

Research Report – Update

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

Pareteum Corporation

Speculative Buy

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August 24, 2018

TEUM \$2.52 — (NYSE: American)

| | <u>2016A</u> | <u>2017A</u> | <u>2018E</u> | <u>2019E</u> |
|---------------------------|--------------|--------------|--------------|--------------|
| Revenues (millions) | \$12.9 | \$13.5 | \$25.1 | \$55.0 |
| Earnings (loss) per share | \$(4.56) | \$(0.84) | \$0.00 | \$0.21 |

| | | | |
|---------------------------------|-----------------|--------------------------|----------|
| 52-Week range | \$3.59 – \$0.54 | Fiscal year ends: | December |
| Common shares out as of 8/13/18 | 60.3 million | Revenue per share (TTM) | \$0.45 |
| Approximate float | 54.2 million | Price/Sales (TTM) | 5.6X |
| Market capitalization | \$152 million | Price/Sales (FY2019)E | 3.3X |
| Tangible book value/share | \$0.46 | Price/Earnings (TTM) | NMF |
| Price/tangible book value | 5.5X | Price/Earnings (FY2019)E | 12.0X |

Pareteum Corporation, headquartered in New York, NY, is a cloud communications platform company. Cloud communications involves the integration of multiple communication methods and services that can be accessed over the Internet and are handled and hosted by a third-party (such as Pareteum) through the cloud.

Key investment considerations:

Reiterating Speculative Buy rating and raising our twelve-month price target to \$4.00 per share from \$3.50 due to our increased 2019 revenue forecast.

At July 31, 2018, the company's 36-month backlog more than doubled to over \$300 million from \$147 million at December 31, 2017. Over the past year, Pareteum has converted over 100% of its contractual backlog into revenue. The company has increased the number of devices connected with its technology to 2.7 million as of June 30, 2018, up 225% since June 30, 2017 and 23% since March 31, 2018.

Pareteum's 36-month contractual backlog and growing number of connected devices using its technology should support our revenue growth forecasts. We project strong revenue growth should result in EBITDA of \$18.4 million in 2019, up from an estimated \$4 million in 2018.

In June 2018, Pareteum and Artilium announced an agreement for Pareteum to acquire Artilium. Proforma financial projections of the combined companies on an annual basis is for 2018 revenue of approximately \$49 million. The transaction is expected to close in or around the end of September 2018.

For 2018, we project net income of \$19,000 or breakeven per share (prior was \$(0.07)) on an 85.4% increase in revenue to \$25.1 million (prior forecast was \$22.1 million). Our improved forecasts reflect the company's growing contractual backlog.

For 2019, we project EPS of \$0.21 on revenue more than doubling to \$55 million. We previously forecasted revenue of \$43.2 million revenue and EPS of \$0.14. Our growth forecast should be driven by deployments increasing faster than previously anticipated.

Pareteum reported (10-Q released 8-13-18) 2Q18 revenue increased 85.3% to \$6 million and EPS of \$0.03 versus a loss of \$(0.10) per share in 2Q17. TEUM realized a \$0.02 per share gain in 2Q18 versus nil in 2Q17 related to the change in derivative liabilities. We estimated revenue of \$5 million and a loss of \$(0.02) per share.

****Please view our disclosures on pages 13 - 15.***

Recommendation and Valuation

We are reiterating our Speculative Buy rating on Pareteum Corporation and raising our twelve-month price target to \$4.00 per share from \$3.50 based on our increased 2019 revenue forecast.

Our rating should be supported by worldwide spending on public cloud services and infrastructure, which is forecasted to achieve a five-year compound annual growth rate (CAGR) of 21.9% with public cloud services spending totaling \$277 billion by 2021. One of the industries projected to grow the fastest is the telecommunications industry with a 23.3% CAGR over the five year period. Software as a Service (such that Pareteum offers) is projected to be the largest cloud computing category, capturing nearly two thirds of all public cloud spending in 2018.

At July 31, 2018, the company's 36-month backlog more than doubled to over \$300 million from \$147 million at December 31, 2017. Over the past year, Pareteum has converted over 100% of its contracted backlog into revenue. The company has increased the number of connected devices using its technology to 2.7 million as of June 30, 2018, up 225% since June 30, 2017 and 23% since March 31, 2018. Pareteum's 36-month contractual backlog and growing number of connected devices using its technology should support our revenue growth forecasts. We project strong revenue growth should result in EBITDA of \$18.4 million in 2019.

TEUM trades at a TTM multiple of 5.6X sales while industry (telecommunications software and services) peers trade at a trailing multiple of 2.2X sales. We believe Pareteum's premium compared to the industry is due to its substantial growth prospects. We project sales growth of over 100% for TEUM in 2019 compared to 6% for the industry. As the company's sales growth accelerates, we believe investors are likely to accord TEUM a higher multiple. We applied a multiple of 6X (5.6X previously) to our FY19 sales per share projection of \$0.76, discounted for execution risk, to derive a year-ahead value of approximately \$4.00 per share.

Significant Development

Pareteum in Agreement to Acquire Artium – In June 2018, Pareteum and Artium announced they have reached an agreement for Pareteum to acquire Artium. Artium provides services to both telecom infrastructure customers as well as enterprise customers.

Since October 2017, Pareteum and Artium have benefitted from a strategic alliance entered into with the intention of jointly pursuing new and developed markets, accelerating growth and increasing market penetration for both Artium and Pareteum.

Under the terms of the acquisition, Pareteum will pay approximately \$10 million cash and issue approximately 37.9 million shares valued at \$104.7 million for Artium. Proforma financial projections of the combined companies on an annual basis is for 2018 revenue of approximately \$49 million. The transaction is expected to close in or around the end of September 2018.

Organizational History

Pareteum Corporation, a Delaware corporation, was originally formed in 2001 as Elephant Talk Communications Corp. as a result of a merger between Staruni Corporation and Elephant Talk Limited. In December 2011, the company moved its listing from the OTCBB to the NYSE American and began trading under the ticker symbol ETAK.

Following approval at the company's 2016 annual shareholder meeting, the company was rebranded and formally renamed Pareteum Corporation. In November 2016, the company started trading on the NYSE American Exchange under the ticker symbol TEUM.

Pareteum currently has offices in New York, Madrid, Barcelona, Bahrain and the Netherlands.

Business

Pareteum Corporation, headquartered in New York, NY, is a cloud communications platform company. Cloud communications involves the integration of multiple communication methods and services that can be accessed over the Internet and are handled and hosted by a third-party (such as Pareteum) through the cloud.

Pareteum has developed patent pending software which is connected to mobile networks in various countries using multiple communications channels including mobile telephony, data, SMS (Short Message Service or text messaging), VOIP (Voice over Internet Protocol is a methodology for the delivery of voice communications and multimedia sessions over the Internet), and OTT services (Over-The-Top is where a telecommunications service provider delivers one or more services across an Internet network). Pareteum integrates these distinct communications methods and services for customers and application developers. Some of the company’s partners include: HP, Cisco, Sonus, Vodafone, and T-Mobile among others (see chart above).



Pareteum targets large and growing sectors such as IoT (Internet of Things) and MVNOs (a Mobile Virtual Network Operator is a wireless communications services provider that does not own the wireless network infrastructure over which it provides services) that need Communications-as-a-Service (CaaS) that Pareteum offers. CaaS is an outsourced enterprise communications solution that can be leased from a single vendor responsible for all hardware and software management. CaaS allows businesses to selectively deploy communications devices on a pay-as-you-go, as-needed basis, eliminating the large capital investment and ongoing overhead for a system whose capacity may often exceed or fall short of current demand.

Services

Managed Services Platform - Fully-managed services designed for Mobile Virtual Network Enablers (an MVNE provides network infrastructure and related services to an MVNO), large Mobile Network Operators (MNO) and Mobile Virtual Network Operators (MVNO). This platform provides integrated operational and billing management services enabling real-time account (SIM) management, policy (service and rules) management and charging (pricing, rating, and billing).

Global Cloud Services Platform - Cloud based services for Communications Service Providers (a CSP is a telecommunications/Internet/cable/satellite service provider that transports information electronically), IoT providers and enterprises. This platform is increasingly automated with services that include billing, rating, and customer relationship management.

Application Exchange and Developer Platform – Pareteum’s customers can easily integrate with the company’s solutions through a set of application programming interfaces (an API is a set of clearly defined methods for building application software). This allows for the integration across any channel, for both new systems and legacy infrastructures.

Beyond enabling communications between people and devices, Pareteum’s platforms enable smart homes (including smart appliances and smart energy meters), connected cars, and smart cities.

Benefits of Cloud Services

According to the communications industry publisher UC Today, the hosted cloud service model offers several benefits to businesses compared with buying equipment outright and running it on their premises. These benefits include lower capital costs, lower maintenance overhead, faster and easier deployment, as well as flexibility and scalability.

Since there are no upfront purchases, cloud communications subscribers incur only operational expenses (such as the cost of a subscription). Included in the subscription are the costs of system management, maintenance and repair. With no complex hardware to install or software to configure, cloud communications offers customers a fast and easy way of deployment. Since only an Internet connection is required, cloud services allow customers access to cloud tools on any device, anywhere. Cloud communications enables customers the ability to scale their communications needs with their business by adding new users, new branch offices, and new communications tools, with a simple change to the subscription.

An example of how cloud communications can benefit a business can be seen in how it makes it easier for people in large enterprises to work and collaborate together, even over distance. Cloud communications has coincided with various platforms such as integrated messaging, conferencing, and document sharing, as large businesses look for ways for workers to connect and remain productive on the move. The cloud makes it easier to connect regional and global offices under a single, unified network.

Industry

According to a report by Research and Markets¹, the managed communication services market is witnessing accelerated growth due to the penetration of technologies like mobility, cloud computing and big data across different industry verticals. Though privacy and security concerns remain, these are being addressed by various managed services providers.

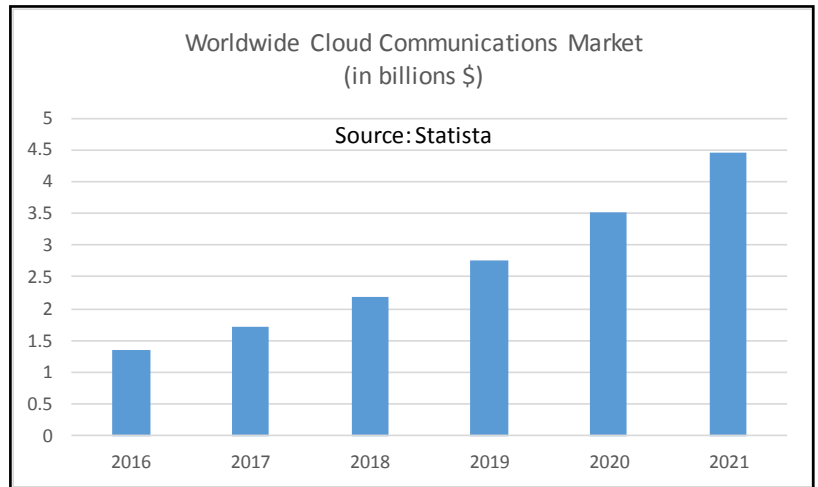
Operational efficiency is key to any organization's growth. This can be achieved by streamlining core processes that help in enhancing customer satisfaction and by focusing more on key revenue generating businesses. Research and Markets reports that vendors are planning to shift their services to a cloud-based delivery with the intention to provide customers the choice of having mobile access to unified communication platforms that are hosted by the provider or a third party (such as Pareteum).

The factors responsible for driving the growth of the managed communication services market would be business process efficiency, a growing focus on core businesses, and the need to provide enhanced customer satisfaction. The increasing availability of network connectivity and bandwidth facilitate the new types of cloud and managed services.

Worldwide spending on public cloud services and infrastructure is forecast to reach \$160 billion in 2018, an increase of 23.2% over 2017, according to the latest update to the International Data Corporation (IDC) Worldwide Semiannual Public Cloud Services Spending Guide. Although annual spending growth is expected to slow somewhat over the forecast period to 2021, the market is forecast to achieve a five-year compound annual growth rate (CAGR) of 21.9% with public cloud services spending totaling \$277 billion in 2021. One of the industries that will see the fastest spending growth over the five-year forecast period is the telecommunications industry with a 23.3% forecasted CAGR. Software as a Service (SaaS) will be the largest cloud computing category, capturing nearly two thirds of all public cloud spending in 2018.

1. "Global Managed Communication Services Market 2017: Analysis by End-User Industry, Geography & Vendor Analysis" (Press Release). Research and Markets. November 9, 2017. Retrieved May 17, 2018.

Statista projects the worldwide cloud communications platform market to grow at a compound annual growth rate (CAGR) of 26.8% to 2021 (see chart at right).



Competitive Environment

Pareteum’s competitors fall into three broad categories: traditional telecom/infrastructure vendors, large software solution and SaaS vendors - offering a suite of specialized software components, solutions and APIs, and niche solution providers, providing narrowly focused BSS/OSS (business support system/operations support system) and prepaid solutions.

Some of the company’s competitors have greater financial, technical and sales and marketing resources, as well as greater brand and market awareness. As Pareteum executes on its growth strategies and enters new markets or disrupts existing markets, expectations are for competition to become more intense.

The company believes that the key competitive differentiators in the near-term will be the scale and international reach of connectivity, the comprehensiveness of platform offerings, the ease of deployment and implementation, and the scalability and reliability of service, of which Pareteum considers itself well placed.

Strategy

Pareteum’s strategy is to grow both organically and through mergers and acquisitions. The company is focused on selling and implementing new communications services and IoT opportunities as the world of connected devices and people continues to grow.

Pareteum’s strategy includes attracting new subscribers through direct sales, existing channel partnerships and new initiatives such as referral programs. The company aims to continue to on-board new communication services providers through business development and direct sales in each defined sales region (North America, Latin America, Europe, Middle East, Africa, and Asia-Pac). Pareteum also looks to drive adoption through on-boarding more connections which are already active on its Managed Services and Global Cloud Platforms, and to draw in new customers and end-users to the Application Exchange and Developer Platform.

Economic Outlook

In July 2018, the IMF kept its global economic growth estimate at 3.9% for both 2018 and 2019, unchanged from April 2018. The growth estimates assume gradual monetary tightening but still favorable financial conditions. Domestic demand growth is expected to continue at a strong pace even as overall output growth slows.

The IMF kept its economic growth estimate for the US at 2.9% in 2018 and 2.7% in 2019, unchanged from its April 2018 forecast. The IMF said that substantial fiscal stimulus together with already robust private demand should lift output and lower the unemployment rate to levels not seen in 50 years. Imports are set to pick up with stronger domestic demand.

The advance estimate of US GDP growth (released on July 27, 2018) showed the US economy grew at an annual rate of 4.1% in 2Q18, up from 2.2% in 1Q18. The 2Q18 US GDP growth estimate primarily reflects increases in consumer spending, exports, business investment, and government spending.

Because Pareteum's business is conducted globally, the increased economic growth projections both domestically and abroad, should support continued growth.

Projections

Our projections will not include any contribution from the pending acquisition of Artiliium until the transaction is completed.

The company's 36-month backlog more than doubled to over \$300 million as of July 31, 2018 from \$147 million as of December 31, 2017. The company has also increased the number of connected devices using its technology to 2.7 million as of June 30, 2018, up 225% since June 30, 2017 and 23% since March 31, 2018. Pareteum's 36-month contractual backlog and growing number of connected devices using its technology should support our revenue growth forecasts.

2018 – We project an 85.4% increase in revenue to \$25.1 million and net income of \$19,000 or break-even per share. Our prior forecast was for revenue of \$22.1 million and a net loss of \$3.8 million or \$(0.07) per share. Our improved forecast reflects the company's growing contractual backlog.

Gross profit should increase 82.6% to \$18 million due primarily to sales growth, offset in part by gross margins decreasing to 71.7% from 72.8%. Our gross margin projections are in line with trailing twelve month results.

We project SG&A expenses of \$12.4 million or 49.2% of sales compared to \$11.7 million or 86.2% of sales. The 5.8% increase in SG&A expenses should result from increased headcount to support revenue growth. Product development costs are projected to grow \$2.3 million to \$3.7 million as the company continues to expand its service offerings. Depreciation and amortization expense is projected to decrease to \$3.6 million from \$4.5 million due primarily to lower depreciable fixed assets. We project the operating loss narrowing to \$1.8 million from \$8.8 million as the increase in revenue more than offsets the growth in operating expenses.

Interest expense should decrease to \$353,000 from \$5.1 million on a significantly lower average debt level. The company should not pay taxes in the foreseeable future given its large amount of net operating loss carryforwards (\$109 million as of December 31, 2017).

We project cash earnings of \$6.9 million and a \$1.1 million decrease in working capital resulting in \$8 million cash provided by operations. The increase in working capital reflects increases in accruals offset in part by an increase in receivables. Capital expenditures of \$2.7 million and \$7.7 million provided by financing activities (primarily from a stock offering and the exercise of warrants and options) should result in a net increase in cash of \$13 million to \$26.8 million at December 31, 2018.

2019 – We project revenue more than doubling to \$55 million and net income of \$15.3 million or \$0.21 per share. We previously forecasted revenue of \$43.2 million and net income of \$9 million or \$0.14 per share. Growth should be driven by deployments more than doubling in 2019.

Gross profit is projected to more than double to \$39.9 million with gross margins improving to 72.5% from 71.7% in 2018.

We project SG&A expenses increasing 21.4% to \$15 million or 27.3% of sales due primarily to continued increases in headcount to support growth. Product development costs should grow \$2.9 million to \$6.6 million due primarily to implementation of strategic growth initiatives to expand business opportunities. Depreciation and amortization expense should decrease to \$3.2 million from \$3.6 million due primarily to lower depreciable fixed assets. We project a swing to operating income of \$15.1 million versus an operating loss of \$1.8 million as the increase in revenue more than offsets the growth in operating expenses. We project operating margins of 27.4% compared to (7.1)%.

We project the company will not have interest expense due to the payoff of debt in 2018. The company should not pay taxes in 2019 given its large amount of net operating loss carryforwards.

We project cash from operations of \$23.8 million primarily from cash earnings. Cash from operations and capital expenditures of \$2.7 million should result in a net increase in cash of \$21.1 million to \$47.8 million at December 31, 2019.

2Q18 and 1H18 Financial Results

2Q18 – Revenue increased 85.3% to \$6 million. Net income (includes currency translation changes) was \$1.7 million or \$0.03 per share versus a loss of \$1.3 million or \$(0.10) per share in 2Q17. The company realized a \$1.6 million gain or \$0.02 per share in 2Q18 versus nil in 2Q17 related to the change in derivative liabilities. We estimated revenue of \$5 million and a net loss of \$1.3 million or \$(0.02) per share.

The increase in revenue was primarily due to increased deployments with existing and new customers. Gross profit increased to \$4.2 million from \$2.3 million even as gross margins decreased to 70.3% from 70.6%.

Product development costs increased to \$754,000 from \$274,000 as the company expands its service offerings. SG&A expenses increased to \$2.9 million from \$1.9 million due primarily to increased travel, legal, accounting and marketing costs, and the hiring of new employees.

Interest income decreased to \$43,000 from \$55,000. Interest expense decreased to \$130,000 from \$699,000 due mainly to the company paying off all senior secured debt in 2017.

1H18 – Revenue increased 67.6% to \$10.1 million. The net loss (includes currency translation changes) was \$452,000 or \$(0.01) per share versus a loss of \$2.6 million or \$(0.24) per share in 1H17. The company realized a \$1.3 million gain or \$0.02 per share in 1H18 versus a gain of \$1.9 million or \$0.17 per share in 1H17 related to the change in derivative liabilities.

The increase in revenue was primarily due to increased deployments with existing and new customers. Gross profit increased to \$7.1 million from \$4.2 million with gross margins improving to 70.6% from 70.4%.

Product development costs increased to \$1.5 million from \$558,000 and SG&A expenses increased to \$5.9 million from \$4.5 million.

Interest income decreased to \$86,000 from \$94,000. Interest expense decreased to \$223,000 from \$2.3 million due mainly to the company paying off all senior secured debt in 2017.

Liquidity – As of June 30, 2018, Pareteum had \$19.4 million cash (of which \$229,000 is restricted), a current ratio of 3.7X, \$756,000 of total debt, and a nominal debt equity ratio. Total debt is related to a private offering of unsecured convertible notes in 4Q15-1Q16 that have an annual interest rate of 9%.

| | Income (in thousands \$) | |
|---|-----------------------------|---------|
| | 6M18A | 6M17A |
| Revenue | 10,116 | 6,034 |
| Cost of revenue (excluding D&A) | 2,974 | 1,788 |
| Gross profit | 7,142 | 4,246 |
| Product development | 1,481 | 558 |
| Sales, general and administrative | 5,853 | 4,547 |
| Depreciation and amortization | 1,959 | 1,716 |
| Impairment, sale of assets, restructuring | 79 | 588 |
| Operating income (loss) | (2,230) | (3,163) |
| Interest income | 86 | 94 |
| Interest expense | (223) | (2,266) |
| Other income (expense) | 1,908 | 2,633 |
| Income (loss) before taxes | (459) | (2,702) |
| Income tax (benefit) | 18 | (66) |
| Net income (loss) | (477) | (2,636) |
| EPS | (0.01) | (0.24) |
| Shares Outstanding | 51,714 | 11,133 |
| EBITDA | 1,723 | 1,280 |
| <u>Margin Analysis</u> | | |
| Gross margin | 70.6% | 70.4% |
| Product development | 14.6% | 9.2% |
| SG&A | 57.9% | 75.4% |
| Operating margin | (22.0)% | (52.4)% |
| <u>Year / Year Growth</u> | | |
| Total Revenues | 67.6% | |
| Source: Company filings | | |

At June 30, 2018, the company had cash earnings of \$2.1 million and a \$3.1 million increase in working capital that resulted in \$952,000 cash used in operations. The increase in working capital was primarily due to a decrease in accruals and an increase in receivables. Gross proceeds from a public offering of common stock and the exercise of warrants and options were partially offset by capital expenditures, increasing cash by \$5.7 million to \$19.4 million at June 31, 2018.

Risks

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

Economic – The economic climate, especially in Europe, may have an adverse effect in the markets in which Pareteum operates. Many of the company's customers' business is consumer driven, and to the extent there is a decline in consumer spending, Pareteum's customers could experience a reduction in the demand for their services.

International markets – Pareteum has significant international operations in Europe, and to a lesser extent in the US, Middle East and elsewhere. There can be no assurance that the company will be able to obtain the permits and operating licenses required for it to operate

Technological obsolescence - The telecommunications industry is subject to rapid and significant changes in technology, frequent new service introductions and evolving industry standards. If Pareteum fails to adapt successfully to technological advances, it could lose customers.

Integration of acquisitions - Strategic acquisitions are a part of the company's growth strategy. Acquisitions of businesses and customer lists involve operational risks, including the possibility that an acquisition may not ultimately provide the benefits originally anticipated by management.

Foreign currency exchange rates - Because most of Pareteum's business is conducted outside the US, fluctuations in foreign currency exchange rates versus the US dollar could adversely affect its financial results.

Competition – Pareteum is substantially smaller than its major competitors, whose marketing and pricing decisions, and relative size advantage, could adversely affect the company's ability to attract and retain customers and are likely to continue to cause significant pricing pressures that could adversely affect Pareteum's financial results.

Customer dependency - For the year ended December 31, 2017, Pareteum had one significant customer which accounted for 88% of its revenue. The loss or reduction in services to this significant could have an adverse impact on the company's business and financial condition.

Regulations – Pareteum operates in a heavily regulated industry. As a provider of communications technology, the company is subject to varying degrees of regulation in each of the jurisdictions in which it provides services. There can be no assurance that future regulatory changes will not have a material adverse effect on the company or that regulators will not raise issues with regard to Pareteum's compliance with applicable regulations.

Liquidity risk - Shares of Pareteum Corporation have risks common to those of the microcap segment of the market. Often these risks 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 and can lead to large spreads and high volatility in stock price. There are 54.2 million shares in the float and the average daily volume is approximately 1.4 million shares.

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.

Pareteum Corporation

Consolidated Balance Sheets
(in thousands \$)

| | 2016A | 2017A | 6/18A | 2018E | 2019E |
|---|----------------|---------------|---------------|---------------|---------------|
| Cash and cash equivalents | 931 | 13,538 | 19,205 | 26,784 | 47,840 |
| Restricted cash | 564 | 200 | 229 | 229 | 229 |
| Receivables | 615 | 2,058 | 3,853 | 3,815 | 8,355 |
| Prepaid expenses | 1,085 | 900 | 1,175 | 1,175 | 1,175 |
| Total current assets | 3,195 | 16,696 | 24,462 | 32,003 | 57,599 |
| Other assets | 129 | 91 | 89 | 89 | 89 |
| Note receivable | 1,012 | 595 | 596 | 596 | 596 |
| Net property and equipment | 8,709 | 4,714 | 4,680 | 3,950 | 3,458 |
| Long term investments | - | 3,230 | 3,230 | 3,230 | 3,230 |
| Total assets | 13,045 | 25,326 | 33,057 | 39,868 | 64,972 |
| Accounts payable and customer deposits | 2,317 | 1,979 | 2,568 | 2,958 | 5,042 |
| Obligations under capital leases | 11 | - | - | - | - |
| Net billings in excess of revenues | 952 | 243 | 259 | 259 | 259 |
| Accrued expenses and other payables | 6,013 | 5,250 | 3,698 | 7,535 | 11,000 |
| Convertible promissory note | - | 66 | 134 | - | - |
| Senior loan | 4,000 | - | - | - | - |
| Total current liabilities | 13,293 | 7,538 | 6,659 | 10,752 | 16,301 |
| Derivative liabilities | 4,266 | 1,598 | - | - | - |
| Other long term liabilities | 193 | 151 | 119 | 119 | 119 |
| Convertible promissory note | 821 | 618 | 622 | - | - |
| Senior loan | 3,716 | - | - | - | - |
| Net billings in excess of revenues | 121 | - | - | - | - |
| Total liabilities | 22,410 | 9,905 | 7,400 | 10,871 | 16,420 |
| Total stockholders' equity | (9,365) | 15,421 | 25,657 | 28,997 | 48,552 |
| Total liabilities & stockholders' equity | 13,045 | 25,326 | 33,057 | 39,868 | 64,972 |

Source: Company filings and Taglich Brothers' estimates

Pareteum Corporation

Income Statements for the Fiscal Years Ended
(in thousands \$)

| | <u>2016A</u> | <u>2017A</u> | <u>2018E</u> | <u>2019E</u> |
|---|-----------------|-----------------|--------------|---------------|
| Revenue | 12,856 | 13,548 | 25,116 | 55,000 |
| Cost of revenue (excluding D&A) | <u>3,659</u> | <u>3,684</u> | <u>7,100</u> | <u>15,125</u> |
| Gross profit | 9,197 | 9,864 | 18,016 | 39,875 |
| Product development | 3,544 | 1,480 | 3,731 | 6,600 |
| Sales, general and administrative | 13,049 | 11,672 | 12,353 | 15,000 |
| Depreciation and amortization | 4,247 | 4,533 | 3,647 | 3,192 |
| Impairment, sale of assets, restructuring | <u>7,260</u> | <u>966</u> | <u>79</u> | <u>-</u> |
| Operating income (loss) | (18,903) | (8,787) | (1,794) | 15,083 |
| Interest income | 112 | 172 | 172 | 172 |
| Interest expense | (7,270) | (5,063) | (353) | - |
| Other income (expense) | <u>(4,643)</u> | <u>103</u> | <u>2,013</u> | <u>-</u> |
| Income (loss) before taxes | (30,704) | (13,575) | 38 | 15,255 |
| Income tax (benefit) | <u>38</u> | <u>107</u> | <u>19</u> | <u>-</u> |
| Net income (loss) | <u>(30,742)</u> | <u>(13,682)</u> | <u>19</u> | <u>15,255</u> |
| EPS | <u>(4.56)</u> | <u>(0.84)</u> | <u>0.00</u> | <u>0.21</u> |
| Shares Outstanding | 6,739 | 16,338 | 64,701 | 72,000 |
| EBITDA | (19,187) | (3,979) | 4,038 | 18,447 |
| <u>Margin Analysis</u> | | | | |
| Gross margin | 71.5% | 72.8% | 71.7% | 72.5% |
| Product development | 27.6% | 10.9% | 14.9% | 12.0% |
| SG&A | 101.5% | 86.2% | 49.2% | 27.3% |
| Operating margin | (147.0)% | (64.9)% | (7.1)% | 27.4% |
| <u>Year / Year Growth</u> | | | | |
| Total Revenues | | 5.4% | 85.4% | 119.0% |
| Net Income | | NMF | NMF | NMF |
| EPS | | NMF | NMF | NMF |

Source: Company filings and Taglich Brothers' estimates

Pareteum Corporation

Quarterly Income Statements 2017A - 2019E
(in thousands \$)

| | <u>3/17A</u> | <u>6/17A</u> | <u>9/17A</u> | <u>12/17A</u> | <u>2017A</u> | <u>3/18A</u> | <u>6/18A</u> | <u>9/18E</u> | <u>12/18E</u> | <u>2018E</u> | <u>3/19E</u> | <u>6/19E</u> | <u>9/19E</u> | <u>12/19E</u> | <u>2019E</u> |
|---|---------------|---------------|---------------|----------------|---------------|---------------|--------------|---------------|---------------|--------------|--------------|--------------|--------------|---------------|---------------|
| Revenue | 2,795 | 3,239 | 3,499 | 4,015 | 13,548 | 4,113 | 6,003 | 7,000 | 8,000 | 25,116 | 8,500 | 12,000 | 15,500 | 19,000 | 55,000 |
| Cost of revenue (excluding D&A) | <u>842</u> | <u>946</u> | <u>791</u> | <u>1,105</u> | <u>3,684</u> | <u>1,195</u> | <u>1,780</u> | <u>1,925</u> | <u>2,200</u> | <u>7,100</u> | <u>2,338</u> | <u>3,300</u> | <u>4,263</u> | <u>5,225</u> | <u>15,125</u> |
| Gross profit | 1,953 | 2,293 | 2,708 | 2,910 | 9,864 | 2,918 | 4,223 | 5,075 | 5,800 | 18,016 | 6,163 | 8,700 | 11,238 | 13,775 | 39,875 |
| Product development | 285 | 273 | 497 | 425 | 1,480 | 727 | 754 | 1,050 | 1,200 | 3,731 | 1,000 | 1,450 | 1,850 | 2,300 | 6,600 |
| Sales, general and administrative | 2,685 | 1,861 | 1,992 | 5,134 | 11,672 | 2,986 | 2,867 | 3,200 | 3,300 | 12,353 | 3,600 | 3,700 | 3,800 | 3,900 | 15,000 |
| Depreciation and amortization | 844 | 873 | 1,433 | 1,383 | 4,533 | 965 | 994 | 884 | 804 | 3,647 | 801 | 799 | 797 | 795 | 3,192 |
| Impairment, sale of assets, restructuring | <u>129</u> | <u>459</u> | <u>253</u> | <u>125</u> | <u>966</u> | <u>74</u> | <u>5</u> | <u>-</u> | <u>-</u> | <u>79</u> | <u>-</u> | <u>-</u> | <u>-</u> | <u>-</u> | <u>-</u> |
| Operating income (loss) | (1,990) | (1,173) | (1,467) | (4,157) | (8,787) | (1,834) | (397) | (59) | 496 | (1,794) | 762 | 2,751 | 4,791 | 6,780 | 15,083 |
| Interest income | 39 | 55 | 42 | 36 | 172 | 43 | 43 | 43 | 43 | 172 | 43 | 43 | 43 | 43 | 172 |
| Interest expense | (1,566) | (699) | (627) | (2,171) | (5,063) | (93) | (130) | (85) | (45) | (353) | - | - | - | - | - |
| Other income (expense) | <u>2,198</u> | <u>423</u> | <u>(107)</u> | <u>(2,411)</u> | <u>103</u> | <u>(146)</u> | <u>2,159</u> | <u>-</u> | <u>-</u> | <u>2,013</u> | <u>-</u> | <u>-</u> | <u>-</u> | <u>-</u> | <u>-</u> |
| Income (loss) before taxes | (1,319) | (1,394) | (2,159) | (8,703) | (13,575) | (2,030) | 1,675 | (101) | 494 | 38 | 805 | 2,794 | 4,834 | 6,823 | 15,255 |
| Income tax (benefit) | <u>1</u> | <u>(68)</u> | <u>148</u> | <u>26</u> | <u>107</u> | <u>-</u> | <u>19</u> | <u>-</u> | <u>-</u> | <u>19</u> | <u>-</u> | <u>-</u> | <u>-</u> | <u>-</u> | <u>-</u> |
| Net income (loss) | (1,320) | (1,326) | (2,307) | (8,729) | (13,682) | (2,030) | 1,656 | (101) | 494 | 19 | 805 | 2,794 | 4,834 | 6,823 | 15,255 |
| EPS | <u>(0.14)</u> | <u>(0.10)</u> | <u>(0.16)</u> | <u>(0.31)</u> | <u>(0.84)</u> | <u>(0.04)</u> | <u>0.03</u> | <u>(0.00)</u> | <u>0.01</u> | <u>0.00</u> | <u>0.01</u> | <u>0.04</u> | <u>0.07</u> | <u>0.09</u> | <u>0.21</u> |
| Shares Outstanding | 9,322 | 12,911 | 14,304 | 28,613 | 16,338 | 50,062 | 64,741 | 72,000 | 72,000 | 64,701 | 72,000 | 72,000 | 72,000 | 72,000 | 72,000 |
| EBITDA | 1,091 | 178 | (99) | (5,149) | (3,979) | (972) | 2,799 | 868 | 1,343 | 4,038 | 1,606 | 3,593 | 5,631 | 7,618 | 18,447 |
| <u>Margin Analysis</u> | | | | | | | | | | | | | | | |
| Gross margin | 69.9% | 70.8% | 77.4% | 72.5% | 72.8% | 70.9% | 70.3% | 72.5% | 72.5% | 71.7% | 72.5% | 72.5% | 72.5% | 72.5% | 72.5% |
| Product development | 10.2% | 8.4% | 14.2% | 10.6% | 10.9% | 17.7% | 12.6% | 15.0% | 15.0% | 14.9% | 11.8% | 12.1% | 11.9% | 12.1% | 12.0% |
| SG&A | 96.1% | 57.5% | 56.9% | 127.9% | 86.2% | 72.6% | 47.8% | 45.7% | 41.3% | 49.2% | 42.4% | 30.8% | 24.5% | 20.5% | 27.3% |
| Operating margin | (71.2)% | (36.2)% | -41.9% | (103.5)% | (64.9)% | (44.6)% | (6.6)% | -0.8% | 6.2% | (7.1)% | 9.0% | 22.9% | 30.9% | 35.7% | 27.4% |
| <u>Year / Year Growth</u> | | | | | | | | | | | | | | | |
| Total Revenues | | | | | 5.4% | 47.2% | 85.3% | 100.1% | 99.3% | 85.4% | 106.7% | 99.9% | 121.4% | 137.5% | 119.0% |
| Net Income | | | | | NMF | NMF | NMF | NMF | NMF | NMF | NMF | NMF | NMF | NMF | NMF |
| EPS | | | | | NMF | NMF | NMF | NMF | NMF | NMF | NMF | NMF | NMF | NMF | NMF |

Source: Company filings and Taglich Brothers' estimates

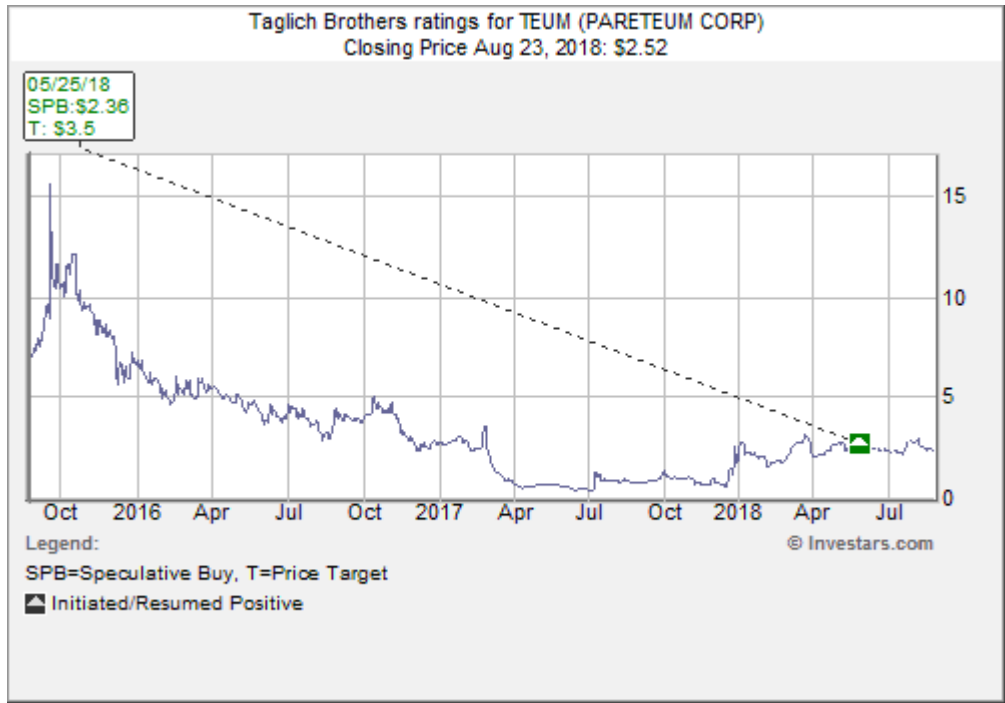
Pareteum Corporation

Statement of Cash Flows for the Periods Ended
(in thousands \$)

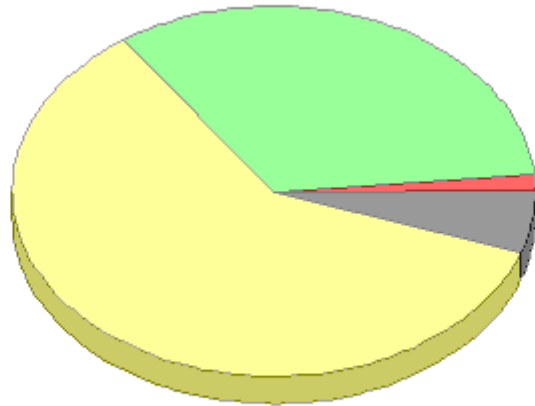
| | 2016A | 2017A | 6m18A | 2018E | 2019E |
|--|----------------|----------------|----------------|----------------|----------------|
| Net income (loss) | (31,445) | (12,463) | (478) | 19 | 15,255 |
| Depreciation & amortization | 4,247 | 4,533 | 1,960 | 3,647 | 3,192 |
| Provision for doubtful accounts | (89) | 3 | - | - | - |
| Stock based compensation | 3,897 | 4,289 | 1,772 | 4,300 | 4,300 |
| Change in fair value of warrant liability | 3,316 | (795) | (1,284) | (1,284) | - |
| Amortization of deferred financing costs | 1,267 | 341 | 12 | 24 | 24 |
| Interest expense related to debt discount and conversion | 6,042 | 3,409 | 60 | 120 | 120 |
| Expense settled by issuance of shares | - | 784 | 87 | 87 | - |
| Other (income) expense | 221 | - | - | - | - |
| Amortization of debt discount and deferred financing costs | 542 | - | - | - | - |
| Impairment of assets | 851 | - | - | - | - |
| Impairment of goodwill | 3,229 | - | - | - | - |
| Loss on sale of assets | 1,542 | - | - | - | - |
| Cash earnings (loss) | (6,380) | 101 | 2,129 | 6,913 | 22,891 |
| <i>Changes in assets and liabilities</i> | | | | | |
| Receivables | 622 | (1,446) | (1,851) | (1,757) | (4,540) |
| Prepaid expenses, deposits and other | 1,637 | 640 | (351) | (459) | (144) |
| Payables and customer deposits | 81 | (349) | 606 | 979 | 2,083 |
| Net billings in excess of revenues | (1,169) | (830) | 23 | 16 | - |
| Accrued expenses and other | 1,551 | (732) | (1,508) | 2,285 | 3,465 |
| (Increase) decrease in working capital | 2,722 | (2,717) | (3,081) | 1,064 | 865 |
| Net cash provided by (used in) operations | (3,658) | (2,616) | (952) | 7,977 | 23,756 |
| Purchase of property, equipment, and software development | (1,413) | (722) | (1,877) | (2,700) | (2,700) |
| Advance purchase payment on assets held for sale | 450 | - | - | - | - |
| Proceeds from sale of assets | 2,000 | - | - | - | - |
| Net cash provided by (used in) investing | 1,037 | (722) | (1,877) | (2,700) | (2,700) |
| Financing receivable | 355 | - | - | - | - |
| Exercise of warrants and options | - | 5,050 | 3,070 | 3,070 | - |
| Equity and debt issuance costs | (1,339) | (227) | - | - | - |
| Principal payment on Eurodollar loan | (967) | - | (33) | (33) | - |
| Increase in short-term loans | - | - | - | - | - |
| Proceeds from convertible promissory note | 2,273 | - | - | - | - |
| Payment on convertible promissory note | - | - | - | (756) | - |
| Unsecured promissory note | 350 | - | - | - | - |
| Financing related fees | - | - | (653) | (653) | - |
| Gross proceeds from public offering | - | 21,202 | 6,100 | 6,100 | - |
| Reclassify accrued interest to principal | - | (84) | - | - | - |
| Principal repayment to senior lender | - | (10,082) | - | - | - |
| Gross proceeds from preferred stock | 2,490 | - | - | - | - |
| Net cash provided by (used in) financing | 3,162 | 15,859 | 8,484 | 7,728 | - |
| Effect of currency exchange rates | 21 | (279) | 42 | 42 | - |
| Net change in cash | 562 | 12,242 | 5,697 | 13,047 | 21,056 |
| Cash - beginning of period | 933 | 1,495 | 13,737 | 13,737 | 26,784 |
| Cash - end of period | 1,495 | 13,737 | 19,434 | 26,784 | 47,840 |

Source: Company filings and Taglich Brothers' estimates

Price Chart



Taglich Brothers' Current Ratings Distribution



33.33 % Buy 60 % Hold 5.33 % Not Rated 1.33 % Sell

| Investment Banking Services for Companies Covered in the Past 12 Months | | |
|--|---|----|
| Rating | # | % |
| Buy | 3 | 12 |
| Hold | | |
| Sell | | |
| Not Rated | 1 | 50 |

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ImageWare Systems (OTC: IWSY)
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Virtusa Corporation (NASDAQ: VRTU)
Vodafone Group Plc. (NASDAQ: VOD)

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.

Dropping Coverage – Research coverage discontinued due to the acquisition of the company, termination of research services, non-payment for such services, diminished investor interest, or departure of the analyst.

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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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