

May 20, 2019

Ashok Kumar, PhD, CFA | ak@think-equity.com | 646-968-9363

Duos Technologies Group, Inc. (DUOT US - \$0.68 - Buy)

DUOT | Building Out AI Platform in Computer Vision Software | Buy | PT \$2

Key Points

Financial Results. The increase in overall revenues for the quarter ended March 31, 2019 was driven by the strength of the projects portion of the business currently being undertaken. Results also benefitted from the establishment of the Engineering and Operations center in 2018, which has streamlined project build and delivery process thereby shortened delivery times on major projects.

The increase in project revenues contributed to the increase in maintenance and technical support, benefitting from new maintenance contracts and renewals of existing contracts and the transition to next generation of technology systems.

The improvement in net income was primarily attributable to increase in revenue, improved gross margins and a lower rate of operating expense growth.

The net income for the three months ended March 31, 2019 was \$44k against a net loss for the same period in 2018 of \$743k. The positive change in net income is primarily attributable to the increase in project revenue with smaller contributions from both maintenance and technical support, and the ITAM business.

As of May 10, 2019, DUOT had cash on hand of approximately \$2 million.

Operational Trends. Project revenues tend to be uneven over the course of a year. Some project related revenues were accelerated into the quarter ended March 31, 2019, and as a result June quarter results could be weaker than normal. Over the long run, we expect ITAM and AI revenues could backfill the seasonality of project related revenues. Acquisitions could also contribute to a more linear growth.

Revenues should be evaluated over a slightly longer period based on how Duos books its revenues. Constraint on Duos' revenue growth is capitalization and identifying and hiring top talent.

Computer Vision Software. Computer vision, and by default video analytics, continues to permeate through an increasing variety of vertical markets, such as transportation, aerospace and defense, agriculture, entertainment, healthcare, industrial manufacturing, medical, retail, robotics, and security, based on advances in sensors, AI, deep learning, and stream processing.

Over time, image and video will become part of almost every AI application and solution.

DUOT through its AI program truevue360 seeks to address the need for embedded systems and platforms in computer vision based on AI and deep learning algorithms and techniques to seamlessly integrate hardware and software advances. Once this is done, truevue360 can rapidly and accurately turn video and images into actionable insights and data.

Summary

For the fiscal year ending December 31, 2019, Duos expects total revenue to be between \$14.0 million and \$15.0 million, or a 16% to 25% increase over 2018. The company's guidance is based on contracts in backlog that are scheduled to be executed before 4Q19.

Initially this is a project based business. Duos is starting to build out in two or three key industries. Revenues can be lumpy early on because of how the Company accounts for revenue. Quarter-on-quarter or year-on-year financial changes are not as meaningful near term. We believe investor focus should be on long term trends.

Rating, Price and Target

Symbol	DUOT
Rating	Buy
Price	\$0.68
Price Target	\$2.00

Market Data

Market Cap (M)	\$16.90
Shares Outstanding (M)	24.90
Average Daily Volume (000s)	33.00
Float (M)	12.20
Total Debt (M)	\$1
Net Cash/Debt (\$M)	\$0.40
Dividend	NM

FYE Dec	2018A	2019E	2020E
EPS	(0.08)	0.01	0.01
Previous	(0.08)	0.02	-
Revenue (M) (\$)	12.0	16.5	20.0

Quarterly EPS	Q1	Q2	Q3	Q4
2018A	(0.04)	(0.03)	0.02	(0.04)
2019E	0.00	(0.01)	0.00	0.02
2020E	-	-	-	-

Quarterly Revenue (M)	Q1	Q2	Q3	Q4
2018A	1.1	3.2	5.1	2.6
2019E	4.4	2.5	4.1	5.6
2020E	-	-	-	-

Company Description

Duos Technologies Group, Inc., through its subsidiary, Duos Technologies, Inc. designs and deploys artificial intelligence driven intelligent technologies systems in the United States. Its technology platforms include Praesidium, an integrated suite of analytics applications, which process and analyze data streams from virtually conventional or specialized sensors, and/or data points; and Centraco, a user interface that includes a physical security information management system. The company offers intelligent technology solutions for critical infrastructure. Duos Technologies Group, Inc. is headquartered in Jacksonville, Florida. Duos Technologies Group Inc. is a subsidiary of Environmental Capital Holdings, Inc.

Building out AI Platform in Computer Vision Software

DUOT provides a broad range of intelligent technology solutions with an emphasis on security, inspection and operations for critical infrastructure for a variety of industry verticals including transportation, retail, law enforcement, oil, gas and utilities sectors. In January 2019, DUOT launched an Artificial Intelligence program truevue360™ through its subsidiary, TrueVue360, Inc., with the objective of focusing the Company's advanced intelligent technologies in the areas of Artificial Intelligent, Deep Machine Learning and Advance Algorithms to further support growth. Business operations are in three business units: intelligent technologies, AI/machine learning platforms and IT asset management (ITAM).

DUOT growth strategy includes expansion of its technology base through organic development efforts, strategic partnerships, and through strategic acquisitions. DUOT technology solutions are initially targeted at mission critical security, inspection and operations within transportation, commercial, petrochemical, government, and banking sectors.

DUOT is broadening its offerings in the IT asset management (ITAM) space for large data centers. During the quarter ended June 30, 2018, DUOT announced its new dcVue software platform which is the basis for expanded offerings into this market area. The company aims to further develop the ITAM offerings aimed at large data centers for data and video analytics.

Takeaways

Financial Results. The increase in overall revenues for the quarter ended March 31, 2019 was driven by the strength of the projects portion of the business currently being undertaken. Results also benefitted from the establishment of the Engineering and Operations center in 2018, which has streamlined project build and delivery process thereby shortened delivery times on major projects.

The increase in project revenues contributed to the increase in maintenance and technical support, benefitting from new maintenance contracts and renewals of existing contracts and the transition to next generation of technology systems.

The improvement in net income was primarily attributable to increase in revenue, improved gross margins and a lower rate of operating expense growth.

The net income for the three months ended March 31, 2019 was \$44k against a net loss for the same period in 2018 of \$743k. The positive change in net income is primarily attributable to the increase in project revenue with smaller contributions from both maintenance and technical support, and the ITAM business.

As of May 10, 2019, DUOT had cash on hand of approximately \$2 million.

Financial Outlook. For the fiscal year ending December 31, 2019, Duos expects total revenue to be between \$14.0 million and \$15.0 million, or a 16% to 25% increase over 2018. The company's guidance is based on contracts in backlog that are scheduled to be executed before 4Q19.

Project revenues tend to be uneven over the course of a year. Some project related revenue were accelerated into the quarter ended March 31, 2019 as a result June quarter results could be weaker than normal. Over the long run, we expect ITAM and AI revenues could backfill the seasonality of project related revenues. Acquisitions could also contribute to a more linear growth.

Revenues should be evaluated over a slightly longer period based on how Duos books its revenues. Constraint on Duos revenue growth is capitalization and identifying and hiring top talent.

Global provider of intelligent technologies. DUOT has experience in designing, developing, and implementing intelligent technologies for rail, utilities, oil and gas, chemical industries, commercial and retail distribution and government sectors. The Company's products and solutions are field tested and ready to scale. The primary target market is North America and current customers are Fortune 100 and 500 companies. Given the suitability and adaptability of technologies to other verticals, Duos plans to expand presence to other high growth verticals and globally.

Rich IP Portfolio. Flexible Technology Architecture. The Company's technology is built on two platforms.

First is centraco®, a customer facing interface. It not only works with inputs from the Company's technology but also embraces third party technology.

The real engine is an analytics process backend called praesidium®. This is the engine that takes the inputs, be it video or other sensors, does analysis and presents it to the operator or management to take operational or business decisions.

Target Markets and Customers. Current focus is the rail market, which is the Company's sweet spot.

Duos primarily serves Fortune 100 and Fortune 500 companies. Duos has a small number of large customers which include CN, CSX, BNSF and Ferromex.

Duos is also targeting the distribution vertical with retail partners like Kohl's. A related market is the video analytics segment. This opportunity grows out of the Company's involvement with security.

In sum, the near term verticals Duos can monetize are rail, distribution and correctional facilities. But rail remains the bulk of the business and will likely represent the bulk of the growth going forward.

Expanding share of wallet in rail vertical. The company's technology has undergone extensive vetting with transportation research and testing organization, TTCI (subsidiary of Association of American Railroads). TTCI is the technology arm of AAR and is funded by Class-1 railroads.

The opportunity here is unlike the traditional software business where companies can come in and see if their technology works.

We believe Duos solutions work. It is a question of developing and fitting it into the business processes of Class-1 rail road and expanding out from there.

But it is a resources intensive business. The type of people needed are not inexpensive. Constraint on Duos' revenue growth is capitalization and identifying and hiring top talent.

Focus on AI. Duos announced the launch of truevue360, an AI and machine learning platform, to enable customers to pursue a wide variety of opportunities in the AI space.

The company anticipates truevue360 to be operational by the end of Q219, with the long-term operational goal for truevue360 to contribute to the recurring revenue base.

Computer Vision Software. Computer vision, and by default video analytics, continues to permeate through an increasing variety of vertical markets, such as transportation, aerospace and defense, agriculture, entertainment, healthcare, industrial manufacturing, medical, retail, robotics, and security, based on advances in sensors, AI, deep learning, and stream processing.

Over time, image and video will become part of almost every AI application and solution.

DUOT through its AI program truevue360™ seeks to address the need for embedded systems and platforms in computer vision based on AI and deep learning algorithms and techniques to seamlessly integrate hardware and software advances. Once this is done, truevue360™ can rapidly and accurately turn video and images into actionable insights and data.

Strong, seasoned management team. Gianni Arcaini, Chairman, has a thirty-five year executive career spanning multiple industries. Arcaini is the inventor and co-inventor of all technologies offered by Duos. David Ponevac, CTO, has over 14 years of software engineering experience. Adrian Goldfarb, CFO, is a thirty-five year industry veteran with more than 20 years in the IT industry.

Business Model. Duos' gross margins are 50% plus across all the businesses. At current burn rate, break-even is estimated at around \$17-\$18 million in revenues annually. This is on an operating basis.

Expenditure is skewed toward two key areas - R&D Engineering and Business Development. The Company can then grow the business but also deliver new solutions into those industries and also be able to support them.

As revenues approach \$15-plus million, which we estimate for 2019, Duos can become less sensitive to timing of a single project.

We expect Duos to migrate to a subscription model for two reasons. One, that it is more accessible for the customer to pay the subscription amount than commit to a capex. Second, it takes out any revenue volatility and shows linear growth.

Valuation

Our 12-month price target is \$2 based on 4x forecast 2019 revenue of \$16.5 million. This valuation multiple is comparable to the peer group of emerging growth companies.

We expect the business model to come into focus in 2019.

Initially this is a project based business. Duos is starting to build out in two or three key industries. Revenues can be lumpy early on because of how the Company accounts for revenue. Quarter-on-quarter or year-on-year financial changes are not meaningful near term. Investor focus should be on long term trends.

Revenues should be evaluated over a slightly longer period based on how Duos books its revenues.

Notable Operational Milestones

Expanding Existing Relationship. On May 15, 2018, DUOT announced that it was awarded a multi-million dollar contract from Canadian National Railway (CN). The order was for four rail inspection portals and includes the deployment of the Company's first thermal undercarriage inspection system.

Strategic Engagement. We estimate the acquisition price for each rail inspection portal is \$1.5 million, which values the original contract in excess of \$6 million (including various sub components). In addition there is likely a service contract, which is typically up to 40% of the contract value or \$2.5 million recognized over 5 years.

Duos received a follow on contract for an additional 3 systems, valued at \$4.5 million.

Our checks indicate that Duos could receive an order for additional 10 systems from CN, to begin delivery by end of 2019. In sum, this would translate to a total of 17 systems and order value in excess of \$15 million.

Expanding Ecosystem. Duos has submitted a bid with Alstom for Amtrak project, total project value estimated at \$6 million. We anticipate prototype deliveries by year end 2019, and revenues in 2020.

AI Platform. Launched truevue360™, which will focus on driving additional revenues and margin to Duos by developing, implementing and marketing artificial intelligence and deep learning solutions for a broad range of industries

Adjacent Vertical. Awarded contract in the aggregate of \$1.0 million from a regional bank with a national footprint for the installation of Duos' praesidium® and centraco® systems, which will provide comprehensive security solutions for 19 of the bank's sites in 14 locations across the United States.

Computer Vision Software

Takeaways

Advances in hardware and software technologies have transitioned computer vision applications from academia into the real world.

Computer vision technology was primarily hardware centric, but rapid advances in machine learning has brought focus to evolving vision (image and video) analytics.

There are a plethora of computer vision use cases in industries such as transportation, insurance, retail, healthcare, agriculture, finance, and public safety.

New Market Developments and Dynamics

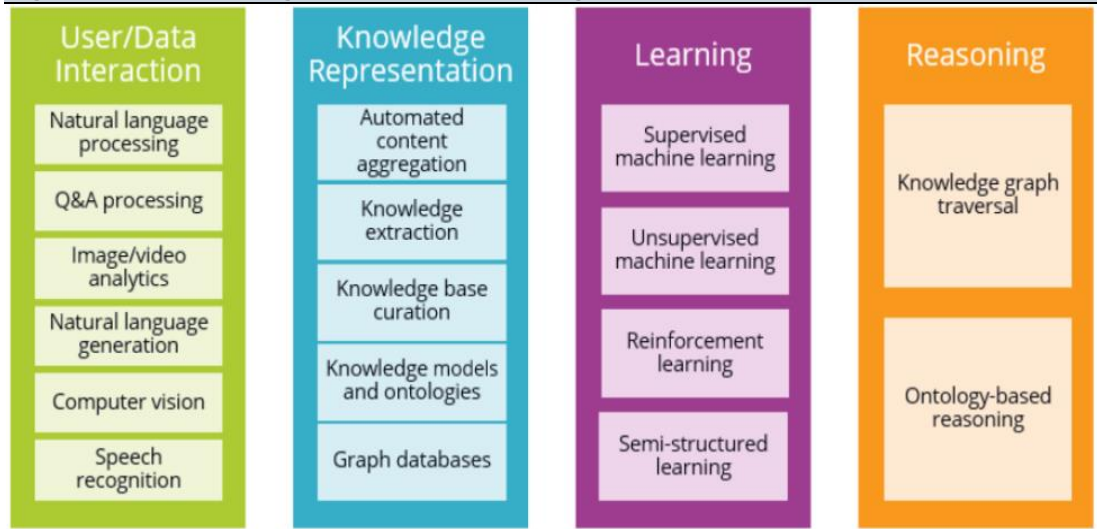
Introduction

Computer vision is best described as — machines that can see and understand. Computer vision uses digital processing and intelligent algorithms to interpret meaning from images and video. Primarily a mainstay in academic research over the past several decades, computer vision has experienced a rapid transition into real-life applications over the past few years.

Traditionally, these real-world applications have been focused in the hardware space. However, major transformation in the industry is underway with the advent of advanced sensors, vision (video and image) analytics, and deep learning (DL). Coupled with the rapidly increasing advancements in hardware and software technologies, the vision industry is quickly moving from conceptual paradigms to real-world applications.

Vision AI is a type of AI software technology critical in developing AI-enabled applications. There are four categories, or pillars, of AI software technologies: user/data interaction, knowledge representation, learning, and reasoning. Vision AI software is considered a —user/data interaction —type of software technology via video/image analytics.

Figure 1. Artificial Intelligence Software Technologies



Sources: IDC, Company Reports and ThinkEquity Estimates

Industry Dynamics

Computer vision, and by default video analytics, continues to permeate through an increasing variety of vertical markets, such as transportation, aerospace and defense, agriculture, entertainment, healthcare, industrial manufacturing, medical, retail, robotics, and security, based on advances in sensors, AI, deep learning, and stream processing. Vision is not just for scientists but also for people who want to move from conceptual paradigms to prototyping to making modern products at an ever-increasing pace.

Artificial intelligence is part of computer vision, in that AI is used for pattern recognition and learning techniques driven largely by machine learning (ML) and deep learning algorithms that bring visual understanding capabilities in growing a variety of hardware and software applications.

However, ML/DL algorithms use massive amounts of computation. As such, embedding advanced and complex algorithms into mobile and other embedded platforms is a big challenge. Embedded computer vision systems are computer-based products with a limited range of functions and dedicated applications, as opposed to mainstream computing segments such as personal computers, general servers, and cellular phones. Embedded systems range from set-top boxes, digital TVs, routers, industrial automation equipment, automotive systems, and medical devices to smart cars.

The amount of rich media data that needs to be analyzed and understood continues to increase exponentially. Much of this data is useless unless some type of analytics is applied. Rich media analytics and computer vision provide the tools and technologies to do this in a wide range of areas, including images and video. In video monitoring and surveillance, billions of dollars are spent on devices to capture and collect video streams. However, relatively little comparatively is spent on automation to detect, find, alert, and analyze the information located in that video. This is beginning to change as more digital-based IP video solutions such from DUOT are installed, and the need for strong analytics capabilities becomes more acute for computer vision at the edge and in the cloud.

Vendor Examples

Amazon Rekognition: At its core, the Rekognition API is an image and video analysis service that uses deep learning technology for face, object, and scene detection as well as text extraction.

Google Cloud Vision API: The Cloud Vision API is a vision detection service that uses machine learning models in an easy-to-use REST API to classify images into categories, detect objects and faces within images, and read printed words within images.

IBM Watson Visual Recognition: Watson's Visual Recognition can quickly and accurately tag, classify, and train visual content using machine learning.

Microsoft Computer Vision API: The Computer Vision API extracts information from images and videos to categorize and process the visual data. The API can analyze images, read text in images, read handwritten text in images (in preview), and analyze video in near real time.

Use Cases

Most of the more nascent computer vision use cases fall into seven categories: transportation, insurance, retail, healthcare, agriculture, finance, and public safety. One of the most mature use cases is in public safety. In detail:

The transportation industry is concentrating a lot of resources in computer vision (and deep learning), specifically for autonomous vehicles. Consumers benefit from embedded computer vision technologies that do scene analysis for object detection, automated lane detection, and even automated road sign reading for speed limits. Self-driving vehicles are being tested in a few states within the United States and were even used during the 2018 Winter Olympics in South Korea to transport people along to different stops along a predetermined route.

In the insurance industry, companies use satellite imagery to detect, analyze, and predict things such as mall sales by counting the number of cars in parking lots or oil production via oil tank levels. In addition, insurance companies use computer vision to assess vehicular or property damages to help determine policy rates and coverages.

The retail industry uses computer vision technologies in a variety of ways. Some companies use computer vision to determine when an object is taken from a shelf and who took it. Through a network of cameras, people and items in their basket are tracked. At this point, companies can analyze the items in the basket and make in-store recommendations about other items they may want to purchase. Furthermore, some stores have removed cashiers, so customers can just walk out with their items, and then they are charged automatically and receive an online receipt.

Computer vision technology is assisting healthcare professionals to accurately classify conditions and illnesses, thus potentially saving more lives through the elimination of inaccurate diagnoses and improper treatment. One application uses sensors in surgical sponges to monitor blood loss in real time.

In agriculture, computer vision technologies allow farmers to improve operations via precision farming (i.e., more effective growth methods) to raise production while reducing overall costs. Some in the agriculture industry are using drones to scan crops to determine whether they are under threat from drought-like conditions and/or pest infestations.

The financial sector, specifically banking, is testing out computer vision technologies to assist with customer identity authentication. One notable example uses cameras already installed in ATMs along with computer vision software that picks up on facial attributes to authenticate that a person withdrawing money from the ATM is the actual customer or an authorized user associated with the banking account.

Technology Supplier

We believe computer vision experts and innovators will continue to bring embedded vision systems to the market successfully and at a more rapid pace than ever before. These systems are more condensed as hardware technologies advance. However, the compute power needed to support advanced and complex algorithms is still a challenge. Software application advancements are promising. However, hardware has already established a presence in the computer vision market. Therefore, software application development requires massive advances to reach the level of vision- based hardware.

Organizations are finding more and more use cases for the inclusion of computer vision:

Banks are beginning to use computer vision to identify patrons at ATMs through the use of real-time cameras as they make withdrawals to prevent fraudulent transactions.

Chinese airlines are now beginning to use facial recognition to identify passengers without them having to provide any type of ID.

Manufacturers are starting to use image data for automated quality inspection using advanced machine learning algorithms to identify potential flaws in parts as they come off the assembly line.

Utilities are using drones and computer imaging to identify areas where trees and shrubs potentially threaten powerlines and provide guidance to line management teams on where to go to prune and cut down such growth.

Oil and gas companies are using real-time video to visually inspect the insides of pipelines to ensure that there are no leaks or other areas of concern.

Retail organizations are using video and image analytics as well as affective computing to understand how customers view displays and products in a retail environment such as a store or kiosk.

Over time, image and video will become part of almost every AI application and solution.

DUOT, through its AI program truevue360™, seeks to address the need for embedded systems and platforms in computer vision based on AI and deep learning algorithms and techniques to seamlessly integrate hardware and software advances. Once this is done, truevue360™ can rapidly and accurately turn video and images into actionable insights and data.

Recent Financial Results

Revenues

The increase in overall revenues is driven by the strength of the projects portion of the business currently being undertaken. Results also benefitted from the establishment of the Engineering and Operations center in 2018, which has streamlined project build and delivery processes, thereby shortening delivery times on major projects.

The increase in project revenues contributed to the increase in maintenance and technical support, benefitting from new maintenance contracts and renewals of existing contracts and the transition to next generation of technology systems.

The maintenance and technical support revenues are driven by successful completion on projects and represent services and support for those installations. Growth will be supported with long term recurring revenue from new customers.

The ITAM division recorded an increase in revenue in the first three months of 2019. The increase in ITAM revenues is due to the new version of its software which is anticipated to broaden market acceptance of its offerings and have a positive impact on revenues in 2019.

Figure 2. Duos Technologies Group, Inc. — Statement of Operations

	For the Three Months Ended March 31,	
	2019	2018
<i>(in thousands, except per share data)</i>		
Statement of Operations:		
Revenue	\$3,918	\$845
Cost of revenue	2,221	671
Gross profit	2,131	477
Operating expenses	2,084	1,216
Income (Loss) from operations	46	(740)
Other income (expense)	(2)	(4)
Net income (loss)	44	(743)
Series A preferred stock dividends	-	-
Net income (loss) applicable to common stock	\$44	(\$743)

Sources: Company Reports and ThinkEquity estimates.

Gross Profit

Gross Profit was \$2.1 million or 49% of revenues compared to \$0.5 million or 42% of revenues for the three months ended March 31, 2019 and 2018, respectively. The overall increase in gross profit was mainly the result of the increase in project revenues with a lower overall growth in associated costs. During the 2018 period, certain project revenue related to the management of construction requested by two customers were treated as a pass through and have between a 10% and a 25% gross margin. This had a

negative overall effect on the typical project gross margin of 50%. Overall gross margins for the business are expected to be close to historical norms for 2019.

Operating Expenses

Operating expenses were higher than for the equivalent period in 2018 reflecting the increase in resources related to the increase in revenues for the period. Selling and marketing expenses increased in line with the company's investment in resources to grow the business. The increase in salaries, wages and contract labor is higher during the period primarily due to an increase in headcount. Research and development decrease was minimal for the period. Professional fees were higher due to a onetime expenses for the warrant execution. Other G&A costs were in line with the growth on the company.

Operating Income

The income from operations for the three months ended March 31, 2019 was \$46k and the loss from operations for the same period in 2018 was \$740k. The increase in income from operations was from the increase in overall revenue along with higher gross margins and a lower overall rate of increase in operating expenses.

Net Income (Loss)

The net income for the three months ended March 31, 2019 was \$44k against a net loss for the same period in 2018 of \$743k. The positive change in net income is primarily attributable to the increase in project revenue with smaller contributions from both maintenance and technical support, and the ITAM business.

The improvement in net income was primarily attributable to increase in revenue, improved gross margins and a lower rate of operating expense growth.

Figure 3. Duos Technologies Group, Inc. – Balance Sheet Summary

(\$, 000)	March 31, 2019	December 31, 2018	December 31, 2017
Cash	\$1,202	\$1,209	\$1,942
Total assets	\$6,328	\$4,490	\$2,866
Total liabilities	\$4,783	\$4,661	\$2,244
Total stockholders' equity (deficit)	\$1,545	(\$171)	\$622

Sources: Company Reports and ThinkEquity Estimates

Liquidity and Capital Resources

As of March 31, 2019, DUOT has a working capital of \$1 million. The company generated a net income of \$44k for the three months ended March 31, 2019.

Figure 4. Duos Technologies Group, Inc. – Cash Flow Summary

(,000)	For the Three Months Ended March 31,	
	2019	2018
Net cash used in operating activities	(\$1,500)	(\$1,628)
Net cash used in investing activities	(92)	(124)
Net cash (used in) provided by financing activities	1,585	(123)
Cash, end of period	1,202	67

Sources: Company Reports and ThinkEquity Estimates

Cash Flow

Net cash used in operating activities for the three months ended March 31, 2019 was \$1.5 million and net cash used during the same period of 2018 was \$1.6 million. The decrease in net cash used in operations for the three months ended March 31, 2019 was primarily the result of improved operating results

Net cash used in investing activities for the three months ended March 31, 2019 and 2018 were \$92k and \$124k, respectively representing a decrease in investments in software development and lab equipment during the three months of 2019.

Net cash provided in financing activities for the three months ended March 31, 2019 was \$1.6 million and cash flows used in the same period 2018 was \$123k. Cash flows provided in financing activities during the first three-month period in 2019 were primarily attributable to warrants exercised by four shareholders.

As of May 10, 2019, DUOT had cash on hand of approximately \$2 million.

Financial Outlook

For the fiscal year ending December 31, 2019, Duos expects total revenue to be between \$14.0 million and \$15.0 million, or a 16% to 25% increase over 2018. The company's guidance is based on contracts in backlog that are scheduled to be executed before 4Q19.

Summary

Global provider of intelligent technologies. Duos has experience in designing, developing, and implementing intelligent technologies for rail, utilities, oil and gas, chemical industries, commercial and retail distribution and government sectors. The Company's products and solutions are field tested and ready to scale. The primary target market is North America and current customers are Fortune 100 and 500 companies. Given the suitability and adaptability of technologies to other verticals, Duos plans to expand presence to other high growth verticals and globally.

AI Platform. Duos announced the launch of truevue360, an AI and machine learning platform, to enable customers to pursue a wide variety of opportunities in the AI space.

The company anticipates truevue360 to be operational by the end of Q219, with the long-term operational goal for truevue360 to contribute to the recurring revenue base.

Not a single industry trick. Duos underlying technology is industry agnostic. The Company is picking the highest growth opportunities. The Company is currently heavily rail focused. As they get capitalized the Company will expand.

Duos is focusing on couple of areas. Retail is under tremendous pressure right now. Cost saving and automation of the ingress and egress in the distribution centers is a key application. Duos has an ongoing project with the retailer Kohl's. This includes that automation of their distribution center. This \$3 million project opens up opportunities for Duos with other retail partners.

Duos is also developing applications for oil theft prevention. In sum, Duos is has an industry agnostic base of technology which they can apply to multiple industries.

Business Model.

The Company's gross margins are 50% plus across all the businesses. At current burn rate and cost structure, operational break even is estimated at annual revenue of \$17-\$18 million.

Duos is transitioning to a subscription model for two reasons It is a more attractive value proposition for the customer to only pay the subscription amount than lay out the capex. It also removes any revenue bumps and shows the growth in a much more stable manner.

As revenues approach \$15 plus million, which we estimate for 2019, then Duos can become less sensitive to timing of a single project.

Artificial Intelligence Software Platforms

Market Research firms, IDC and Gartner predict that the worldwide cognitive/artificial intelligence (AI) software platforms market will grow from \$2.0 billion in 2017 to \$9.5 billion in 2022 at a compound annual growth rate (CAGR) of 37%. Vendors like Duos that can successfully mix and match open source with proprietary technologies and offer them at a reasonable cost will be the winners in this market in the long run.

Risks

Ability to continue as a going concern. As of March 31, 2019, DUOT has a working capital of \$1 million. Net cash used in operating activities for the three months ended March 31, 2019 was \$1.5 million

The accumulated deficit as of March 31, 2019 was \$30 million. As of May 10, 2019, DUOT had cash on hand of approximately \$2 million.

The technology management platforms are complex and highly integrated. The technology platforms developed and designed by Duos to accommodate integrated applications that include organically developed technology and third-party technology, thereby substantially increasing their functionality. Due to the complexity and the condensed development cycles under which the Company operates, they may experience errors in software, corruption or loss of data, or unexpected performance issues from time to time. Any major integration or interoperability issues or launch delays could have a material adverse effect on revenues and operating income.

Products and services may fail to keep pace with changing technology and evolving industry standards. The market in which Duos operates is characterized by rapid technological developments, evolving industry standards, frequent new product introductions and changes in customer requirements.

Both traditional and new competitors are investing heavily in these market areas and competing for customers. As next-generation video analytics technology continues to evolve, Duos must keep pace in order to maintain or expand market position.

Revenues are dependent on economic conditions and the willingness of enterprises to invest in technology. Enterprises continue to be cautious about sustained economic growth and have tried to maintain or improve profitability through cost control and constrained spending. Duos core technologies are designed to address cost reduction but other factors may cause delaying or rejecting capital projects. There is a growing market trend toward more customers exploring operating expense models as opposed to capital expense models for procuring technology.

The market trend toward operating expense models will continue as customers seek ways of reducing their overhead and other costs. These may result in continued pressure on ability to increase revenue and may create competitive pricing pressures and price erosion.

Faces significant competition and many of the competitors are larger and have greater financial resources. Duos product offerings compete and will compete with other similar products from competitors. These competitive products could be marketed by well-established, successful companies that possess greater financial, marketing, distributional and other resources.

History of losses and growth plans expect to incur negative operating cash flows in the future. Accumulated deficit was approximately \$28 million as of December 31, 2017 and approximately \$29.4 million as of September 30, 2018. Operating losses may continue as DUOT continues to expend resources to further develop and enhance technology offering,

Dependence on a limited number of customers. As of December 31, 2017, four customers accounted for 83% of accounts receivables. Additionally, three largest customers accounted for approximately 60% of total revenues for the year ended December 31, 2017. The concentration of credit risk makes DUOT vulnerable economically.

Inability to protect Intellectual Property. Duos relies on a combination of trade secrets, patents, copyrights, trademarks, confidentiality agreements, and other contractual provisions to protect intellectual property, but these measures may provide only limited protection.

The Company cannot be certain that their technologies and products do not and will not infringe on issued patents or other proprietary rights of others.

Competitors may develop technologies that are similar or superior to Duos technologies, duplicate technologies, or design around patents, and may have or obtain patents or other proprietary rights that would prevent, limit, or interfere with Duos ability to make, use, or sell their products.

For additional risk considerations, please refer to the company's SEC filings.

Figure 5. Duos Technologies Group Inc. - Income Statement, 2016-2020E

	2016	Mar-17	Jun-17	Sep-17	Dec-17	2017	Mar-18	Jun-18	Sep-18	Dec-18	2018	Mar-19	Jun-19	Sep-19	Dec-19	2019E	2020E
		1Q17	2Q17	3Q17	4Q17		1Q18	2Q18	3Q18	4Q18		1Q19	2Q19E	3Q19E	4Q19E		
<i>(\$ in thousands, except per share data)</i>																	
Revenues:																	
Project	\$3,200	\$360	\$591	\$561	\$371	\$1,884	845	2,941	4,731	2,237	\$10,754	\$3,918	\$2,000	\$3,500	\$5,000	\$14,418	\$17,000
Maintenance and technical support	2,231	315	311	288	\$213	1,128	257	252	371	289	1,170	321	350	375	400	1,446	2,000
IT asset management services	674	360	260	197	\$56	873	46	47	-	32	124	112	150	200	200	662	1,000
Total Revenues	\$6,105	\$1,036	\$1,163	\$1,046	\$641	\$3,885	1,148	3,240	5,102	2,559	\$12,049	\$4,352	\$2,500	\$4,075	\$5,600	\$16,527	\$20,000
Cost of revenues										0.57							
Project	1,581	346	376	458	307	1,488	548	1,847	2,685	1,294	6,374	2,093	1,000	1,750	2,500	7,343	8,500
Maintenance and technical support	786	147	88	131	93	459	103	108	89	109	409	105	175	188	200	668	1,000
IT asset management services	366	138	122	69	19	348	20	28	-	13	61	23	75	100	100	298	500
Total Cost of Revenues	2,732	631	586	658	419	2,295	671	1,983	2,774	1,416	6,844	2,221	1,250	2,038	2,800	8,309	10,000
Gross Profit	\$3,372	404	577	387	221	\$1,590	477	1,257	2,328	1,142	\$5,204	\$2,131	\$1,250	\$2,038	\$2,800	8,218	10,000
	55%	39%	50%	37%	35%	41%	42%	39%	46%	45%	43%	49%	50%	50%	50%	50%	
Operating Expenses:																	
Selling and marketing expenses	278	69	50	27	33	179	41	74	73	100	289	110	100	100	100	410	496
Salaries, wages and contract labor	3,370	736	840	784	739	3,099	766	1,315	1,072	1,147	4,300	1,269	1,175	1,175	1,175	4,794	5,801
Research and development	272	88	72	66	85	311	135	143	123	88	489	113	125	125	125	488	590
Professional fees	306	120	85	87	101	394	64	60	64	57	245	128	100	100	100	428	518
General and administrative expenses	890	248	310	210	283	1,052	210	295	360	586	1,451	465	400	400	400	1,665	2,015
Impairment loss on intangible assets & goodwill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Operating Expenses	5,116	1,260	1,358	1,175	1,241	5,034	1,216	1,888	1,692	1,978	6,774	2,084	1,900	1,900	1,900	7,784	9,420
Profit (loss) from Operations	(1,744)	(856)	(781)	(788)	(1,020)	(3,444)	(740)	(631)	636	(836)	(1,570)	46	(650)	138	900	434	580
Salaries -percentage	55%	71%	72%	75%	115%	80%	67%	41%	21%	45%	36%	29%	47%	29%	21%		
R&D percentage	4%	8%	6%	6%	13%	8%	12%	4%	2%	3%	4%	3%	5%	3%	2%		
Other Income (Expense):																	
Interest Income (Expense)	(561)	(921)	(833)	(1,526)	(1,239)	(4,519)	(6)	(4)	(5)	(2)	(17)	(2)	(5)	(5)	(5)	(17)	(20)
Other Income (Expense) - Non Cash	(256)	(518)	295	2,189	844	2,810	2	1	1	2	6	-	1	1	1	3	-
Total Other Income (Expense)	(817)	(1,439)	(538)	663	(395)	(1,709)	(4)	(4)	(4)	0	(11)	(2)	(4)	(4)	(4)	(14)	(20)
Net Income (Loss) before Taxes	(2,561)	(2,295)	(1,318)	(125)	(1,415)	(5,153)	(743)	(634)	633	(836)	(1,581)	44	(654)	134	896	420	560
Income Tax Provision	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Series A preferred stock dividends	(6)	(6)	(6)	(6)	(0)	(18)	-	-	-	-	-	-	-	-	-	-	-
Net income (loss) applicable to common stock	(2,567)	(2,301)	(1,324)	(131)	(1,415)	(5,171)	(743)	(634)	633	(836)	(1,581)	44	(654)	134	896	420	560
Net income (loss) per common share	(\$1.36)	(\$1.21)	(\$0.70)	(\$0.07)	(\$0.16)	(\$1.43)	(\$0.04)	(\$0.03)	\$0.02	(\$0.04)	(\$0.08)	\$0.00	(\$0.01)	\$0.00	\$0.02	\$0.01	\$0.01
Weighted average shares outstanding	1,883,598	1,894,171	1,894,923	1,899,716	8,736,794	3,606,401	20,709,478	20,707,153	26,412,450	21,000,000	20,796,132	48,802,471	53,000,000	53,000,000	53,000,000	51,950,618	53,000,000

Sources: Company Reports and ThinkEquity Estimates

Figure 6. Duos Technologies Group, Inc.—Valuation Comparables, Prices as of 5/18/19

(Amounts listed in USD. Numbers in millions, except per share data)

Company	Stock Price ⁽¹⁾	Market Value of Equity	Enterprise Value ⁽²⁾	Enterprise Value as a Multiple of:						Price as a Multiple of:		Projected EPS Growth	
				Sales			EBITDA			EBIT	CY+1 EPS		CY+2 EPS
				LTM	CY+1	CY+2	LTM	CY+1	CY+2				
Digimarc Corporation	58.05	667.6	633.7	29.84x	26.46x	22.14x	NM	NM	NM	NM	NM	0.0%	
Intelligent Systems Corporation	44.87	397.1	375.8	16.33	NM	NM	43.8	NM	NM	47.4	NM	NM	0.0%
SuperCom Ltd.	1.20	18.0	25.0	0.90	0.96	0.88	122.6	6.3	4.7	NM	5.2	4.0	0.0%
Mitek Systems, Inc.	10.29	410.0	385.6	5.15	4.29	NM	59.6	19.2	NM	NM	22.7	NM	15.0%
Aware, Inc.	3.24	69.8	19.4	1.15	NM	NM	13.0	NM	NM	18.3	NM	NM	0.0%
BIO-key International, Inc.	1.08	15.2	15.3	4.07	1.56	1.21	NM	NM	NM	NM	10.8	5.1	0.0%
Spectra Systems Corporation	1.66	75.9	63.3	5.06	5.19	4.87	12.9	14.7	13.8	16.3	26.1	23.8	0.0%
Applied DNA Sciences, Inc.	0.56	21.2	21.9	5.64	2.02	NM	NM	NM	NM	NM	NM	NM	0.0%
			High	29.84x	26.46x	22.14x	122.6x	19.2x	13.8x	47.4x	26.1x	23.8x	15.0%
			Average	8.52	6.75	7.27	50.4	13.4	9.2	27.3	16.2	11.0	1.9%
			Median	5.11	3.16	3.04	43.8	14.7	9.2	18.3	16.8	5.1	0.0%
			Low	0.90	0.96	0.88	12.9	6.3	4.7	16.3	5.2	4.0	0.0%
Duos Technologies Group, Inc.	0.68	16.9	19.3	1.27x	1.17x	NM	NM	NM	NM	NM	34.0x	NM	0.0%

(1) Financial data provided by Eikon, Google Finance and Company Reports as of 05/18/2019

(2) Calculated as Market Value of Equity plus total debt, non-controlling interest and preferred stock, less cash & equivalents.

Sources: Thomson Reuters, Google Finance and ThinkEquity Estimates

Important Disclosures

Analyst Certification

The analyst, Ashok Kumar, responsible for the preparation of this research report attests to the following: (1) that the views and opinions rendered in this research report reflect his or her personal views about the subject companies or issuers; and (2) that no part of the research analyst’s compensation was, is, or will be directly related to the specific recommendations or views in this research report.

Financial Interests

The analyst, Ashok Kumar, has no financial interest in the debt or equity securities of the subject company of this report. Further, no member of his household has any financial interest in the securities of the subject company. Neither the analyst, nor any member of his household, is an officer, director, or advisory board member of the issuer(s) or has another significant affiliation with the issuer(s) that is the subject of this research report. The analyst has not received compensation from the subject company. At the time of this research report, the analyst does not know, or have reason to know, of any other material conflict of interest.

Duos Technologies Group, Inc. Rating History as of 05/17/2019
powered by: BlueMatrix



ThinkEquity, a Division of Fordham Financial Management, Inc.

ThinkEquity is a division of Fordham Financial Management, Inc. (Fordham), a member of FINRA and SIPC. Fordham or an affiliate does not have a client relationship with and has not received compensation from this subject company Duos Technologies Group, Inc. in the last 12 months. Fordham expects to receive or intends to seek investment banking business from the subject company in the next three months. Fordham does not make a market in the securities of the subject company of this report at the time of publication. Fordham does not hold a beneficial ownership of more than 1% or more of any class of common equity securities of the subject company.

This report is for information purposes only. Under no circumstances is it to be used or considered as an offer to sell, or a solicitation of an offer to buy any security. While the information contained in this report has been obtained from sources believed to be reliable, we have not independently verified the information and we do not represent or guarantee that the report is accurate or complete and it should not be relied upon as such. Any references or citations to, or excerpts from, third-party information or data sources (including, but not limited to, Bloomberg and Capital IQ) do not and are not intended to provide financial or investment advice and are not to be relied upon by anyone as providing financial or investment advice. Based on public information available to us, prices and opinions expressed in this report reflect judgments as of the date hereof and are subject to change without notice. The securities covered by or mentioned in this report involve substantial risk and should generally be purchased only by investors able to accept such risk. This research report and the securities mentioned herein, some of which may not be registered under the Securities Act of 1933, are intended only for Qualified Institutional Buyers (QIBs), as defined under Rule 144A. Any opinions expressed assume that this type of investment is suitable for the investor.

Ratings Definitions

Think Equity rating definitions are expressed as the total return relative to the expected performance of S&P 500 over a 12-month period.

- BUY (B) - Total return expected to exceed S&P 500 by at least 10%
- HOLD (H) - Total return expected to be in-line with S&P 500
- SELL (S) - Total return expected to underperform S&P 500 by at least 10%

Current Ratings Distribution

This Equity Ratings Distribution reflects the percentage distribution for rated equity securities for the twelve month period March 30, 2018 through March 31, 2019. Within the twelve month period ended March 31, 2019, ThinkEquity, LLC (TE) has provided investment banking services to 14% of companies with equity rated a Buy, 0% of companies with equity rated a Hold and 0% of companies with equity rated a Sell. As of March 31, 2019, ThinkEquity, LLC had seven stocks under coverage: Buy 7 (100%), Hold 0 (0%), Sell 0 (0%).