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Research Report – Update

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

Creative Realities, Inc.

Rating: Speculative Buy

Howard Halpern

CREX $0.61 — (NASDAQ)

November 17, 2022

	2020 A	2021 A	*2022 E*	*2023 E*
Total Revenues (in millions)	$17.5	$18.4	***$43.7***	***$54.0***
Earnings (loss) per share	($1.65)*	$0.02**	***$0.12****	***$0.05***

52-Week range	$2.47 – $0.55	Fiscal year ends:	December
Shares outstanding a/o 11/14/22	21.8 million	Revenue/shares (ttm)	$2.19
Approximate float	15.9 million	Price/Sales (ttm)	0.3X
Market Capitalization	$13.3 million	Price/Sales (2023) E	0.2X
Tangible Book value/shr	($1.08)	Price/Earnings (ttm)	NMF
Price/Book	NMF	Price/Earnings (2023) E	12.2X

**Includes goodwill impairment charge of approximately ($1.04) per share   **Includes an estimated net gain of $0.26 per share for certain items   ***Includes an estimated net gain of $0.33 per share for certain items*

Creative Realities, Inc., headquartered in Louisville, KY, provides a complete suite of digital solutions that enhance communications within the digital signage market. The company deploys the hardware, designs and manages the content on its digital signage platforms, as well as providing media advertising services in the following markets: automotive, advertising networks, apparel & accessories, convenience stores, food and quick service restaurants, gaming, theater, and stadium venues. Recurring revenue is derived from subscription licensing of its content management software offerings.

Key Investment Considerations:

Maintaining Speculative Buy rating and our 12-month price target of $1.75 per share.

Creative Realities has substantial growth potential for its end-to-end digital signage technology offerings in the US and international markets. Analysts project the global digital signage market growing 7.9% annually to $10.6 billion in 2027, up from $6.7 billion in 2021.

Supporting our forecasts through 2023 is the February 2022 acquisition of Reflect System that added a technology suite of media advertising offerings and a marketing partnership with the Bowling Proprietors Association of America and Strike Ten Entertainment to become their official digital signage and digital menu board provider with deployments starting in 2Q23.

In November 2022, the company was selected as the digital signage provider for a national quick service restaurant chain. Discussion are proceeding as to the scope of work, scale and timing of the deployment.

CREX reported (on 11-14-22) a 3Q22 loss per share of ($0.03) on 135.2% revenue growth to nearly $11.2 million that was driven by the February 2022 acquisition of Reflect. In 3Q21, the loss per share was ($0.03) on revenue of $4.8 million. We projected a ($0.03) per share loss on revenue of $11.8 million.

For 2022, we project EPS or $0.12 per share (unchanged) on revenue growth of 136.8% to $43.7 million (prior was $43.5 million). Our forecasts reflect 3Q22 results.

For 2023, we project EPS of $0.05 on 23.7% revenue growth to $54 million. We previously forecast EPS of $0.06 per share on revenue of $52 million. The increase in our forecast reflects a quicker than anticipated ramp of ongoing customer deployments and a slightly lower gross margin profile due to a shift in the sales mix.

Please view our Disclosures on pages 14 - 16

Appreciation Potential

Maintaining our Speculative Buy rating and our 12-month price target of $1.75 per. Our rating and price target reflects the company's ability to leverage the more than 300,000 combined devices it manages within its network of digital signage customers. The February 2022 acquisition of Reflect Systems should support CREX's efforts to leverage its customer base through the addition of a technology suite of media advertising offerings enabling CREX to provide complete end-to-end solutions within the digital signage market.

Our 12-month price target of $1.75 per share implies shares could nearly triple over the next twelve months. According to finviz.com (as of 11/16/22), the average price-to-sales multiple for companies with similar to larger market capitalizations in the software application and infrastructure sectors is 1.4X (prior was 1.7X), compared to Creative Realities trailing price-to-sales multiple of 0.3X. We anticipate investors are likely to accord CREX a multiple between the sector's multiple and its current trailing multiple due to projected sales growth of 23.7% in 2023. We applied a price-to-sales multiple of 0.9X (prior was 1X) to our 2023 sales per share forecast of $2.48 (prior was $2.39), discounted for execution risks and potential dilution from the exercise of outstanding warrants, to obtain a year-ahead price target of approximately $1.75 per share.

Creative Realities' valuation should improve as it reports revenue growth, a narrowing of operating losses that turn to operating profits, and growing cash earnings. We forecast recurring revenue offerings to generate annualized sales approaching $21 million in 4Q23, which could likely cover operating expenses on an annualized basis. We anticipate the company generating an operating profit of $3.8 million in 2023 compared to an estimated operating loss of $795,000 (excluding an estimated $538,000 in acquisition related transaction costs) in 2022. In 2023, CREX should generate cash earnings of $6.4 million, up from estimated cash earnings of $1.4 million in 2022.

We believe Creative Realities is most suitable for risk tolerant investors seeking exposure to a micro cap company providing digital signage and digital marketing solutions to its US and international customers.

Overview

Creative Realities, Inc., headquartered in Louisville, KY, provides a complete suite of digital solutions that enhances communications with in the digital signage market. Digital signage utilize systems that deliver and display visual content such as digital images, video, streaming media, and marketing information that are managed by a content management system. The company deploys the hardware, designs and manages the content on its digital signage platforms, as well as provides media advertising services through the 1Q22 acquisition of Reflect Systems. CREX offerings are deployed to customers in the following markets, automotive, advertising networks, apparel & accessories, convenience stores, food service and quick service restaurants, gaming, theater, and stadium venues. CREX's recurring SaaS revenue is generated from subscription licensing of its content management software offerings that include its Reflect Systems media technology platform.

In February 2022, CREX acquired Reflect Systems, Inc., a Texas based provider of digital signage solutions, including software, and strategic and media services to a wide range of companies. Reflect's digital signage technology offerings power hundreds of thousands of active digital displays in the US, as well as assisting those customers with monetizing their digital media advertising networks.

Recent Developments

In November 2022, the company was informed, after completing the request for proposal it was selected by a national quick service restaurant as its go-forward digital signage provider. However, the scope of work, scale of the deployment, and timing remain subject to active discussions with the customer. Additional details should be forthcoming prior to the end of 1Q23.

In October 2022, CREX obtained a $2 million short-term term loan from its existing borrower that will be used to accelerate an active software development project with potential to expand recurring revenues associated with an existing customer. The company anticipates recurring revenue from this could be as much as $5 million annually beginning as early as January 2024.

Operations

Creative Realities reports its revenue generating operations within two segments, hardware from the reselling of digital signage hardware from original equipment manufacturers such as Samsung and BrightSign, and services and other. Other revenue includes recurring subscription content management licensing and support revenue from its digital signage software technology platforms.

CREX's technology suite of digital signage solutions has the ability to deliver an integrated, omni-channel digital ecosystem that leverages data and analytics to drive consumer behavior. The data analytics technology offered to customers is designed to be adaptive, meaning the technology learns, responds, and changes the digital content displayed in real time through CREX's content management system.

Creatives Realities technology platforms are built in the cloud and manage more than 300,000 combined devices within its cloud-based digital signage network. The company can deploy hardware through a nationwide network of field technicians and then have its technology platforms reside at its network operations center located in Louisville, KY, that operates 24 hours a day, 7 days a week. The company's team provides creative design and content management capabilities that enable the installed digital signage to effectively connect a customer's brand and products to consumers. CREX also provides its customers with technologies in the areas of data analytics and content optimization, and data integration and development. Creative Realities believes it has a unique approach to data-driven design and measurement that enables it to ensure its customers have a positive and expanding return on investment by leveraging neuromarketing (refers to the measurement of physiological and neural signals to gain insight into customers' motivations, preferences, etc.) principals for future content optimization.

The company's newest offerings should enable it to rapidly expand and provide its existing customers with a network monetization strategy. CREX acquired its AdTech technology platform through the February 2022 acquisition of Reflect Systems. This new recurring revenue technology is the platform by which digital media advertising on existing digital signage can be delivered, scheduled, and developed from a centralized location.

Growth Strategy

Creative Realities aims to leverage its end-to-end technology platform within the intersection of event, retail, and out of home digital advertising technology markets, which could approximate over $20 billion globally. CREX's new digital advertising offering should allow for leveraging of its existing customer base as it has already begun marketing to their existing customers the Reflect AdLogic recurring revenue advertising management offering. As customers adopt this offering they should be able to monetize their already established digital signage screens with targeted advertising consumers. This growth should occur organically by cross selling its newly acquired technology platform and media advertising offerings to its existing customer base, as well as obtaining new customers by positioning itself as a provider of end-to-end digital signage technology solutions.

Creative Realities intends to market its content management technology platforms to Reflect Systems' customer base, but more importantly work toward becoming a single integrated unit to gain new customers. Working together, CREX and Reflect used an integrated approach to win a three-year renewal of an OEM automotive contract that should increase annual recurring revenue by 300% versus the prior contract. Creative Realities believes that it is likely that neither company would have won that contract on its own. The contract win likely resulted from the full service offerings of the combined company. The company aims to grow devices under management on its digital signage network toward 1 million, which if achieved, could result in total revenue of approximately $150 million. This goal, if achieve, is beyond our forecast period.

The company intends to make target acquisitions of smaller market participants that generate revenue of $3 million to $10 million and have upwards of 30 employees, as well as 1 or 2 large customers with approximately 20 smaller customers. After an acquisition is made, CREX will cross sell its offerings and services, expand the number of devices on its digital signage network, move those customers onto its unified content management offerings, eliminate overhead, and drive scale and operating income.

Projections

Deployment of this technology offering is a priority for the company as it should be the primary driver of recurring revenue growth that we estimate could approach $21 million on an annualized basis by 4Q23, up from an estimate $15 million in 4Q22.

Basis of Forecast

Our forecast reflects the February 2022 acquisition of Reflect Systems that enables cross-selling Reflect Systems' digital signage platforms and media technology offerings to existing CREX customers, and selling and deploying hardware to Reflects' customers. Supporting our 2023 forecast should be the marketing partnership with the Bowling Proprietors Association of America and Strike Ten Entertainment to become their official digital signage and digital menu board provider. The initial opportunity is within the over 650 bowling centers that have initially signed up and expand beyond our forecast period to a significant portion the 3,000 bowling centers that the organization represents. Initial deployment are anticipated to begin in 2Q23.

We are not forecasting (only recording what CREX reports) income tax expense as the company has $10.7 million in federal and state net operating loss carryforwards at December 31, 2021.

Economy

In October 2022, the International Monetary Fund (IMF) revised its global economic growth estimates to an increase of 3.2% for 2022 and 2.7% for 2023, down from its July 2022 projection calling for 3.2% growth in 2022 and 2.9% growth in 2023. The forecast reflects worldwide inflation that triggered tighter financial conditions (i.e. higher interest rates), an economic slowdown in China, as well as negative effects from the war in Ukraine.

The IMF revised its economic growth estimate for the US to an increase of 1.6% for 2022 and 1% for 2023. In July 2022, the IMF projected US economic growth of 2.3% and 1% for 2022 and 2023, respectively.

Operations 2022

We project 136.8% total revenue growth to $43.7 million (prior was $43.5 million) reflecting the February 2022 acquisition of Reflect Systems, a large customer win from the combined efforts of CREX and Reflect Systems, as well as the cross-selling of Reflects' digital media technology platforms and advertising into existing customers.

We forecast gross profit more than doubling to $17.8 million from $8.4 million in 2021 due to revenue growth, partly offset by gross margin contraction to 40.9% from 45.3% last year. Gross margin contraction reflects a more than doubling in lower margin hardware sales stemming from a large customer deployment. We estimate hardware gross margin decreasing to 19.6% from 26.8% in 2021. We anticipate service and other gross margin of 62.7%, down from 64.8% in 2021 due to a higher volume of lower margin project work compared to recurring revenue in 3Q22.

We expect operating expenses increasing 75.8% to nearly $19.2 million from $10.9 million in 2021, with each period including deal and transaction costs of $538,000 and $518,000, respectively. Sales and marketing expense should increase to $3.3 million from $1.2 million due to the integration of Reflect Systems' operations that includes certain tools, technology, and processes primarily with regard to lead generation and brand marketing, which were minimally invested in by CREX. We project G&A expense increasing 43.9% to $10.9 million from $7.6 million due to the inclusion of Reflect Systems. We forecast D&A expense of $2.9 million compared to $1.4 million in the year-ago period along with R&D expense of $1.2 million compared to $550,000 last year. Bad debt expense should approximate $164,000 compared to debt recovery of $277,000 in 2021.

We project the operating loss narrowing to $1.3 million from $2.5 million due primarily to revenue growth and operating expense margin improving 43.9% compared to 59.2% in 2021.

We anticipate non-operating income of $3.8 million compared to $2.8 million in 2021. Non-operating income reflects a $7.9 million positive change in fair value of warrant liability and other income and a positive change of $369,000 related to equity guaranty, partly offset by a $187,000 negative change in fair value of settlement of obligations, and a $1.2 million debt waiver charge along with a $345,000 charge related to a warrant amendment, and interest expense of $2.7 million (compared to $805,000 in 2021) as debt levels and interest rates rise. In 2021, CREX recorded a $3.4 million gain on settlement of obligations and a $166,000 gain on change in fair value of a special loan, partly offset by interest expense of $805,000 and other expense of $7,000.

We project net income of $2.4 million or $0.12 per share. We previously forecast net income of $2.5 million or $0.12 per share. Excluding deal and transaction costs and other items (except interest expense) we anticipate the loss per share would approximate ($0.21) per share.

<u>Finances</u>
We forecast 2022 cash earnings of $1.9 million and an increase in working capital of $1.5 million resulting in cash from operations of $444,000. Cash from operations and nearly $22 million from the issuance of debt and common stock are likely to cover capital expenditures, capitalized software development, and the February 2022 acquisition of Reflect System increasing cash by $816,000 to $3.7 million at December 31, 2022.

<u>Operations – 2023</u>
We project 23.7% total revenue growth to $54 million (prior was $52 million) reflecting service and other sales growth of 27.8% to $27.7 million from an estimated $21.5 million in 2022 due to increases in recurring revenue. We anticipate hardware sales increasing 19.7% to $26.5 million from an estimated $22.1 million as CREX's customer base continues to expand and new customer deployments occur starting in 2Q23.

We forecast gross profit increasing 33.7% to nearly $23.9 million from an estimated $17.8 million in 2022 due primarily to revenue growth and gross margin expansion to 44.2% from an estimated 40.9% last year. We anticipate service and other gross margin of 66.1%, up from an estimated 62.7% in 2022. We estimate hardware gross margin improving to 21.4% from an estimated 19.6% in 2022.

We expect operating expenses increasing 4.7% to $20.1 million from an estimated $19.2 million in 2022, with the year-ago period including deal and transaction costs of $538,000. We project G&A expense increasing 7.3% to $11.7 million from an estimated $10.9 million in 2022 to support revenue growth. We anticipate sales and marketing expense flat at approximately $3.4 million. We forecast D&A expense of $3.5 million compared to $2.9 million in the year-ago period along with R&D expense increasing by $213,000 to $1.5 million.

We project a swing to operating income of $3.8 million compared to an operating loss of $1.3 million (includes $538,000 in deal and transaction costs). The improvement reflects revenue growth, gross margin expansion, and operating expense margin improving to 37.2% compared to an estimated 43.9% in 2022.

We anticipate non-operating expense of $2.8 million compared to estimated income of $3.8 million in 2022. We project interest expense increasing to $2.8 million from an estimated $2.7 million in 2022. The year-ago period reflects an estimated $7.9 million positive change in fair value of warrant liability and other income and a positive change of $369,000 related to equity guaranty, partly offset by a $187,000 negative change in fair value of settlement of obligations, and a $1.2 million debt waiver charge along with a $345,000 charge related to a warrant amendment.

We project net income of $1 million or $0.05 per share. We previously projected net income of $1.4 million or $0.06 per share.

<u>Finances</u>
We forecast 2023 cash earnings of $6.4 million and a decrease in working capital of $708,000 resulting in cash from operations of $7.1 million. Cash from operations is unlikely to cover capital expenditures, capitalized software, and repayment of some debt obligations, reducing cash by $209,000 to $3.5 million at December 31, 2023.

Digital Signage Market

Creative Realities end-to-end hardware and technology platforms are positioned to take advantage within the digital signage and digital advertising market. Digital signage systems deliver and display content such as digital images, video, streaming media, and information. The displayed content is filed, and the scheduled information is edited in a content management system (CMS). The stored data is distributed to media players installed at various customer locations.

US Digital Signage Market

In May 2022, Reportlinker.com published a report indicating that the US digital signage market is anticipated to reach in excess of $10.6 billion, up from $6.7 billion in 2021 for annualized growth of nearly 7.9%. In 2021, according to screen fluency statistics, because of digital signage, 76% of American consumers enter stores they had never visited before and 68% of US consumers paid for a product or service because its signage drew their attention.

Market research firm, Grand View Research issued a report stating that in 2021, the US digital signage market was valued at $5.3 billion and by 2030 should reach nearly $9.2 billion for annualized growth of 6.3%. Supporting US usage of digital signage is the growth of creative advertising content that attracts customers and viewers, engages viewers through impactful content management, and influences consumers' purchasing decisions.

Global Digital Signage Market

In May 2022, Reportlinker.com published a report indicating that the global digital signage market is expected to grow 9.5% annually to $28.3 billion in 2026 from an estimated $19.7 billion in 2022. The growth drivers supporting their forecast include an increasing demand for the digitized promotion of products and services and rapid innovation that should produce a higher quality viewing experience.

3Q22 and 9M22 Results

3Q22

CREX reported total revenue grew 135.2% to nearly $11.2 million from $4.8 million in 2Q21 due to the 1Q22 acquisition of Reflect Systems and customer wins. Hardware revenue increased to $5 million from $2.2 million due primarily to large scale LED deployments by multiple customers. Services and other revenues increased to $6.2 million from $2.5 million in the year-ago period driven by the inclusion of Reflect Systems' subscription revenue customer base, which brought recurring and help desk subscription revenues to $3.9 million, up from $1.4 million in 3Q21.

Gross profit increased to $4.5 million from $2.3 million in 3Q21 due to revenue growth, partly offset by gross margin contraction to 40.4% from 49.4% in 2Q21. Gross margin contraction reflects lower hardware segment gross margin of 24% compared to 28.3% last year and services and other gross margin of 53.7% compared to 67.8% in 3Q21.

Operating expenses increased 74.4% to $4.8 million from nearly $2.8 million last year due to the inclusion of Reflect Systems operations acquired in February 2022. G&A expense increased 50.9% to $2.8 million due to the inclusion of the operations of Reflect Systems. Sales and marketing expense more than doubled to $718,000 from $330,000 in 3Q21 due to the integration of Reflect Systems' tools, technology, and processes that will enhance lead generation and brand marketing, as well as the engagement of an IR firm and increased investor relations activities, including conferences and presentations. D&A expense was $885,000 compared to $347,000 in the year-ago period and R&D expense was $238,000 compared to $226,000 in 3Q21.

The current period included deal and transaction expense of $110,000 compared to none in the year-ago period. Bad debt expense was $58,000 compared to none in the year-ago period. Operating loss was $244,000 compared to a loss of $404,000 in 3Q21.

Non-operating expense was $280,000 compared to income of $62,000 million in the year-ago period. The current period reflects interest expense of $757,000, partly offset by positive changes of $442,000 and $37,000, respectively related to equity guaranty and gain on settlement of obligations. In the year-ago period interest expense was $186,000, which was more than offset by a $256,000 gain on settlement of obligations.

The net loss was $554,000 or ($0.03) per share on nearly 21.8 million average shares compared to a net loss of $343,000 or ($0.03) per share on 11.9 million average shares in the year-ago period. Excluding deal and transaction costs and other items (except interest expense), the loss per share in the current period would have been approximately ($0.05) per share. We projected a loss per share of ($0.03) on revenue of $11 million.

9M22

Total revenue increased 152.1.8% to $32.9 million from $13 million in 9M21 due primarily to the February 2022 acquisition of Reflect Systems, Inc.

Gross profit increased 102.4% to $13.1 million from $6.5 million in the year-ago period due primarily revenue growth, partly offset by gross margin contraction to 39.8% from 49.5% in the year-ago period. Gross margin contraction reflects lower margin hardware sales growth stemming from large scale LED deployments by multiple customers.

Operating expenses increased 91.6% to $14.3 million from $7.5 million last year due primarily to the inclusion of Reflect Systems operations acquired in February 2022.

The current period included deal and transaction expense of $538,000 compared to none in the year-ago period, as well as bad debt expense of $164,000 compared to a recovery of bad debt of $463,000.

In Thousands $	9 Mos. '22	9 Mos. '21	% D
Total revenue	$ 32,860	$ 13,034	**152.1%**
Cost of sales	19,792	6,578	**200.9%**
Gross Profit	13,068	6,456	**102.4%**
Total Operating Expenses	14,336	7,484	**91.6%**
Operating Income (loss)	(1,268)	(1,028)	**NMF**
Total Other Income (expense)	4,524	2,991	**51.3%**
Pre-Tax Income (loss)	3,256	1,963	**65.9%**
Income Tax Expense (Benefit)	46	9	
Net income (loss)	3,210	1,954	**64.3%**
Earnings per share	$ 0.17	$ 0.17	
Avg Shares Outstanding	19,383	11,629	
Adjusted EBITDA	2,817	1,252	
Margin Analysis			
Gross margin	39.8%	49.5%	
Operating margin	(3.9%)	(7.9%)	
Pre-tax margin	9.9%	15.1%	

Source: company reports

The operating loss was $1.3 million compared to $1 million in 9M21. Excluding transaction and bad debt expense and recovery, the operating loss was $566,000 compared to a loss of $1.5 million last year.

Non-operating income was $4.5 million compared to $3 million in the year-ago period. Within non-operating income was interest expense increased to $2 million from $617,000 in the year-ago period reflecting higher average debt balances.

Net income was $3.2 million or $0.17 per share on 19.4 million average shares compared to net income of $2 million or $0.17 per share on 11.6 million average shares in the year-ago period.

Finances

In 9M22, cash earnings of $1.4 million and an increase in working capital of $2.4 million resulted in cash used in operations of nearly $1.1 million. Issuances of debt and common stock did not cover cash used in operations, software development costs, capital expenditures, and the February 2022 acquisition of Reflect Systems. Cash decreased by $2.1 million to $819,000 at September 30, 2022.

Capital Structure

At September 30, 2022, CREX had total debt on its balance sheet of $15.5 million, of which $2.2 million is a short-term consisting of a seller note ($1.8 million) provided to the owners of Reflect Systems that was acquired in February 2022. The seller note is expected to be paid in twelve equal monthly installments and paid off in February 2023. Also, the company recorded $400,000 as short-term on a portion of related party consolidation term loan.

Creative Realities has nearly $8.3 million (net of $1.7 million debt-discount) outstanding on its 8% related party acquisition term loan, which matures in February 2025. The debt was issued with 2.5 million warrants. The company has $5 million (net of $1.7 million debt-discount) outstanding on its 10% related party consolidation term loan that matures in February 2025. The debt was issued with nearly 2.7 million warrants.

On June 30, 2022, the company amended the terms of its warrants to remove the holder's option to exercise such warrants on a cashless basis utilizing the volume weighted average price. The amendments to the warrants also extend the term for an additional one year. The amendments to the warrants caused them to be accounted for as equity instruments in CREX's financial statements.

On October 31, 2022, company borrowed $2 million from its existing lender at a 12.5% interest rate. This is a short-term term loan that matures on September 1, 2023.

Competitive Landscape

Creative Realities' digital marketing technology and solutions are an evolving business with a fragmented competitive environment. Since the company provides a comprehensive (end-to-end) package of technology and marketing end-solution, it believes there are no direct competitors, only a large number of individual competitors that offer parts of a digital signage solution. Digital signage software competitors include private companies such as Stratacache and Four Winds Interactive. Marketing services and systems integrator competitors include private companies such as Sapient Nitro and SageNet, respectively. Overall some of the individual competitors could have significantly greater financial, technical and marketing resources than CREX and may be able to respond more rapidly to the new or emerging technologies or changes in customer requirements.

Within the digital signage market, the competitive landscape is marked by companies needing to gain and maintain broad market acceptance of their technologies, solutions, services, and platforms, and converting that acceptance into direct and indirect sources of revenue.

Risks

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

Operating Losses

At September 30, 2022, the company's accumulated loss was $49.1 million, down from $52.3 million at December 31, 2021. While CREX reported net income in 2021, since 2019, it had not had annual operating profit. In 2021 the operating loss was $2.5 million compared to an operating loss of $5.4 million in 2020. While we anticipate operating losses narrowing in 2022 and CREX generating an operating profit in 2023, if our expectations are not achieved, it could result in the company's inability to execute its growth strategy during our forecast period.

Dilution

In February 2022, Creative Realities completed financing in order to complete the acquisition of Reflect Systems. The equity financing part of the acquisition which includes common stock and the exercise of some common stock warrants brought total shares outstanding to 21.8 million at November 11, 2022 from 10 million at December 31, 2021. There are approximately 17.9 million common stock warrants outstanding. Holders must pay cash to exercise outstanding warrants. So while outstanding shares could increase the company's cash balances would also increase.

The company has an at-the-market offering agreement in place to sell shares of its common stock to investors in the market, which if executed would be dilutive to shareholders. If CREX were to raise additional capital through issuances of equity or convertible debt securities, it would likely be dilutive to existing shareholders.

Reliance on related party for financing operations

As of March 22, 2022, CREX's largest shareholder and investor, Slipstream Communications LLC owned 87% of its outstanding debt instruments, including two term loans, and has a beneficial ownership of 47.6% of outstanding common stock (on an as-converted, fully diluted basis that includes conversion of outstanding warrants, and assuming no other convertible securities, options and warrants are converted or exercised by other parties). Slipstream has provided CREX with a continued support letter through March 31, 2023. If the company is unable to extend the maturity or replace its existing financing agreements in the future, plans to operate operations may be adversely affected.

Delisting Risk
In April 2022, Creative Realities received a minimum bid price deficiency letter from The NASDAQ Stock Market LLC, which advised CREX that for 30 consecutive trading days preceding the receipt of the letter, the bid price of the company's common stock had closed below the $1.00 per share minimum required for continued listing. The company has until April 10, 2023 to regain compliance. If the minimum bid price does not regain compliance, CREX's shares could be delisted from the Nasdaq Capital Market.

Supply Chain
The company's operations include the sale of digital media players and digital displays supplied by third parties, each of which require semiconductors to complete the manufacturing process. Even when inventory is available, the company may experience delays in transportation of these goods from manufacturers.

Regulation
Creative Realties operations are subject to regulation by various federal and state governmental agencies due to its radio frequency emission activities that are regulated by the U.S. Federal Communications Commission, and consumer protection laws of the U.S. Federal Trade Commission, as well as product safety regulatory activities of the U.S. Consumer Product Safety Commission, and environmental regulations.

Acquisition Risks
The company utilizes acquisitions as part of its growth strategy. Acquisitions that expand the company's operations in North America or in other parts of the world are likely to require management's time and effort in executing the acquisition and then consolidating it into existing operations. The diversion of management could diminish growth activities on existing operations.

Intellectual Property
Some of the company's operations involves ownership and licensing of software. The company is aware that this industry is characterized by frequent intellectual property claims and litigation. Any litigation to determine the validity claims, would likely be costly and time consuming and divert the efforts and attention of management and technical personnel, which would likely hamper current and future operations.

Cyber Security
The company could be adversely affected by malicious applications that make changes to its customers' computer systems and interfere with the operation of those systems. The ability to provide customers with a superior interactive marketing technology experience is critical to the company's success so if the efforts to combat these malicious applications fail, there may be claims based on such failure, as well of having CREX's reputation be harmed, which could potentially diminish its operations and financial condition.

Shareholder Control
Officers and directors collectively own or have a controlling interest in approximately 9.3% of the company's outstanding voting stock and additionally one shareholder owns approximately 27.4% of the company's outstanding voting stock as of June 17, 2022 (June 2022 SEC filing). Collectively this ownership could potentially greatly influence the outcome of matters requiring stockholder approval. These decisions may or may not be in the best interests of the other shareholders.

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

Trading Volume
In 2021, average daily volume was nearly 1.1 million. Average daily volume decreased over the last three months (ending November 16, 2022) to 84,000. CREX has a float of approximately 15.9 million shares and outstanding shares of 21.8 million.

Creative Realities, Inc.
Consolidated Balance Sheets
FY2019 – FY2023E
(in thousands)

	FY19A	FY20A	FY21A	3Q22A	**FY22E**	**FY23E**
ASSETS						
Current assets:						
Cash and cash equivalents	$ 2,534	$ 1,826	$ 2,883	$ 819	**$ 3,699**	**$ 3,490**
Accounts receivable, net	4,663	2,302	3,006	7,186	**9,096**	**10,200**
Unbilled receivables	86	41	369	219	**219**	**219**
Work-in-progress and inventories, net	379	2,351	1,880	3,108	**4,304**	**3,350**
Prepaid expense and other current assets - includes contracts	320	507	1,634	1,618	**1,746**	**2,025**
Total current assets	7,982	7,027	9,772	12,950	**19,064**	**19,284**
Operating lease right-of-use	1,728	931	654	1,703	**1,846**	**1,846**
Property and equipment, net	1,553	175	75	193	**195**	**225**
Intangible, net	4,407	4,955	4,850	23,754	**20,546**	**18,500**
Goodwill	18,171	7,525	7,525	26,094	**26,094**	**26,094**
Other assets	135	5	5	19	**17**	**17**
Total assets	$ 33,976	$ 20,618	$ 22,881	$ 64,713	**$ 67,762**	**$ 65,966**
LIABILITIES AND STOCKHOLDERS' EQUITY						
Current liabilities:						
Short-term seller note payable	1,637	1,637	-	1,777	**1,777**	-
Short-term related party convertible loans payable	2,000	-	-	399	**399**	-
Short-term term loan	-	-	-	-	**2,000**	-
Accounts payable	1,849	1,661	2,517	3,040	**3,586**	**4,271**
Accrued expenses	2,751	2,142	2,110	3,029	**3,357**	**3,618**
Deferred revenues	772	764	426	2,704	**3,500**	**6,000**
Customer deposits	755	770	1,525	1,783	**1,783**	**2,000**
Current maturities of operating leases	646	355	281	705	**705**	**705**
Current maturities of financing leases	21	4	-	-	-	-
Total current liabilities	10,431	7,333	6,859	13,437	**17,107**	**16,594**
Payroll protection program - note payable	-	1,552	-	-	-	-
Related party acquisition term loan, net	-	-	-	8,340	**8,340**	**8,340**
Related party loans payable, net	3,757	4,436	4,624	5,013	**5,013**	**5,013**
Related party convertible loans payable, at fair value	-	2,270	2,251	-	-	-
Contingent acquisition consideration, at fair value	-	-	-	10,494	**10,494**	**7,341**
Long-term obligations under operating leases	1,100	584	373	1,018	**1,018**	**1,018**
Long-term obligations under financing leases	5	-	-	-		
Accrued expenses	-	108	-	-	-	-
Other and deferred tax liabilities	175	-	45	9	**55**	**10**
Stockholders' equity:						
Common stock, $0.01 par value; authorized 200,000 shares;	98	109	120	217	**217**	**217**
Additional paid-in capital	54,052	56,712	60,863	75,260	**75,357**	**76,257**
Retained earnings (accumulated deficit)	(35,642)	(52,468)	(52,254)	(49,075)	**(49,839)**	**(48,824)**
Total stockholders' equity	18,508	4,353	8,729	26,402	**25,735**	**27,650**
Total liabilities and stockholders' equity	$ 33,976	$ 20,636	$ 22,881	$ 64,713	**$ 67,762**	**$ 65,966**
SHARES OUT	9,775	10,924	12,009	21,751	**21,755**	**21,775**

Source: Company reports and Taglich Brothers estimates

Creative Realities, Inc.
Annual Income Statement
FY2019 – FY2023E
(in thousands)

	FY19 A	FY20 A	FY21 A	**FY22 E**	**FY23 E**
Hardware	$ 8,229	$ 8,991	$ 9,450	**$ 22,141**	**$ 26,500**
Services and other	23,369	8,466	8,987	**21,519**	**27,500**
Total Revenues	$ 31,598	$ 17,457	$ 18,437	**$ 43,660**	**$ 54,000**
Cost of Sales per segement					
Hardware	6,245	6,251	6,914	**17,803**	**20,825**
Services and other	11,614	3,085	3,166	**8,019**	**9,325**
Total Cost of sales	17,859	9,336	10,080	**25,822**	**30,150**
Gross Profit	13,739	8,121	8,357	**17,838**	**23,850**
Operating Expenses:					
Sales and marketing	2,344	1,676	1,153	**3,347**	**3,400**
Research and development	1,413	1,083	550	**1,247**	**1,460**
General and administrative	9,092	9,293	7,598	**10,930**	**11,725**
Depreciation and amortization	1,250	1,474	1,364	**2,945**	**3,490**
Bad debt expense/(recovery)	-	-	(277)	**164**	**-**
Deal and transaction costs	-	-	518	**538**	**-**
Total Operating Expenses	13,849	24,203	10,906	**19,171**	**20,075**
Operating Income (loss)	(110)	(16,082)	(2,549)	**(1,333)**	**3,775**
Other income (expense)					
Interest (expense) includes amortization of debt discount	(831)	(1,023)	(805)	**(2,736)**	**(2,760)**
Gain (loss) on extinguishment/settlement of obligations	-	-	3,449	**(187)**	**-**
Change in fair value of special loan	-	-	166	**-**	**-**
Change in fair value of equity guarantee	-	-	-	**369**	**-**
Warrant amendment	-	-	-	**(345)**	**-**
Change in fair value of warrant liability	21	-	-	**7,902**	**-**
Loss on fair value of debt and debt waiver consent	-	(93)	-	**(1,212)**	**-**
Other income (expense), net	5	(13)	(7)	**3**	**-**
Total Other Income (expense)	1,241	(920)	2,803	**3,794**	**(2,760)**
Pre-Tax Income (loss)	1,131	(17,002)	254	**2,461**	**1,015**
Income Tax Expense (Benefit)	93	(158)	22	**46**	**-**
Net income (loss)	1,038	(16,844)	232	**2,415**	**1,015**
Earning (loss) per share	$ 0.11	$ (1.65)	$ 0.02	**$ 0.12**	**$ 0.05**
Avg Shares Outstanding	9,759	10,195	11,761	**19,956**	**21,768**
Adjusted EBITDA	$ 1,368	$ (3,226)	$ 1,221	**$ 4,087**	**$ 8,105**
Margin Analysis					
Hardware	24.1%	30.5%	26.8%	**19.6%**	**21.4%**
Services and other	50.3%	63.6%	64.8%	**62.7%**	**66.1%**
Total gross margin	43.5%	46.5%	45.3%	**40.9%**	**44.2%**
Sales and marketing	7.4%	9.6%	6.3%	**7.7%**	**6.3%**
Research and development	4.5%	6.2%	3.0%	**2.9%**	**2.7%**
General and administrative	28.8%	53.2%	41.2%	**25.0%**	**21.7%**
Depreciation	4.0%	8.4%	7.4%	**6.7%**	**6.5%**
Operating margin	(0.3%)	(92.1%)	(13.8%)	**(3.1%)**	**7.0%**
Pre-tax margin	3.6%	(97.4%)	1.4%	**5.6%**	**1.9%**
Tax rate	8.2%	0.9%	8.7%	**1.9%**	**0.0%**
YEAR / YEAR GROWTH					
Total Revenues		(44.8%)	5.6%	**136.8%**	**23.7%**

Source: Company reports and Taglich Brothers estimates

Creative Realities, Inc.
Income Statement Model
Quarters FY2021A – 2023E
(in thousands)

	Q1 21 A	Q2 21 A	Q3 21 A	Q4 21 A	FY21 A	Q1 22 A	Q2 22 A	Q3 22 A	Q4 22 E	**FY22 E**	Q1 23 E	Q2 23 E	Q3 23 E	Q4 23 E	**FY23 E**
Hardware	$ 2,816	$ 1,296	$ 2,215	$ 3,123	$ 9,450	$ 6,459	$ 5,667	$ 5,015	$ 5,000	**$ 22,141**	$ 6,000	$ 7,300	$ 7,600	$ 5,600	**$ 26,500**
Services and other	2,188	1,981	2,538	2,280	8,987	4,298	5,256	6,165	5,800	**21,519**	6,100	6,500	7,100	7,800	**27,500**
Total Revenues	$ 5,004	$ 3,277	$ 4,753	$ 5,403	$ 18,437	$ 10,757	$ 10,923	$ 11,180	$ 10,800	**$ 43,660**	$ 12,100	$ 13,800	$ 14,700	$ 13,400	**$ 54,000**
Cost of Sales per segement															
Hardware	1,914	870	1,588	2,542	6,914	5,382	4,610	3,811	4,000	**17,803**	4,800	5,695	5,850	4,480	**20,825**
Services and other	856	532	818	960	3,166	1,483	1,651	2,855	2,030	**8,019**	2,100	2,200	2,325	2,700	**9,325**
Total Cost of sales	2,770	1,402	2,406	3,502	10,080	6,865	6,261	6,666	6,030	**25,822**	6,900	7,895	8,175	7,180	**30,150**
Gross Profit	2,234	1,875	2,347	1,901	8,357	3,892	4,662	4,514	4,770	**17,838**	5,200	5,905	6,525	6,220	**23,850**
Operating Expenses:															
Sales and marketing	335	169	330	319	1,153	707	1,147	718	775	**3,347**	800	825	875	900	**3,400**
Research and development	171	58	226	95	550	241	418	238	350	**1,247**	365	365	365	365	**1,460**
General and administrative	2,109	1,666	1,848	1,975	7,598	2,754	2,562	2,789	2,825	**10,930**	2,850	2,900	2,975	3,000	**11,725**
Depreciation and amortization	344	344	347	329	1,364	707	468	885	885	**2,945**	880	875	870	865	**3,490**
Bad debt expense/(recovery)	(512)	49	-	186	(277)	106	-	58	-	**164**	-	-	-	-	-
Deal and transaction costs	-	-	-	518	518	391	37	110	-	**538**	-	-	-	-	-
Total Operating Expenses	2,447	2,286	2,751	3,422	10,906	4,906	4,632	4,798	4,835	**19,171**	4,895	4,965	5,085	5,130	**20,075**
Operating Income (loss)	(213)	(411)	(404)	(1,521)	(2,549)	(1,014)	30	(284)	(65)	**(1,333)**	305	940	1,440	1,090	**3,775**
Other income (expense)															
Interest (expense) includes amortization of debt discount	(249)	(182)	(186)	(188)	(805)	(449)	(750)	(757)	(780)	**(2,736)**	(775)	(735)	(650)	(600)	**(2,760)**
Gain (loss) on extinguishment/settlement of obligations	1,565	1,628	256	-	3,449	(245)	21	37	-	**(187)**	-	-	-	-	-
Change in fair value of special loan	166	-	-	-	166	-	-	-	-	-	-	-	-	-	-
Change in fair value of equity guarantee	-	-	-	-	-	-	(73)	442	-	**369**	-	-	-	-	-
Warrant amendment	-	-	-	-	-	-	(345)	-	-	**(345)**	-	-	-	-	-
Change in fair value of warrant liability	-	-	-	-	-	5,469	2,433	-	-	**7,902**	-	-	-	-	-
Loss on fair value of debt and debt waiver consent	-	-	-	-	-	(1,212)	-	-	-	**(1,212)**	-	-	-	-	-
Other income (expense), net	4	(3)	(8)	-	(7)	6	(1)	(2)	-	**3**	-	-	-	-	-
Total Other Income (expense)	1,486	1,443	62	(188)	2,803	3,569	1,285	(280)	(780)	**3,794**	(775)	(735)	(650)	(600)	**(2,760)**
Pre-Tax Income (loss)	1,273	1,032	(342)	(1,709)	254	2,555	1,315	(564)	(845)	**2,461**	(470)	205	790	490	**1,015**
Income Tax Expense (Benefit)	1	7	1	13	22	3	53	(10)	-	**46**	-	-	-	-	-
Net income (loss)	1,272	1,025	(343)	(1,722)	232	2,552	1,262	(554)	(845)	**2,415**	(470)	205	790	490	**1,015**
Earning (loss) per share	$ 0.11	$ 0.09	$ (0.03)	$ (0.14)	$ 0.02	$ 0.17	$ 0.06	$ (0.03)	$ (0.04)	**$ 0.12**	$ (0.02)	$ 0.01	$ 0.04	$ 0.02	**$ 0.05**
Avg Shares Outstanding	11,325	11,862	11,897	11,960	11,761	14,618	21,702	21,750	21,755	**19,956**	21,760	21,765	21,770	21,775	**21,768**
Adjusted EBITDA	$ 674	$ 286	$ 292	$ (31)	$ 1,221	$ 635	$ 933	$ 1,249	$ 1,270	**$ 4,087**	$ 1,395	$ 2,025	$ 2,520	$ 2,165	**$ 8,105**
Margin Analysis															
Hardware	32.0%	32.9%	28.3%	18.6%	26.8%	16.7%	18.7%	24.0%	20.0%	**19.6%**	20.0%	22.0%	23.0%	20.0%	**21.4%**
Services and other	60.9%	73.1%	67.8%	57.9%	64.8%	65.5%	68.6%	53.7%	65.0%	**62.7%**	65.6%	66.2%	67.3%	65.4%	**66.1%**
Total gross margin	44.6%	57.2%	49.4%	35.2%	45.3%	36.2%	42.7%	40.4%	44.2%	**40.9%**	43.0%	42.8%	44.4%	46.4%	**44.2%**
Sales and marketing	6.7%	5.2%	6.9%	5.9%	6.3%	6.6%	10.5%	6.4%	7.2%	**7.7%**	6.6%	6.0%	6.0%	6.7%	**6.3%**
Research and development	3.4%	1.8%	4.8%	1.8%	3.0%	2.2%	3.8%	2.1%	3.2%	**2.9%**	3.0%	2.6%	2.5%	2.7%	**2.7%**
General and administrative	42.1%	50.8%	38.9%	36.6%	41.2%	25.6%	23.5%	24.9%	26.2%	**25.0%**	23.6%	21.0%	20.2%	22.4%	**21.7%**
Depreciation	6.9%	10.5%	7.3%	6.1%	7.4%	6.6%	4.3%	7.9%	8.2%	**6.7%**	7.3%	6.3%	5.9%	6.5%	**6.5%**
Operating margin	(4.3%)	(12.5%)	(8.5%)	(28.2%)	(13.8%)	(9.4%)	0.3%	(2.5%)	(0.6%)	**(3.1%)**	2.5%	6.8%	9.8%	8.1%	**7.0%**
Pre-tax margin	25.4%	31.5%	(7.2%)	(31.6%)	1.4%	23.8%	12.0%	(5.0%)	(7.8%)	**5.6%**	(3.9%)	1.5%	5.4%	3.7%	**1.9%**
Tax rate	0.1%	0.7%	(0.3%)	(0.8%)	8.7%	0.1%	4.0%	1.8%	0.0%	**1.9%**	0.0%	0.0%	0.0%	0.0%	**0.0%**
YEAR / YEAR GROWTH															
Total Revenues	35.1%	(10.4%)	(6.9%)	8.3%	5.6%	115.0%	233.3%	135.2%	99.9%	**136.8%**	12.5%	26.3%	31.5%	24.1%	**23.7%**

Source: Company reports and Taglich Brothers estimates

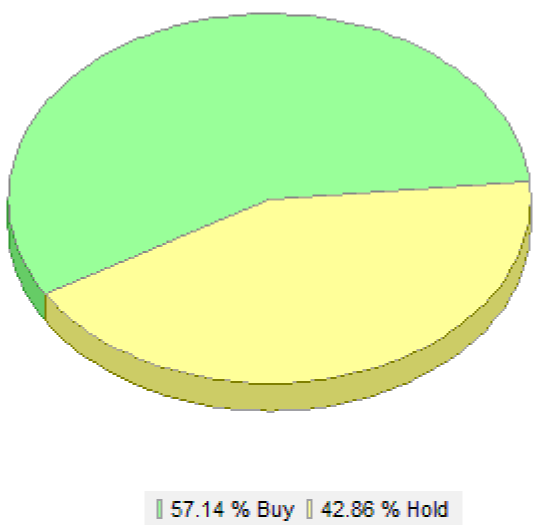
Creative Realities, Inc.
Cash Flow Statement
FY2019 – FY2023E
(in thousands)

	FY2019A	FY2020A	FY2021A	9 Mos. 22A	**FY2022E**	**FY2023E**
Cash Flows from Operating Activities						
Net Income (loss)	$ 1,038	$ (16,844)	$ 232	$ 3,210	**$ 2,415**	**$ 1,015**
Depreciation and amortization	1,217	1,474	1,364	2,060	**2,945**	**3,490**
Amortizaton of debt discount	524	339	159	904	**1,260**	**1,000**
Stock-based compensation	448	719	1,893	1,487	**1,565**	**900**
Shares issued for services	30	-	-	100	**65**	-
(Gain)/loss on change in fair value of warrant liability	(21)	-	-	(7,902)	**(7,902)**	-
Allowance for doubful accounts	253	613	10	105	**164**	-
Loss on extinguishment of debt	-	-	-		-	-
Loss on debt waiver consent	-	-	-	1,212	**1,212**	-
Loss on warrant amendment	-	-	-	345	**345**	
Employee retention and other government credits	-	-	(785)	-	-	-
Non-cash interest expense on related party loans	-	517	467	-	-	-
Non-cash receivables from in-process projects	-	-	(369)	-	-	-
Non-cash application of customer deposits to completed projects	-	-	(506)	-	-	-
Stock compensation issued to vendors for services	-	-	130	-	-	-
Deferred tax (benefit)/expense	47	(175)	-	-	-	-
Gain on forgiveness of PPP loan	-	-	(1,552)	-	-	-
Gain on settlement of seller note	-	-	(1,538)	-	-	-
Loss (gain) on obligation settlement	(2,046)	(209)	(359)	237	**237**	-
Loss on disposal of assets	-	13	-	-	-	-
Loss on fair value of debt	-	93	(166)	-	-	-
Goodwill impairment	-	10,646	-	-	-	-
Loss (gain) on earnout liability and contingent consideration	(250)	-	-	(369)	**(369)**	-
Cash earnings (burn)	1,240	(2,814)	(1,020)	1,389	**1,937**	**6,405**
Changes In:						
Accounts receivable and unbilled receivables	2,319	1,793	(673)	(2,835)	**(6,090)**	**(1,104)**
Inventories - work-in-progress	-	(1,972)	471	(1,032)	**(2,424)**	**954**
Prepaid expenses and other current assets	1,260	(71)	18	682	**(112)**	**(279)**
Vendor deposits	-	(116)	(360)	-	**(315)**	**(350)**
Other assets	44	130	-	22	**(12)**	-
Operating lease right of use asset, net	535	149	277	(556)	**(1,192)**	-
Accounts payable and other current payables	284	3	869	(227)	**1,069**	**(1,491)**
Deferred revenue	(5,682)	(8)	(338)	1,019	**3,074**	-
Accrued expenses, net	1,474	(502)	206	533	**1,247**	**261**
Customer deposits	(1,924)	15	1,261	(585)	**258**	**217**
Operating lease liabilities, net	(517)	(139)	(285)	576	**(70)**	-
Other, net	(3)	2	45	(36)	**3,074**	**2,500**
(Increase)/decrease in Working Capital	(2,210)	(716)	1,491	(2,439)	**(1,493)**	**708**
Net cash provided (used in) Operations	(970)	(3,530)	471	(1,050)	**444**	**7,113**
Cash Flows from Investing Activities						
Purchase of property and equipment	-	(92)	(19)	(123)	**(40)**	**(45)**
Acquisition of a business, net of cash acquired	-	-	-	(17,186)	**(17,186)**	-
Capitalization of internal and external labor for software development	-	(565)	(1,140)	(2,959)	**(3,500)**	**(3,500)**
Proceeds from net working capital settlement	210	-	-	-	-	-
Purchases/additions of property, equipment, and software development	(897)	-	-	-	-	-
Cash flow provided (used in) Investing Activities	(687)	(657)	(1,159)	(20,268)	**(20,726)**	**(3,545)**
Cash Flows from Financing Activities						
Proceeds from common stock issuance, net of issuance costs	-	1,831	1,849	-	-	-
Proceeds from sale of common stock in PIPE, net of offering expenses	-	-	-	1,814	**1,814**	-
Proceeds from sale and exercise of pre-funded warrants in PIPE, net	-	-	-	8,295	**8,295**	-
Proceeds from acquisition loan, net	-	-	-	9,868	**9,868**	-
Term loan short-term	-	-	-	-	**2,000**	**(2,000)**
Proceeds from related party loans	2,000	-	-	-	-	-
Proceeds from payroll protection program loan	-	1,552	-	-	-	-
Principal payments on finance leases	(31)	(24)	(4)	-	-	-
Repayment of seller note	(498)	-	(100)	(723)	**(879)**	**(1,777)**
Proceeds from warrant exercise into common stock	-	120	-	-	-	-
Other financing activities, net	2	-	-	-	-	-
Net cash provided (used) by Financing	1,473	3,479	1,745	19,254	**21,098**	**(3,777)**
Net change in Cash	(184)	(708)	1,057	(2,064)	**816**	**(209)**
Cash Beginning of Period	2,718	2,534	1,826	2,883	**2,883**	**3,699**
Cash End of Period	$ 2,534	$ 1,826	$ 2,883	$ 819	**$ 3,699**	**$ 3,490**

Source: Company reports and Taglich Brothers estimates

Price Chart

Taglich Brothers Current Ratings Distribution



Investment Banking Services for Companies Covered in the Past 12 Months

Rating	#	%
Buy	5	26
Hold		
Sell		
Not Rated		

Important Disclosures

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

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Analyst Certification

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

Public Companies mentioned in this report:

Meaning of Ratings

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

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

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

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

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

Some notable Risks within the Microcap Market

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

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