		0.191	0.021		0.212					0.000					0.0
Dividends and distributions					0.000					0.000					0.000					0.0
Cash provided by (used in) fina	3.389	2.719	(1.205)	4.903	12.316	(1.277)	0.963	(0.095)	0.508	0.099	2.543	2.000	0.000	0.000	4.543	0.000	0.000	0.000	0.000	0.0
Effect of exchange rate on cash	0.040	(0.066)	(0.014)	(0.025)	(0.065)	0.026	(0.030)	(0.034)	0.074	0.036	(0.076)				(0.076)					0.0
		((· ··· ·)													
Net increase (decrease) in cash	(0.068)	(0.019)	(0.099)	(0.171)	6.036	(5.279)	(0.817)	(0.180)	0.294	(5.982)	0.562	1.468	2.137	(0.890)	3.278	(7.493)	(5.691)	2.810	(0.362)	(10.
Beginning cash and equivalents	0.308	0.240	0.221	0.122	0.308	6.344	1.065	0.248	0.068	6.344	0.362	0.924	2.392	4.529	0.362	3.640	(3.853)	(9.544)	(6.734)	3.6
Ending cash and equivalents	0.240	0.221	0.122	(0.049)	6.344	1.065	0.248	0.068	0.362	0.362	0.924	2.392	4.529	3.640	3.640	(3.853)	(9.544)	(6.734)	(7.096)	(7.0



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BUY: We expect the stock to provide a total return of 15% or more within a 12-month period.

HOLD: We expect the stock to provide a total return of negative 15% to positive 15% within a 12-month period.



SELL: We expect the stock to have a negative total return of more than 15% within a 12-month period.

Total return is defined as price appreciation plus dividend yield.

Ascendiant Capital Markets, LLC Rating System

Prior to January 31, 2014, ASCM used the following rating system:

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Neutral:	We expect the stock to provide a total return of between minus 10% and plus 10% within a 12-month period.
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Total return is defined as price appreciation plus dividend yield.

Ascendiant Capital Markets, LLC Distribution of Investment Ratings (as of April 15, 2020)

			Investment Banking Services Past 12 months	
Rating	Count	Percent	Count	Percent
Buy	36	95%	14	39%
Hold	2	5%	1	50%
Sell	0	0%	0	0%
Total	38	100%	15	39%

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