

IMAGEWARE SYSTEMS INC

FORM S-1 (Securities Registration Statement)

Filed 06/15/20

Address	13500 EVENING CREEK DR. N. SUITE 550 SAN DIEGO, CA, 92128
Telephone	8586738600
CIK	0000941685
Symbol	IWSY
SIC Code	7372 - Services-Prepackaged Software
Industry	Software
Sector	Technology
Fiscal Year	12/31

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549**

FORM S-1

**REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933**

IMAGEWARE SYSTEMS, INC.

(Exact name of registrant as specified in its charter)

Delaware
(State or Other Jurisdiction of
Incorporation or Organization)

7372
(Primary Standard Industrial
Classification Code Number)

33-0224167
(I.R.S. Employer
Identification Number)

**13500 Evening Creek Drive N, Suite 550
San Diego, California 92128
(858) 673-8600**

(Address, including zip code, and telephone number,
including area code, of registrant's principal executive offices)

**Kristin Taylor
Chief Executive Officer
ImageWare Systems, Inc.
13500 Evening Creek Drive N, Suite 550
San Diego, California 92128
(858) 673-8600**

(Name, address, including zip code, and telephone number,
including area code, of agent for service)

Copies to

**Daniel W. Rumsey, Esq.
Jessica R. Sudweeks, Esq.
Disclosure Law Group, a Professional Corporation
655 West Broadway, Suite 870
San Diego, CA 92101
Telephone: (619) 272-7050
Facsimile: (619) 330-2101**

Approximate date of commencement of proposed sale to the public: As soon as practicable after this registration statement becomes effective.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act:

Large accelerated filer	<input type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input checked="" type="checkbox"/>	Smaller reporting company	<input checked="" type="checkbox"/>
		Emerging growth company	<input type="checkbox"/>

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.



CALCULATION OF REGISTRATION FEE

Title of each class of securities to be registered	Amount to be registered ⁽¹⁾	Proposed maximum offering price per share ⁽²⁾	Proposed maximum aggregate offering price	Amount of registration fee
Common stock, par value \$0.01 per share	8,200,000	\$ 0.39	\$ 3,198,000	\$ 415.10

- (1) Pursuant to Rule 416 under the Securities Act of 1933, as amended, this registration statement shall be deemed to cover the additional securities of the same class as the securities covered by this registration statement issued or issuable prior to completion of the distribution of the securities covered by this registration statement as a result of a split of, or a stock dividend on, the registered securities.
- (2) Pursuant to Rule 457(c) of the Securities Act of 1933, as amended, calculated on the basis of the average of the high and low prices per share of the registrant's common stock as reported by the OTCQB Marketplace June 9, 2020.

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until the Registration Statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

The information in this preliminary prospectus is not complete and may be changed. These securities may not be sold until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell these securities nor does it seek an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

PRELIMINARY PROSPECTUS

SUBJECT TO COMPLETION

DATED JUNE 15, 2020



8,200,000 Shares of Common Stock

This prospectus relates to the offer and sale of up to 8,200,000 shares of common stock, par value \$0.01, of ImageWare Systems, Inc., a Delaware corporation, by Lincoln Park Capital Fund, LLC (“*Lincoln Park*”) or the selling stockholder.

The shares of common stock being offered by the selling stockholder have been or may be issued pursuant to a purchase agreement that we entered into with Lincoln Park on April 28, 2020, as amended on June 11, 2020. See *The Lincoln Park Transaction* for a description of that agreement and “*Selling Stockholder*” for additional information regarding Lincoln Park. The prices at which Lincoln Park may sell the shares will be determined by the prevailing market price for the shares or in negotiated transactions.

We are not selling any securities under this prospectus and will not receive any of the proceeds from the sale of shares by the selling stockholder.

The selling stockholder may sell the shares of common stock described in this prospectus in a number of different ways and at varying prices. See “*Plan of Distribution*” for more information about how the selling stockholder may sell the shares of common stock being registered pursuant to this prospectus. The selling stockholder is an “underwriter” within the meaning of Section 2(a)(11) of the Securities Act of 1933, as amended (the “*Securities Act*”).

The selling stockholder will pay all brokerage fees and commissions and similar expenses. We will pay the expenses (except brokerage fees and commissions and similar expenses) incurred in registering the shares, including legal and accounting fees. See “*Plan of Distribution*”.

Our common stock is currently listed on the OTCQB Marketplace under the symbol “IWSY”. On June 10, 2020, the last reported sale price of our common stock on the OTCQB Marketplace was \$0.40 per share.

Investing in our common stock involves a high degree of risk. You should review carefully the risks and uncertainties described under “Risk Factors” beginning on page 7 of this prospectus, and under similar headings in any amendments or supplements to this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

The date of this prospectus is _____, 2020.

TABLE OF CONTENTS

	Page
<u>PROSPECTUS SUMMARY</u>	1
<u>CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS</u>	6
<u>RISK FACTORS</u>	7
<u>LINCOLN PARK TRANSACTION</u>	19
<u>SELLING STOCKHOLDER</u>	24
<u>PLAN OF DISTRIBUTION</u>	25
<u>USE OF PROCEEDS</u>	27
<u>DESCRIPTION OF OUR SECURITIES</u>	28
<u>DIVIDEND POLICY</u>	29
<u>DESCRIPTION OF OUR BUSINESS</u>	30
<u>MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS</u>	37
<u>DIRECTORS AND EXECUTIVE OFFICERS</u>	58
<u>EXECUTIVE COMPENSATION</u>	63
<u>CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS</u>	72
<u>MARKET FOR COMMON EQUITY AND RELATED STOCKHOLDER MATTERS</u>	74
<u>SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT</u>	75
<u>LEGAL MATTERS</u>	78
<u>EXPERTS</u>	78
<u>WHERE YOU CAN FIND MORE INFORMATION</u>	78

PROSPECTUS SUMMARY

This summary highlights selected information contained elsewhere in this prospectus. This summary does not contain all of the information you should consider before investing in our securities. You should read this entire prospectus carefully, especially the risks of investing in our securities discussed under "Risk Factors," our financial statements and the related notes included in this prospectus, and the information set forth under the heading "Management's Discussion and Analysis of Financial Condition and Results of Operations" in this prospectus before making an investment decision.

Company Overview

The Company is a pioneer and leader in the emerging market for biometrically enabled software-based identity management solutions. Using those human characteristics that are unique to us all, the Company creates software that provides a highly reliable indication of a person's identity and its "flagship" product is the patented IWS Biometric Engine®. The Company's products are used to manage and issue secure credentials, including national IDs, passports, driver licenses and access control credentials. The Company's products also provide law enforcement with integrated mugshot, fingerprint LiveScan and investigative capabilities. The Company also provides comprehensive authentication security software using biometrics to secure physical and logical access to facilities or computer networks or internet sites. Biometric technology is now an integral part of all markets the Company addresses, and all the products are integrated into the IWS Biometric Engine.

Our IWS Biometric Engine is a patented biometric identity management software platform for multi-biometric enrollment, management and authentication, managing population databases of virtually unlimited sizes. It is hardware agnostic and can utilize different types of biometric algorithms. It allows different types of biometrics to be operated at the same time on a seamlessly integrated platform. It is also offered as a Software Development Kit ("SDK") based search engine, enabling developers and system integrators to implement a biometric solution or integrate biometric capabilities into existing applications without having to derive biometric functionality from preexisting applications.

Our secure credential solutions empower customers to create secure and smart digital identification documents with complete ID systems. We develop, sell and support software and design systems that utilize digital imaging and biometrics in the production of photo identification cards, credentials and identification systems. Our products in this market consist of IWS EPI Suite and IWS EPI Builder. These products allow for production of digital identification cards and related databases and records and can be used by, among others, schools, airports, hospitals, corporations or governments. We have added the ability to incorporate multiple biometrics into the ID systems with the integration of IWS Biometric Engine to our secure credential product line.

The Company is also a developer of a biometric based multi-factor authentication (MFA) cloud-based service. The service, GoVerifyID® brings together cloud and mobile technologies to offer multi-factor authentication for smartphone users, for the enterprise, and across industries. GoVerifyID® consists of mobile and desktop client applications and a cloud-based Software-as-a-Service ("SaaS") which services cloud-based template matching requests for authentication requests. GoVerifyID® is leveraged by product developers to enable biometric authentication for their consumers and enterprises securing access to company property and IP. For the enterprise, GoVerifyID® provides turnkey integration with Microsoft Windows, Microsoft Active Directory, CA SSO, IBM Security Access Manager ("ISAM"), SAP Cloud Platform, Fujitsu's RunMyProcess and HPE's Aruba ClearPass. These integrations provide multi-modal biometric authentication to replace or augment passwords for use with enterprise and consumer class systems

Our law enforcement solutions enable agencies to quickly capture, archive, search, retrieve, and share digital images, fingerprints and other biometrics as well as criminal history records on a stand-alone, networked, wireless or web-based platform. We develop, sell and support a suite of modular software products used by law enforcement and public safety agencies to create and manage criminal history records and to investigate crime. Our IWS Law Enforcement solution consists of five software modules: Capture and Investigative modules, which provide a criminal booking system with related databases as well as the ability to create and print mug photo/SMT image lineups and electronic mug-books; a Facial Recognition module, which uses biometric facial recognition to identify suspects; a Web module, which provides access to centrally stored records over the Internet in a connected or wireless fashion; and a LiveScan module, which incorporates LiveScan capabilities into IWS Law Enforcement providing integrated fingerprint and palm print biometric management for civil and law enforcement use. The IWS Biometric Engine is also available to our law enforcement clients and allows them to capture and search using other biometrics such as iris or DNA.

Coronavirus (COVID-19) Pandemic

On March 11, 2020 the World Health Organization declared the novel strain of coronavirus (“*COVID-19*”) a global pandemic and recommended containment and mitigation measures worldwide. Our offices are currently under a shelter-in-place mandate and many of our clients worldwide are similarly impacted. The global outbreak of COVID-19 continues to rapidly evolve, and the extent to which COVID-19 may impact our business and the markets we serve will depend on future developments, which are highly uncertain and cannot be predicted with confidence, such as the ultimate geographic spread of the disease, the duration of the outbreak, travel restrictions and social distancing in the United States and other countries, business closures or business disruptions, and the effectiveness of actions taken in the United States and other countries to contain and treat the disease. We are continuing to vigilantly monitor the situation with our primary focus on the health and safety of our employees and clients.

Company Information

ImageWare Systems, Inc., a Delaware corporation, was founded in February 1987. Our principal executive offices are located at 13500 Evening Creek Drive N, Suite 550, San Diego, California 92128, and our telephone number is (858) 673-8600. Our website address is www.iwsinc.com. The information contained on our website is not part of this prospectus. We have included our website address as a factual reference and do not intend it to be an active link to our website.

Risks Associated with Our Business

Our business is subject to a number of risks of which you should be aware before making an investment decision. These risks are discussed more fully in the section titled “*Risk Factors*” included elsewhere in this prospectus. These risks include the following:

- We have incurred significant operating losses since inception and cannot assure you that we will ever achieve or sustain profitability;
- We depend upon a small number of large system sales and we may fail to achieve one or more large system sales in the future;
- Our lengthy sales cycle may cause us to expend significant resources for as long as one year in anticipation of a sale to certain customers, yet we still may fail to complete the sale;
- A significant number of our customers and potential customers are government agencies that are subject to unique political and budgetary constraints and have special contracting requirements, which may affect our ability to obtain new and retain current government customers;
- We are dependent upon third parties for the successful integration of our products, and/or the launch of our products. Any delay in the integration of our products, or the launch of third party products may materially affect our results from operations and financial condition;
- If the patents we own or license, or our other intellectual property rights, do not adequately protect our products and technologies, we may lose market share to our competitors and our business, financial condition and results of operations would be adversely affected; and
- We will need to raise substantial additional funds in the future, and these funds may not be available on acceptable terms or at all. A failure to obtain this necessary capital when needed could force us to delay, limit, scale back or cease some or all operations.

Lincoln Park Purchase Agreement

On April 28, 2020, we entered into a purchase agreement, as amended on June 11, 2020 (the “*Purchase Agreement*”), and a registration rights agreement (the “*Registration Rights Agreement*”) with Lincoln Park pursuant to which Lincoln Park committed to purchase up to \$10,250,000 of our common stock.

Under the terms and subject to the conditions of the Purchase Agreement, including stockholder approval of an amendment to the Company’s Certificate of Incorporation to increase the number of shares of the Company’s capital stock to 350 million shares, we have the right, but not the obligation, to sell to Lincoln Park, and Lincoln Park is obligated to purchase up to \$10,250,000 of shares of our common stock. On April 28, 2020, we sold 1,000,000 shares of common stock to Lincoln Park under the Purchase Agreement for an aggregate purchase price of \$100,000 (the “*Initial Purchase Shares*”). On June 11, 2020, we sold an additional 1,500,000 shares of common stock to Lincoln Park under the Purchase Agreement for an aggregate purchase price of \$150,000 (the “*Commencement Purchase Shares*”). Future sales of common stock under the Purchase Agreement, if any, will be subject to certain limitations, and may occur from time to time, at our sole discretion, over the 24-month period commencing on the date that a registration statement of which this prospectus forms a part, which we agreed to file with the Securities and Exchange Commission (the “*SEC*”) pursuant to the Registration Rights Agreement, is declared effective by the SEC and a final prospectus in connection therewith is filed and the other conditions set forth in the Purchase Agreement are satisfied (such date on which all of such conditions are satisfied, the “*Commencement Date*”).

After the Commencement Date, on any business day over the term of the Purchase Agreement, we have the right, in our sole discretion, to direct Lincoln Park to purchase up to 125,000 shares on such business day (the “*Regular Purchase*”), subject to increases under certain circumstances as provided in the Purchase Agreement. The purchase price per share for each such Regular Purchase will be based on prevailing market prices of the Company’s common stock immediately preceding the time of sale as computed under the Purchase Agreement. In each case, Lincoln Park’s maximum commitment in any single Regular Purchase may not exceed \$500,000. In addition to Regular Purchases, provided that we present Lincoln Park with a purchase notice for the full amount allowed for a Regular Purchase, we may also direct Lincoln Park to make accelerated purchases and additional accelerated purchases as described in the Purchase Agreement.

Pursuant to the terms of the Purchase Agreement, in no event may we issue or sell to Lincoln Park under the shares of our common stock under the Purchase Agreement which, when aggregated with all other shares of Common Stock then beneficially owned by the Lincoln Park and its affiliates (as calculated pursuant to Section 13(d) of the Exchange Act and Rule 13d-3 promulgated thereunder), would result in the beneficial ownership by Lincoln Park and its affiliates of more than 4.99% of the then issued and outstanding shares of Common Stock (the “*Beneficial Ownership Limitation*”).

The Purchase Agreement and the Registration Rights Agreement contain customary representations, warranties, agreements and conditions and indemnification obligations of the parties. We have the right to terminate the Purchase Agreement at any time, at no cost or penalty. We issued to Lincoln Park 2.5 million shares of common stock in consideration for entering into the Purchase Agreement.

Issuances of our common stock in this offering will not affect the rights or privileges of our existing stockholders, except that the economic and voting interests of each of our existing stockholders will be diluted as a result of any such issuance. Although the number of shares of common stock that our existing stockholders own will not decrease, the shares owned by our existing stockholders will represent a smaller percentage of our total outstanding shares after any such issuance to Lincoln Park.

The Offering

Shares of common stock offered by the selling stockholders	8,200,000 shares consisting of: (i) 1.0 million shares sold to Lincoln Park at \$ 0.10 per share on the Execution Date (the “ <i>Initial Purchase Shares</i> ”); (ii) 1.5 million shares sold to Lincoln Park at \$0.10 per share on June 11, 2010 (the “ <i>Commencement Purchase Shares</i> ”); (iii) 3,200,000 shares we may sell to Lincoln Park under the Purchase Agreement from time to time after the date of this prospectus; and 2.5 million commitment shares issued to Lincoln Park on the Execution Date (the “ <i>Commitment Shares</i> ”).
Shares of common stock outstanding before this offering	129,035,167 shares of common stock.
Shares of common stock to be outstanding after giving effect to the issuance of 8,200,000 shares under the Purchase Agreement registered hereunder	132,235,167 shares of common stock.
Use of proceeds	<p>We will receive no proceeds from the sale of shares of common stock by Lincoln Park in this offering. We may receive up to \$10,000,000 aggregate gross proceeds under the Purchase Agreement from any additional sales we make to Lincoln Park pursuant to the Purchase Agreement after the date of this prospectus.</p> <p>Any proceeds that we receive from sales to Lincoln Park under the Purchase Agreement will be used for working capital and general corporate purposes. See <i>Use of Proceeds</i>.</p>
Terms of this offering	The selling stockholder, including its transferees, donees, pledgees, assignees and successors-in-interest, may sell, transfer or otherwise dispose of any or all of the shares of common stock offered by this prospectus from time to time on The OTCQB or any other stock exchange, market or trading facility on which the shares are traded or in private transactions. The shares of common stock may be sold at fixed prices, at market prices prevailing at the time of sale, at prices related to prevailing market price or at negotiated prices.
OTCQB Marketplace symbol	“IWSY”
Risk Factors	Investing in our securities involves significant risks. Please read the information contained in or incorporated by reference under the heading “ <i>Risk Factors</i> ” beginning on page 7 of this prospectus, and under similar headings in other documents filed after the date hereof.

The number of shares of Common Stock to be outstanding immediately after this offering is based on 129,035,167 shares of our Common Stock outstanding as of June 11, 2020. Unless we specifically state otherwise, the share information in this prospectus excludes:

- 3,845,336 shares of Common Stock issuable upon the exercise of stock options at a weighted average exercise price of \$1.34 per share;
- 620,221 shares of Common Stock issuable upon vesting of outstanding restricted stock grants;
- 1,733,856 shares of Common Stock issuable upon exercise of outstanding warrants, with a weighted average exercise price of \$0.14 per share;
- 34,035,851 shares of Common Stock issuable upon conversion of the Company's Series A Convertible Redeemable Preferred Stock;
- 47,677 shares of Common Stock issuable upon conversion of the Company's Series B Convertible Redeemable Preferred Stock;
- 10,446,575 shares of Common Stock issuable upon conversion of the Company's Series C Convertible Redeemable Preferred Stock;
- 2,452,340 shares of Common Stock reserved for future issuance under the Company's 1999 Stock Option Plan; and
- 25,000,000 shares of Common Stock reserved for future issuance under the Company's 2020 Omnibus Equity Incentive Plan, which plan was approved by the Company's stockholders on June 5, 2020.

CAUTIONARY NOTES REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains forward-looking statements that involve substantial risks and uncertainties. All statements contained in this prospectus other than statements of historical facts, including statements regarding our strategy, future operations, future financial position, future revenue, projected costs, prospects, plans, objectives of management and expected market growth, are forward-looking statements. These statements involve known and unknown risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements.

The words “anticipate,” “believe,” “estimate,” “expect,” “intend,” “may,” “plan,” “predict,” “project,” “target,” “potential,” “will,” “would,” “could,” “should,” “continue,” and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. These forward-looking statements include, among other things, statements about:

- the availability of capital to satisfy our working capital requirements;
- the accuracy of our estimates regarding expenses, future revenues and capital requirements;
- anticipated trends and challenges in our business and the markets in which we operate;
- our ability to anticipate market needs or develop new or enhanced products to meet those needs;
- our expectations regarding market acceptance of our products;
- the success of competing products by others that are or become available in the market in which we sell our products;
- our ability to protect our confidential information and intellectual property rights;
- our ability to manage expansion into international markets;
- our ability to maintain or broaden our business relationships and develop new relationships with strategic alliances, suppliers, customers, distributors or otherwise;
- developments in the U.S. and foreign countries; and
- other risks and uncertainties, including those described under the section titled “*Risk Factors*” in this prospectus.

These forward-looking statements are only predictions and we may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements, so you should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements we make. We have based these forward-looking statements largely on our current expectations and projections about future events and trends that we believe may affect our business, financial condition and operating results. We have included important factors in the cautionary statements included in this prospectus, as well as certain information incorporated by reference into this prospectus, that could cause actual future results or events to differ materially from the forward-looking statements that we make. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments we may make.

You should read this prospectus with the understanding that our actual future results may be materially different from what we expect. We do not assume any obligation to update any forward-looking statements whether as a result of new information, future events or otherwise, except as required by applicable law.

RISK FACTORS

Our business is subject to significant risks. You should carefully consider the risks described below and the other information in this prospectus, including our financial statements and related notes included elsewhere in this prospectus, before you decide to invest in our Common Stock. If any of the following risks or uncertainties actually occur, our business, results of operations or financial condition could be materially harmed, the trading price of our Common Stock could decline, and you could lose all or part of your investment. The risks and uncertainties described below are those that we currently believe may materially affect us; however, they may not be the only ones that we face. Additional risks and uncertainties of which we are unaware or currently deem immaterial may also become important factors that may harm our business. Except as required by law, we undertake no obligations to update any risk factors.

Available cash resources will be insufficient to provide for our working capital needs for the next twelve months. As a result, we will need to raise additional capital to continue as a going concern.

At December 31, 2019, we had negative working capital of approximately \$1,653,000. Our principal source of liquidity at December 31, 2019 consisted of cash and cash equivalents of \$1,030,000. Considering our projected cash requirements, and assuming we are unable to generate incremental revenue, our available cash will be insufficient to satisfy our cash requirements for the next twelve months from the date of this filing. These factors raise substantial doubt about our ability to continue as a going concern. To address our working capital requirements, management intends to seek additional equity and/or debt financing through the issuance of additional debt and/or equity securities and may seek strategic or other transactions intended to increase shareholder value. There are currently no formal committed financing arrangements to support our projected cash shortfall, including commitments to purchase additional debt and/or equity securities, or other agreements, and no assurances can be given that we will be successful in raising additional capital through the issuance of debt and/or equity securities, or entering into any other transaction that addresses our ability to continue as a going concern.

We have a history of significant recurring losses totaling approximately \$203.2 million at December 31, 2019 and \$186.6 million at December 31, 2018, and these losses may continue in the future.

As of December 31, 2019 and 2018, we had an accumulated deficit of approximately \$203.2 million and \$186.6 million, respectively, and these losses may continue in the future. We expect to continue to incur significant sales and marketing, research and development, and general and administrative expense. As a result, we will need to generate significant revenue to achieve profitability, and we may never achieve profitability.

Our business is subject to risks arising from epidemic diseases, such as the recent global outbreak of the COVID-19 coronavirus.

The recent outbreak of the novel coronavirus, COVID-19, which has been declared by the World Health Organization to be a pandemic, has spread across the globe and is impacting worldwide economic activity. A pandemic, including COVID-19 or other public health epidemic, poses the risk that we or our employees, contractors, suppliers, and other partners may be prevented from conducting business activities for an indefinite period of time, including shutdowns that may be requested or mandated by governmental authorities. While it is not possible at this time to estimate the impact that COVID-19 could have on our business, the COVID-19 pandemic and mitigation measures have had and may continue to have an adverse impact on global economic conditions which could have an adverse effect on our business and financial condition, including impairing our ability to raise capital when needed. In addition, we are currently under a shelter-in-place mandate and many of our clients worldwide are similarly impacted.

Our operating results have fluctuated in the past and are likely to fluctuate significantly in the future.

Our operating results have fluctuated in the past. These fluctuations in operating results are the consequence of the following, amongst other things:

- varying demand for and market acceptance of our technology and products;
- changes in our product or customer mix;
- the gain or loss of one or more key customers or their key customers, or significant changes in the financial condition of one or more of our key customers or their key customers;
- our ability to introduce, certify and deliver new products and technologies on a timely basis;
- the announcement or introduction of products and technologies by our competitors;
- competitive pressures on selling prices;
- costs associated with acquisitions and the integration of acquired companies, products and technologies;
- our ability to successfully integrate acquired companies, products and technologies;
- our accounting and legal expense; and
- general economic conditions.

These factors, some of which are not within our control, will likely continue in the future. To respond to these and other factors, we may need to make business decisions that could result in failure to meet financial expectations. If our quarterly operating results fail to meet or exceed the expectations of securities analysts or investors, our stock price could drop suddenly and significantly. Most of our expense, such as employee compensation and inventory, is relatively fixed in the short term. Moreover, our expense levels are based, in part, on our expectations regarding future revenue levels. As a result, if our revenue for a particular period was below our expectations, we may not be able to proportionately reduce our operating expense for that period. Any revenue shortfall would have a disproportionately negative effect on our operating results for the period.

We depend upon a small number of large system sales ranging from \$100,000 to in excess of \$2,000,000 and we may fail to achieve one or more large system sales in the future.

Historically, we have derived a substantial portion of our revenue from a small number of sales of large, relatively expensive systems, typically ranging in price from \$100,000 to \$2,000,000. If we fail to receive orders for these large systems in a given sales cycle on a consistent basis, our business could be significantly harmed. Further, our quarterly results are difficult to predict because we cannot predict in which quarter, if any, large system sales will occur in a given year. As a result, we believe that quarter-to-quarter comparisons of our results of operations are not a good indication of our future performance. In some future quarters, our operating results may be below the expectations of securities analysts and investors, in which case the market price of our Common Stock may decrease significantly.

Our lengthy sales cycle may cause us to expend significant resources for one year or more in anticipation of a sale to certain customers, yet we still may fail to complete the sale.

When considering the purchase of a large computerized identity management system, potential customers may take as long as eighteen months to evaluate different systems and obtain approval for the purchase. Under these circumstances, if we fail to complete a sale, we will have expended significant resources and received no revenue in return. Generally, customers consider a wide range of issues before committing to purchase our products, including product benefits, ability to operate with their current systems, product reliability and their own budgetary constraints. While potential customers are evaluating our products, we may incur substantial selling costs and expend significant management resources in an effort to accomplish potential sales that may never occur. In times of economic recession, our potential customers may be unwilling or unable to commit resources to the purchase of new and costly systems.

A significant number of our customers and potential customers are government agencies that are subject to unique political and budgetary constraints and have special contracting requirements, which may affect our ability to obtain new and retain current government customers.

A significant number of our customers are government agencies. These agencies often do not set their own budgets and therefore have little control over the amount of money they can spend from quarter-to-quarter or year-to-year. In addition, these agencies experience political pressure that may dictate the manner in which they spend money. Due to political and budgetary processes and other scheduling delays that may frequently occur relating to the contract or bidding process, some government agency orders may be canceled or substantially delayed, and the receipt of revenue or payments from these agencies may be substantially delayed. In addition, future sales to government agencies will depend on our ability to meet government contracting requirements, certain of which may be onerous or impossible to meet, resulting in our inability to obtain a particular contract. Common requirements in government contracts include bonding requirements, provisions permitting the purchasing agency to modify or terminate at will the contract without penalty, and provisions permitting the agency to perform investigations or audits of our business practices, any of which may limit our ability to enter into new contracts or maintain our current contracts.

Two customers accounted for approximately 37% of our total revenue during the year ended December 31, 2019, and one customer accounted for approximately 36% of our total revenue during the year ended December 31, 2018. In the event of any material decrease in revenue from these customers, or if we are unable to replace the revenue through the sale of our products to additional customers, our financial condition and results from operations could be materially and adversely affected.

During the years ended December 31, 2019 and 2018, two customers accounted for approximately 37% or \$1,301,000 of our total revenue, and 36% or \$1,573,000 of our total revenue, respectively. If this customer were to significantly reduce its relationship with the Company, or in the event that we are unable to replace the revenue through the sale of our products to additional customers, our financial condition and results from operations could be negatively impacted, and such impact would be material.

We occasionally rely on systems integrators to manage our large projects, and if these companies do not perform adequately, we may lose business.

We occasionally act as a subcontractor to systems integrators who manage large projects that incorporate our systems, particularly in foreign countries. We cannot control these companies, and they may decide not to promote our products or may price their services in such a way as to make it unprofitable for us to continue our relationship with them. Further, they may fail to perform under agreements with their customers, in which case we might lose sales to these customers. If we lose our relationships with these companies, our business, financial condition and results of operations may suffer.

We are dependent upon third parties for the successful integration of our products, and/or the launch of our products. Any delay in the integration of our products or the launch of third-party products may materially affect our results from operations and financial condition.

Our current marketing strategy involves the distribution of our products through larger product partners and/or resellers that will either resell our product alongside theirs, OEM a white label version of our products, or sell our products fully integrated into their offerings. Our strategy leaves us largely dependent upon the successful rollout of our products by our distribution partners. We have experienced delays in the rollout of our products due to these factors during the years ended December 31, 2018 and 2019, and no assurances can be given that we will not experience delays in the future. Any delays negatively affect our results from operations and financial condition.

If the patents we own or license, or our other intellectual property rights, do not adequately protect our products and technologies, we may lose market share to our competitors and our business, financial condition and results of operations would be adversely affected.

Our success depends significantly on our ability to protect our rights to the technologies used in our products. We rely on patent protection, trade secrets, as well as a combination of copyright and trademark laws and nondisclosure, confidentiality and other contractual arrangements to protect our technology. However, these legal means afford only limited protection and may not adequately protect our rights or permit us to gain or keep any competitive advantage. In addition, we cannot be assured that any of our current and future pending patent applications will result in the issuance of a patent to us. The U.S. Patent and Trademark Office (“PTO”) may deny or require significant narrowing of claims in our pending patent applications, and patents issued as a result of the pending patent applications, if any, may not provide us with significant commercial protection or may not be issued in a form that is advantageous to us. We could also incur substantial costs in proceedings before the PTO. These proceedings could result in adverse decisions as to the claims included in our patents.

Our issued and licensed patents and those that may be issued or licensed in the future may be challenged, invalidated or circumvented, which could limit our ability to stop competitors from marketing related products. Additionally, upon expiration of our issued or licensed patents, we may lose some of our rights to exclude others from making, using, selling or importing products using the technology based on the expired patents. We also must rely on contractual rights with the third parties that license technology to us to protect our rights in the technology licensed to us. Although we have taken steps to protect our intellectual property and technology, there is no assurance that competitors will not be able to design around our patents. We also rely on unpatented proprietary technology. We cannot assure you that we can meaningfully protect all our rights in our unpatented proprietary technology or that others will not independently develop substantially equivalent proprietary products or processes or otherwise gain access to our unpatented proprietary technology. We seek to protect our know-how and other unpatented proprietary technology with confidentiality agreements and intellectual property assignment agreements with our employees. However, such agreements may not provide meaningful protection for our proprietary information in the event of unauthorized use or disclosure or other breaches of the agreements or in the event that our competitors discover or independently develop similar or identical designs or other proprietary information. In addition, we rely on the use of registered and common law trademarks with respect to the brand names of some of our products. Our common law trademarks provide less protection than our registered trademarks. Loss of rights in our trademarks could adversely affect our business, financial condition and results of operations.

Furthermore, the laws of foreign countries may not protect our intellectual property rights to the same extent as the laws of the United States. If we fail to apply for intellectual property protection or if we cannot adequately protect our intellectual property rights in these foreign countries, our competitors may be able to compete more effectively against us, which could adversely affect our competitive position, as well as our business, financial condition and results of operations.

If third parties claim that we infringe their intellectual property rights, we may incur liabilities and costs and may have to redesign or discontinue selling certain products.

Whether a product infringes a patent involves complex legal and factual issues, the determination of which is often uncertain. We face the risk of claims that we have infringed on third parties' intellectual property rights. Searching for existing intellectual property rights may not reveal important intellectual property and our competitors may also have filed for patent protection, which is not yet a matter of public knowledge, or claimed trademark rights that have not been revealed through our availability searches. Our efforts to identify and avoid infringing on third parties' intellectual property rights may not always be successful. Any claims of patent or other intellectual property infringement, even those without merit, could:

- increase the cost of our products;
- be expensive and time consuming to defend;
- result in us being required to pay significant damages to third parties;
- force us to cease making or selling products that incorporate the challenged intellectual property;
- require us to redesign, reengineer or rebrand our products;
- require us to enter into royalty or licensing agreements in order to obtain the right to use a third party's intellectual property, the terms of which may not be acceptable to us;
- require us to indemnify third parties pursuant to contracts in which we have agreed to provide indemnification to such parties for intellectual property infringement claims;
- divert the attention of our management; and
- result in our customers or potential customers deferring or limiting their purchase or use of the affected products until the litigation is resolved.

In addition, new patents obtained by our competitors could threaten a product's continued life in the market even after it has already been introduced.

If our security measures or those of our third-party data center hosting facilities, cloud computing platform providers, or third-party service partners, are breached, and unauthorized access is obtained to a customer's data, our data or our IT systems, or authorized access is blocked or disabled, our services may be perceived as not being secure, customers may curtail or stop using our services, and we may incur significant legal and financial exposure and liabilities.

Our services involve the storage and transmission of our customers' and our customers' customers' proprietary and other sensitive data, including financial information and other personally identifiable information. While we have security measures in place, they may be breached as a result of efforts by individuals or groups of hackers and sophisticated organizations, including state-sponsored organizations or nation-states. Our security measures could also be compromised by employee error or malfeasance, which could result in someone obtaining unauthorized access to, or denying authorized access to our IT systems, our customers' data or our data, including our intellectual property and other confidential business information. Additionally, third parties may attempt to fraudulently induce employees or customers into disclosing sensitive information such as usernames, passwords or other information to gain access to our customers' data, our data or our IT systems.

We take extraordinary measures to ensure identity authentication of users who access critical IT infrastructure, including but not limited to, two-factor, multi-factor and biometric identity verification. This substantially reduces the threat of unauthorized access by bad actors using compromised user credentials.

Because the techniques used to breach, obtain unauthorized access to, or sabotage IT systems change frequently, grow more complex over time, and generally are not recognized until launched against a target, we may be unable to anticipate or implement adequate measures to prevent against such techniques.

Our services operate in conjunction with and are dependent on products and components across a broad ecosystem and, as illustrated by the recent Spectre and Meltdown threats, if there are security vulnerabilities in one of these components, a security breach could occur. In addition, our internal IT systems continue to evolve, and we are often early adapters of new technologies and new ways of sharing data and communicating internally and with partners and customers, which increases the complexity of our IT systems. These risks are mitigated by our ability to maintain and improve business and data governance policies and processes and internal security controls, including our ability to escalate and respond to known and potential risks.

In addition, our customers may authorize third-party technology providers to access their customer data, and some of our customers may not have adequate security measures in place to protect their data that is stored on our servers. Because we do not control our customers or third-party technology providers, or the processing of such data by third-party technology providers, we cannot ensure the integrity or security of such transmissions or processing. Malicious third parties may also conduct attacks designed to temporarily deny customers access to our services.

A security breach could expose us to a risk of loss or inappropriate use of proprietary and sensitive data, or the denial of access to this data. A security breach could also result in a loss of confidence in the security of our services, damage our reputation, negatively impact our future sales, disrupt our business and lead to legal liability. Finally, the detection, prevention and remediation of known or potential security vulnerabilities, including those arising from third-party hardware or software may result in additional direct and indirect costs, for example additional infrastructure capacity to mitigate any system degradation that could result from remediation efforts.

We operate in foreign countries and are exposed to risks associated with foreign political, economic and legal environments and with foreign currency exchange rates.

We have significant foreign operations. As a result, we are exposed to risks, including among others, risks associated with foreign political, economic and legal environments and with foreign currency exchange rates. Our results may be adversely affected by, among other things, changes in government policies with respect to laws and regulations, anti-inflation measures, currency conversions, collection of receivables abroad and rates and methods of taxation.

We depend on key personnel, the loss of any of whom could materially adversely affect future operations.

Our success will depend to a significant extent upon the efforts and abilities of our executive officers and other key personnel. The loss of the services of one or more of these key employees and any negative market or industry perception arising from the loss of such services could have a material adverse effect on us and the trading price of our Common Stock. Our business will also be dependent upon our ability to attract and retain qualified personnel. Acquiring and keeping these personnel could prove more difficult or cost substantially more than estimated and we cannot be certain that we will be able to retain such personnel or attract a high caliber of personnel in the future.

We may have additional tax assessments.

We are subject to income taxes in the United States. Significant judgments are required in determining our provisions for income taxes. In the course of preparing our tax provisions and returns, we must make calculations where the ultimate tax determination may be uncertain. Our tax returns are subject to examination by the Internal Revenue Service (“IRS”) and state tax authorities. There can be no assurance as to the outcome of these examinations. If the ultimate determination of taxes owed is for an amount in excess of amounts previously accrued, our operating results, cash flows, and financial condition could be adversely affected.

We face competition from companies with greater financial, technical, sales, marketing and other resources, and, if we are unable to compete effectively with these competitors, our market share may decline and our business could be harmed.

We face competition from other established companies. A number of our competitors have longer operating histories, larger customer bases, significantly greater financial, technological, sales, marketing and other resources than we do. As a result, our competitors may be able to respond more quickly than we can to new or changing opportunities, technologies, standards or client requirements, more quickly develop new products or devote greater resources to the promotion and sale of their products and services than we can. Likewise, their greater capabilities in these areas may enable them to better withstand periodic downturns in the identity management solutions industry and compete more effectively on the basis of price and production. In addition, new companies may enter the markets in which we compete, further increasing competition in the identity management solutions industry.

We believe that our ability to compete successfully depends on a number of factors, including the type and quality of our products and the strength of our brand names, as well as many factors beyond our control. We may not be able to compete successfully against current or future competitors, and increased competition may result in price reductions, reduced profit margins, loss of market share and an inability to generate cash flows that are sufficient to maintain or expand the development and marketing of new products, any of which would adversely impact our results of operations and financial condition.

Risks Related to Our Securities

Our Common Stock is subject to “penny stock” rules.

Our Common Stock is currently defined as a “penny stock” under Rule 3a51-1 promulgated under the Exchange Act which are subject to Rules 15g-2 through 15g-7 and Rule 15g-9, which impose additional sales practice requirements on broker-dealers that sell penny stocks to persons other than established customers and institutional accredited investors. Among other things, for transactions covered by these rules, a broker-dealer must make a special suitability determination for the purchaser and have received the purchaser’s written consent to the transaction prior to sale. Consequently, these rules may affect the ability of broker-dealers to sell our Common Stock and affect the ability of holders to sell their shares of our Common Stock in the secondary market. To the extent our Common Stock is subject to the penny stock regulations, the market liquidity for our shares will be adversely affected.

Our stock price has been volatile, and your investment in our Common Stock could suffer a decline in value.

There has been significant volatility in the market price and trading volume of equity securities, which is unrelated to the financial performance of the companies issuing the securities. These broad market fluctuations may negatively affect the market price of our Common Stock. You may not be able to resell your shares at or above the price you pay for those shares due to fluctuations in the market price of our Common Stock caused by changes in our operating performance or prospects and other factors.

Some specific factors that may have a significant effect on our Common Stock market price include:

- actual or anticipated fluctuations in our operating results or future prospects;
- our announcements or our competitors' announcements of new products;
- the public's reaction to our press releases, our other public announcements and our filings with the SEC;
- strategic actions by us or our competitors, such as acquisitions or restructurings;
- new laws or regulations or new interpretations of existing laws or regulations applicable to our business;
- changes in accounting standards, policies, guidance, interpretations or principles;
- changes in our growth rates or our competitors' growth rates;
- developments regarding our patents or proprietary rights or those of our competitors;
- our inability to raise additional capital as needed;
- substantial sales of Common Stock underlying warrants and preferred stock;
- concern as to the efficacy of our products;
- changes in financial markets or general economic conditions;
- sales of Common Stock by us or members of our management team; and
- changes in stock market analyst recommendations or earnings estimates regarding our Common Stock, other comparable companies or our industry generally.

Our future sales of our Common Stock could adversely affect its price and our future capital-raising activities could involve the issuance of equity securities, which would dilute shareholders' investments and could result in a decline in the trading price of our Common Stock.

We may sell securities in the public or private equity markets if and when conditions are favorable, even if we do not have an immediate need for additional capital at that time. Sales of substantial amounts of our Common Stock, or the perception that such sales could occur, could adversely affect the prevailing market price of our Common Stock and our ability to raise capital. We may issue additional Common Stock in future financing transactions or as incentive compensation for our executive management and other key personnel, consultants and advisors. Issuing any equity securities would be dilutive to the equity interests represented by our then-outstanding shares of Common Stock. The market price for our Common Stock could decrease as the market takes into account the dilutive effect of any of these issuances. Furthermore, we may enter into financing transactions at prices that represent a substantial discount to the market price of our Common Stock. A negative reaction by investors and securities analysts to any discounted sale of our equity securities could result in a decline in the trading price of our Common Stock.

The holders of our preferred stock have certain rights and privileges that are senior to our Common Stock, and we may issue additional shares of preferred stock without stockholder approval that could have a material adverse effect on the market value of the Common Stock.

Our Board of Directors has the authority to issue a total of up to four million shares of preferred stock and to fix the rights, preferences, privileges, and restrictions, including voting rights, of the preferred stock, which typically are senior to the rights of the Common Stock, without any further vote or action by the holders of our Common Stock. The rights of the holders of our Common Stock will be subject to, and may be adversely affected by, the rights of the holders of the preferred stock that have been issued or might be issued in the future. Preferred stock also could have the effect of making it more difficult for a third party to acquire a majority of our outstanding voting stock. This could delay, defer, or prevent a change in control. Furthermore, holders of our preferred stock may have other rights, including economic rights, senior to the Common Stock. As a result, their existence and issuance could have a material adverse effect on the market value of the Common Stock. We have in the past issued and may from time to time in the future issue, preferred stock for financing or other purposes with rights, preferences, or privileges senior to the Common Stock. As of June 11, 2020, we had three series of preferred stock outstanding, the Series A Preferred, Series B Preferred and Series C Preferred.

The provisions of our Series A Preferred prohibit the payment of dividends on our Common Stock unless the dividends on our preferred shares are first paid. In addition, upon a liquidation, dissolution or sale of our business, the holders of our Series A Preferred will be entitled to receive, in preference to any distribution to the holders of Common Stock, initial distributions of \$1,000 per share, plus all accrued but unpaid dividends. As of December 31, 2019 and 2018, we had no cumulative undeclared dividends on our Series A Preferred.

The provisions of our Series B Preferred prohibit the payment of dividends on our Common Stock unless the dividends on our preferred shares are first paid. In addition, upon a liquidation, dissolution or sale of our business, the holders of our Series B Preferred will be entitled to receive, in preference to any distribution to the holders of Common Stock, initial distributions of \$2.50 per share, plus all accrued but unpaid dividends. As of December 31, 2019 and 2018, we had cumulative undeclared dividends on our Series B Preferred of approximately \$8,000.

The provisions of our Series C Preferred prohibit the payment of dividends on our Common Stock unless the dividends on our preferred shares are first paid. In addition, upon a liquidation, dissolution or sale of our business, the holders of our Series C Preferred will be entitled to receive, in preference to any distribution to the holders of Common Stock, initial distributions of \$10,000 per share, plus all accrued but unpaid dividends. As of December 31, 2018, there were no shares of Series C Preferred outstanding. As of December 31, 2019, we had no cumulative undeclared dividends on our Series C Preferred.

Upon the occurrence of certain events, we may be required to redeem all or a portion of our Series C Preferred.

On September 10, 2018, we filed the Series C COD with the Secretary of State of the State of Delaware, pursuant to which Holders of the Series C Preferred may require us to redeem all or any portion of such Holder's shares of Series C Preferred at a price per share equal to the Stated Value plus all accrued and unpaid dividends at any time from and after the third anniversary of the issuance date or in the event of the consummation of a Change of Control (as such term is defined in the Series C COD). We cannot assure you that we will maintain sufficient cash reserves or that our business will generate cash flow from operations at levels sufficient to permit us to redeem our shares of Series C Preferred if and when required to do so. In the event we have insufficient cash available or do not have access to additional third-party financings on commercially reasonable terms or at all to complete such redemption, our business, results of operations, and financial condition may be materially adversely affected.

Certain large shareholders may have certain personal interests that may affect the Company.

As a result of the securities issued to Goldman Capital Management and related entities controlled by Neal Goldman, a member of our Board of Directors (together, “*Goldman*”), Goldman beneficially owns, in the aggregate, approximately 24% of the Company’s outstanding voting securities as of June 11, 2020. As a result, Goldman has the potential ability to exert influence over both the actions of the Board of Directors and the outcome of issues requiring approval by the Company’s shareholders. This concentration of ownership may have effects such as delaying or preventing a change in control of the Company that may be favored by other shareholders or preventing transactions in which shareholders might otherwise recover a premium for their shares over current market prices.

Our corporate documents and Delaware law contain provisions that could discourage, delay or prevent a change in control of the Company.

Provisions in our certificate of incorporation and bylaws may discourage, delay or prevent a merger or acquisition involving us that our stockholders may consider favorable. For example, our certificate of incorporation authorizes preferred stock, which carries special rights, including voting and dividend rights. With these rights, preferred stockholders could make it more difficult for a third party to acquire us.

We are also subject to the anti-takeover provisions of Section 203 of the Delaware General Corporation Law. Under these provisions, if anyone becomes an “interested stockholder”, we may not enter into a “business combination” with that person for three years without special approval, which could discourage a third party from making a takeover offer and could delay or prevent a change of control. For purposes of Section 203, “interested stockholder” means, generally, someone owning 15% or more of our outstanding voting stock or an affiliate of ours that owned 15% or more of our outstanding voting stock during the past three years, subject to certain exceptions as described in Section 203.

We do not expect to pay cash dividends on our Common Stock for the foreseeable future.

We have never paid cash dividends on our Common Stock and do not anticipate that any cash dividends will be paid on the Common Stock for the foreseeable future. The payment of any cash dividend by us will be at the discretion of our Board of Directors and will depend on, among other things, our earnings, capital, regulatory requirements and financial condition. Furthermore, the terms of our Series A Preferred, Series B Preferred and Series C Preferred directly limit our ability to pay cash dividends on our Common Stock.

Risks Related to this Offering

The sale or issuance of our common stock to Lincoln Park may cause dilution and the sale of the shares of common stock acquired by Lincoln Park, or the perception that such sales may occur, could cause the price of our common stock to fall.

On April 28, 2020, we entered into the Purchase Agreement with Lincoln Park, as amended June 11, 2020, pursuant to which Lincoln Park has committed to purchase up to \$10,250,000 of our common stock, including the Initial Purchase Shares. Upon the execution of the Purchase Agreement, we issued 2.5 million Commitment Shares to Lincoln Park as a fee for its commitment to enter into the Purchase Agreement and purchase shares of our common stock thereunder. The remaining shares of our common stock that may be issued under the Purchase Agreement may be sold by us to Lincoln Park, at our sole discretion, from time to time over a 24-month period commencing after the satisfaction of certain conditions set forth in the Purchase Agreement, including that the SEC has declared effective the registration statement that includes this prospectus. The purchase price for the shares that we may sell to Lincoln Park under the Purchase Agreement will fluctuate based on the prevailing price of our common stock on the date(s) of purchase. Depending on market liquidity at the time, sales of such shares may cause the trading price of our common stock to fall.

We generally have the right to control the timing and amount of any future sales of our shares to Lincoln Park. Additional sales of our common stock, if any, to Lincoln Park will depend upon market conditions and other factors to be determined solely by us. We may ultimately decide to sell to Lincoln Park all, some or none of the 3,200,000 additional shares of our common stock that may be available for us to sell pursuant to the Purchase Agreement. If and when we do sell any additional shares to Lincoln Park, after Lincoln Park has acquired the shares, Lincoln Park may resell all, some or none of those shares at any time or from time to time in its discretion. Therefore, sales to Lincoln Park by us could result in substantial dilution to the interests of other holders of our common stock. Additionally, the sale of a substantial number of shares of our common stock to Lincoln Park, or the anticipation of such sales, could make it more difficult for us to sell equity or equity-related securities in the future at a time and at a price that we might otherwise wish to effect sales.

We will require additional financing to sustain our operations and without it we may not be able to continue operations.

We may direct Lincoln Park to purchase up to \$10,250,000 worth of shares of our common stock under our agreement over a 24-month period generally in amounts up to 125,000 shares of our common stock, which share amount may be increased to include additional shares of our common stock depending on the market price of our common stock at the time of sale, and subject to a maximum limit of \$500,000 per purchase, on any such business day. In addition to the 2.5 million Commitment Shares, the 1.0 million Initial Purchase Shares, and the 1.5 million Commencement Purchase Shares, an additional 3,200,000 shares of our common stock are being offered under this prospectus that may be sold by us to Lincoln Park, at our discretion, from time to time over a 24-month period commencing after the date of the Commencement. Depending on the price per share at which we sell our common stock to Lincoln Park pursuant to the Purchase Agreement, we may need to sell to Lincoln Park more shares of our common stock than are offered under this prospectus in order to receive aggregate gross proceeds equal to \$10,250,000. The number of shares ultimately offered for resale by Lincoln Park is dependent upon the number of shares we sell to Lincoln Park under the Purchase Agreement.

The extent we rely on Lincoln Park as a source of funding will depend on a number of factors including the prevailing market price of our common stock and the extent to which we are able to secure working capital from other sources. If obtaining sufficient funding from Lincoln Park were to prove unavailable or prohibitively dilutive, we will need to secure another source of funding in order to satisfy our working capital needs. Even if we sell all \$10,250,000 under the Purchase Agreement to Lincoln Park, we may still need additional capital to fully implement our business, operating and development plans. Should the financing we require to sustain our working capital needs be unavailable or prohibitively expensive when we require it, the consequences could be a material adverse effect on our business, operating results, financial condition and prospects.

Future sales and issuances of our common stock or other securities may result in significant dilution and could cause the price of our common stock to decline.

To raise capital, we may sell common stock, convertible securities or other equity securities in one or more transactions at prices and in a manner we determine from time to time, including pursuant to the Purchase Agreement with Lincoln Park. These sales, or the perception in the market that the holders of a large number of shares intend to sell shares, could reduce the market price of our common stock. These sales may also result in material dilution to our existing stockholders, and new investors could gain rights superior to our existing stockholders.

In addition, sales of a substantial number of shares of our outstanding common stock in the public market could occur at any time. Certain of our stockholders, including Lincoln Park, hold a substantial number of our common stock that many of them are now able to sell in the public market. Sales of stock by these stockholders could have a material adverse effect on the trading price of our common stock.

We cannot predict what effect, if any, sales of our shares in the public market or the availability of shares for sale will have on the market price of our common stock. However, future sales of substantial amounts of our common stock in the public market, including shares issued upon exercise of outstanding warrants or options, or the perception that such sales may occur, could adversely affect the market price of our common stock.

Our management will have broad discretion over the use of the net proceeds from our sale of shares of common stock to Lincoln Park, you may not agree with how we use the proceeds and the proceeds may not be invested successfully.

Our management will have broad discretion as to the use of the net proceeds from our sale of shares of common stock to Lincoln Park, and we could use them for purposes other than those contemplated at the time of commencement of this offering. Accordingly, you will be relying on the judgment of our management with regard to the use of those net proceeds, and you will not have the opportunity, as part of your investment decision, to assess whether the proceeds are being used effectively. It is possible that, pending their use, we may invest those net proceeds in a way that does not yield a favorable, or any, return for us. The failure of our management to use such funds effectively could have a material adverse effect on our business, financial condition, operating results and cash flows.

LINCOLN PARK TRANSACTION

General

On April 28, 2020 (the “*Execution Date*”), we entered into a Purchase Agreement, as amended June 11, 2020, and a Registration Rights Agreement, with Lincoln Park. Pursuant to the terms of the Purchase Agreement, including stockholder approval of an amendment to the Company’s Certificate of Incorporation to increase the number of shares of the Company’s capital stock to 350.0 million shares, Lincoln Park has agreed to purchase from us up to \$10,250,000 of our common stock from time to time during the term of the Purchase Agreement, subject to certain limitations.

Other than the Initial Purchase Shares, which we sold to Lincoln Park on the Execution Date, and the Commencement Purchase Shares, which we sold to Lincoln Park on June 11, 2020, we do not have the right to commence any sales to Lincoln Park under the Purchase Agreement until the Commencement Date (defined below) has occurred. Thereafter, we may, from time to time, and at our sole discretion, on any single business day, direct Lincoln Park to purchase shares of our common stock in amounts up to 125,000 shares, which amounts may be increased depending on the market price of our common stock at the time of sale and subject to a maximum commitment by Lincoln Park of \$500,000 per Regular Purchase. In addition, at our discretion, Lincoln Park has committed to purchase other amounts under an Accelerated Purchase (as defined below) under certain circumstances. The purchase price per share sold will be based on the market price of our common stock immediately preceding the time of sale as computed under the Purchase Agreement. Lincoln Park may not assign or transfer its rights and obligations under the Purchase Agreement.

Pursuant to the terms of the Purchase Agreement, in no event may we issue or sell to Lincoln Park under the shares of our common stock under the Purchase Agreement which, when aggregated with all other shares of Common Stock then beneficially owned by Lincoln Park and its affiliates (as calculated pursuant to Section 13(d) of the Exchange Act and Rule 13d-3 promulgated thereunder), would result in the beneficial ownership by Lincoln Park and its affiliates of more than 4.99% of the then issued and outstanding shares of Common Stock.

Pursuant to the Registration Rights Agreement, the Company is required to register the shares of common stock that have been and may be issued to Lincoln Park under the Purchase Agreement. We have filed the registration statement with the SEC that includes this prospectus to register for resale under the Securities Act, up to 8,200,000 shares of common stock, representing 6.35% of our issued and outstanding shares of common stock on June 11, 2020.

Purchase of Shares Under the Purchase Agreement

Under the terms and subject to the conditions of the Purchase Agreement, the Company has the right, but not the obligation, to sell to Lincoln Park, and Lincoln Park is obligated to purchase up to \$10,250,000 of shares of common stock, including the Initial Purchase Shares purchased by Lincoln Park on the Execution Date. Such sales of common stock by the Company, if any, will be subject to certain limitations, and may occur from time to time, at the Company’s sole discretion, over the 24-month period commencing on the Commencement Date when the registration statement covering the resale of shares of common stock that have been and may be issued under the Purchase Agreement, which the Company agreed to file with the SEC pursuant to the Registration Rights Agreement, is declared effective by the SEC and a final prospectus in connection therewith is filed and the other conditions set forth in the Purchase Agreement are satisfied, all of which are outside the control of Lincoln Park.

Under the Purchase Agreement, on any business day over the term of the Purchase Agreement, the Company has the right, in its sole discretion, to present Lincoln Park with a purchase notice (each, a “*Purchase Notice*”) directing Lincoln Park to complete a Regular Purchase of up to 125,000 shares of Common Stock per business day, which increases to up to 425,000 shares in the event the price of the Company’s Common Stock is not below \$0.55 per share (subject to adjustment for any reorganization, recapitalization, non-cash dividend, stock split, reverse stock split or other similar transaction as provided in the Purchase Agreement). In each case, Lincoln Park’s maximum commitment in any single Regular Purchase may not exceed \$500,000. The Purchase Agreement provides for a purchase price per Purchase Share (the “*Purchase Price*”) equal to the lesser of:

- the lowest sale price of the Company’s Common Stock on the purchase date; and
- the average of the three lowest closing sale prices for the Company’s Common Stock during the fifteen consecutive business days ending on the business day immediately preceding the purchase date of such shares.

In addition, on any date on which the Company submits a Purchase Notice to Lincoln Park, the Company also has the right, in its sole discretion, to present Lincoln with an accelerated purchase notice (each, an "*Accelerated Purchase Notice*") directing Lincoln Park to purchase an amount of stock (the "*Accelerated Purchase*") equal to up to the lesser of (i) three times the number of shares of Common Stock purchased pursuant to such Regular Purchase; and (ii) 30% of the aggregate shares of the Company's Common Stock traded during all or, if certain trading volume or market price thresholds specified in the Purchase Agreement are crossed on the applicable Accelerated Purchase Date, the portion of the normal trading hours on the applicable Accelerated Purchase Date prior to such time that any one of such thresholds is crossed (such period of time on the applicable Accelerated Purchase Date, the "*Accelerated Purchase Measurement Period*"), provided that Lincoln Park will not be required to buy shares of Common Stock pursuant to an Accelerated Purchase Notice that was received by Lincoln Park on any business day on which the last closing trade price of the Company's Common Stock on the OTC Markets (or alternative national exchange in accordance with the Purchase Agreement) is below \$0.25 per share. The purchase price per share of Common Stock for each such Accelerated Purchase will be equal to the lesser of:

- 95% of the volume weighted average price of the Company's Common Stock during the applicable Accelerated Purchase Measurement Period on the applicable Accelerated Purchase Date; and
- the closing sale price of the Company's Common Stock on the applicable Accelerated Purchase Date.

The Company may also direct Lincoln Park on any business day on which an Accelerated Purchase has been completed and all of the shares to be purchased thereunder have been properly delivered to Lincoln Park in accordance with the Purchase Agreement, to purchase an amount of stock (the "*Additional Accelerated Purchase*") equal to up to the lesser of (i) three times the number of shares purchased pursuant to such Regular Purchase; and (ii) 30% of the aggregate number of shares of the Company's Common Stock traded during a certain portion of the normal trading hours on the applicable Additional Accelerated Purchase date as determined in accordance with the Purchase Agreement (such period of time on the applicable Additional Accelerated Purchase date, the "*Additional Accelerated Purchase Measurement Period*"), provided that the closing price of the Company's Common Stock on the business day immediately preceding such business day is not below \$0.25 (subject to adjustment for any reorganization, recapitalization, non-cash dividend, stock split, reverse stock split or other similar transaction as provided in the Purchase Agreement). Additional Accelerated Purchases will be equal to the lower of:

- 95% of the volume weighted average price of the Company's Common Stock during the applicable Additional Accelerated Purchase Measurement Period on the applicable Additional Accelerated Purchase date; and
- the closing sale price of the Company's Common Stock on the applicable Additional Accelerated Purchase date.

In the case of the regular purchases and accelerated purchases, the purchase price per share will be equitably adjusted for any reorganization, recapitalization, non-cash dividend, stock split, reverse stock split or other similar transaction occurring during the business days used to compute the purchase price.

Other than as described above, there are no trading volume requirements or restrictions under the Purchase Agreement, and we will control the timing and amount of any sales of our common stock to Lincoln Park.

Events of Default

Events of default under the Purchase Agreement include the following:

- the effectiveness of a registration statement registering the resale of the Securities lapses for any reason (including, without limitation, the issuance of a stop order or similar order) or such registration statement (or the prospectus forming a part thereof) is unavailable to Lincoln Park for resale of any or all of the Securities to be issued to Lincoln Park under the Transaction Documents, and such lapse or unavailability continues for a period of ten (10) consecutive Business Days or for more than an aggregate of thirty (30) Business Days in any 365-day period, but excluding a lapse or unavailability where (i) the Company terminates a registration statement after Lincoln Park has confirmed in writing that all of the Securities covered thereby have been resold or (ii) the Company supersedes one registration statement with another registration statement, including (without limitation) by terminating a prior registration statement when it is effectively replaced with a new registration statement covering Securities (provided in the case of this clause (ii) that all of the Securities covered by the superseded (or terminated) registration statement that have not theretofore been resold are included in the superseding (or new) registration statement);
- the suspension of the Common Stock from trading on the Principal Market for a period of one (1) Business Day, provided that the Company may not direct Lincoln Park to purchase any shares of Common Stock during any such suspension;
- the delisting of the Common Stock from the OTCQB, provided, however, that the Common Stock is not immediately thereafter trading on The Nasdaq Capital Market, the New York Stock Exchange, The Nasdaq Global Market, The Nasdaq Global Select Market, the NYSE American, the NYSE Arca, the OTC Bulletin Board, the OTCQX operated by the OTC Markets Group, Inc. (or nationally recognized successor to any of the foregoing);
- the failure for any reason by the Transfer Agent to issue Purchase Shares to Lincoln Park within three (3) Business Days after the applicable Purchase Date, Accelerated Purchase Date or Additional Accelerated Purchase Date (as applicable) on which Lincoln Park is entitled to receive such Purchase Shares;
- the Company breaches any representation, warranty, covenant or other term or condition under any Transaction Document if such breach has or could have a Material Adverse Effect and except, in the case of a breach of a covenant which is reasonably curable, only if such breach continues for a period of at least five (5) Business Days;
- if any Person commences a proceeding against the Company pursuant to or within the meaning of any Bankruptcy Law;
- if, pursuant to or within the meaning of any Bankruptcy Law, the Company (i) commences a voluntary case, (ii) consents to the entry of an order for relief against it in an involuntary case, (iii) consents to the appointment of a Custodian of it or for all or substantially all of its property, or (iv) makes a general assignment for the benefit of its creditors or is generally unable to pay its debts as the same become due;
- a court of competent jurisdiction enters an order or decree under any Bankruptcy Law that (i) is for relief against the Company in an involuntary case, (ii) appoints a Custodian of the Company or for all or substantially all of its property, or (iii) orders the liquidation of the Company or any Subsidiary or;
- if at any time the Company is not eligible to transfer its Common Stock electronically as DWAC Shares.

Lincoln Park does not have the right to terminate the Purchase Agreement upon any of the events of default set forth above. During an event of default, all of which are outside of Lincoln Park's control, we may not direct Lincoln Park to purchase any shares of our common stock under the Purchase Agreement.

Termination Rights of the Company

We have the unconditional right, at any time, for any reason and without any payment or liability to Lincoln Park, to give notice to Lincoln Park to terminate the Purchase Agreement.

No Short-Selling or Hedging by Lincoln Park

Lincoln Park has agreed that neither it nor any of its affiliates shall engage in any direct or indirect short-selling or hedging of our common stock during any time prior to the termination of the Purchase Agreement.

Prohibitions on Variable Rate Transactions

There are no restrictions on future financings, rights of first refusal, participation rights, penalties or liquidated damages in the Purchase Agreement or Registration Rights Agreement, other than a prohibition on entering into a “Variable Rate Transaction,” as defined in the Purchase Agreement.

Effect of Performance of the Purchase Agreement on Our Stockholders

All 8,200,000 shares registered in this offering which have been and may be issued or sold by us to Lincoln Park under the Purchase Agreement are expected to be freely tradable. It is anticipated that shares registered in this offering may be sold over a period of up to 24-months commencing on the date that the registration statement including this prospectus becomes effective. The sale by Lincoln Park of a significant number of shares registered in this offering at any given time could cause the market price of our common stock to decline and to be highly volatile. Sales of our common stock to Lincoln Park, if any, will depend upon market conditions and other factors to be determined by us. We may ultimately decide to sell to Lincoln Park all, some or none of the additional shares of our common stock that may be available for us to sell pursuant to the Purchase Agreement. If and when we do sell shares to Lincoln Park, after Lincoln Park has acquired the shares, Lincoln Park may resell all, some or none of those shares at any time or from time to time in its discretion. Therefore, sales to Lincoln Park by us under the Purchase Agreement may result in substantial dilution to the interests of other holders of our common stock. In addition, if we sell a substantial number of shares to Lincoln Park under the Purchase Agreement, or if investors expect that we will do so, the actual sales of shares or the mere existence of our arrangement with Lincoln Park may make it more difficult for us to sell equity or equity-related securities in the future at a time and at a price that we might otherwise wish to effect such sales. However, we have the right to control the timing and amount of any additional sales of our shares to Lincoln Park and the Purchase Agreement may be terminated by us at any time at our discretion without any cost to us.

The Purchase Agreement prohibits us from issuing or selling to Lincoln Park under the Purchase Agreement any shares of our common stock if those shares, when aggregated with all other shares of our common stock then beneficially owned by Lincoln Park and its affiliates, would exceed the Beneficial Ownership Limitation.

The following table sets forth the amount of gross proceeds we would receive from Lincoln Park from our sale of shares to Lincoln Park under the Purchase Agreement at varying purchase prices:

Assumed Average Purchase Price Per Share	Number of Registered Shares to be Issued if Full Purchase (1)	Percentage of Outstanding Shares After Giving Effect to the Issuance to Lincoln Park (2)	Proceeds from the Sale of Shares to Lincoln Park Under the \$10.25M Purchase Agreement (3)
\$ 0.10	3,200,000	6.2%	\$ 320,000
\$ 0.20	3,200,000	6.2%	\$ 640,000
\$ 0.31	3,200,000	6.2%	\$ 992,000
\$ 0.50	3,200,000	6.2%	\$ 1,600,000
\$ 1.00	3,200,000	6.2%	\$ 3,200,000

- (1) Includes the total number of purchase shares which we would have sold under the Purchase Agreement at the corresponding assumed purchase price per share set forth in the adjacent column, which does not include the 2.5 million Commitment Shares, previously issued to Lincoln Park, nor the 1.0 million Initial Purchase Shares and 1.5 million Commencement Purchase Shares previously sold to Lincoln Park. Although the Purchase Agreement provides that we may sell up to \$10,250,000 of our common stock to Lincoln Park (including the 2.5 million Commitment Shares, the 1.0 million Initial Purchase Shares and the 1.5 million Commencement Purchase Shares), we are only registering 8,200,000 shares (including the 2.5 million Commitment Shares, the 1.0 million Initial Purchase Shares and the 1.5 million Commencement Purchase Shares previously issued to Lincoln Park) under this prospectus, which may or may not cover all the shares we ultimately sell to Lincoln Park under the Purchase Agreement, depending on the purchase price per share. As a result, we have included in this column only those shares that we are registering in this offering.
- (2) The denominator is based on 129,035,167 shares outstanding as of June 11, 2020, which includes (i) 2.5 million Commitment Shares, 1.0 million Initial Purchase Shares and 1.5 million Commencement Purchase Shares issued to Lincoln Park following the execution of the Purchase Agreement, and (ii) the number of shares set forth in the adjacent column which we would have sold to Lincoln Park, assuming the purchase price in the adjacent column. The numerator is based on the number of shares issuable under the Purchase Agreement at the corresponding assumed purchase price set forth in the adjacent column. Although the percentage of outstanding shares beneficially owned by Lincoln Park after giving effect to the issuance to Lincoln Park of all shares under the Purchase Agreement is 6.2%, the Purchase Agreement restricts the total percentage of outstanding shares beneficially owned by Lincoln Park at 4.99%.
- (3) Does not include \$100,000 proceeds from sale of 1.0 million Initial Purchase Shares nor \$150,000 proceeds from sale of 1.5 Commencement Purchase Shares.

SELLING STOCKHOLDER

This prospectus relates to only the resale by the selling stockholder, Lincoln Park, of shares of common stock that have been or may be issued and sold to Lincoln Park pursuant to the Purchase Agreement. We are filing the registration statement of which this prospectus forms a part pursuant to the provisions of the Registration Rights Agreement, which we entered into with Lincoln Park on April 28, 2020 concurrently with our execution of the Purchase Agreement, in which we agreed to provide certain registration rights with respect to sales by Lincoln Park of the shares of our common stock that have been and may be issued to Lincoln Park under the Purchase Agreement.

Lincoln Park, as the selling stockholder, may, from time to time, offer and sell pursuant to this prospectus any or all of the shares that we have sold and may sell to Lincoln Park under the Purchase Agreement. The selling stockholder may sell some, all or none of its shares. We do not know how long the selling stockholder will hold the shares before selling them, and we currently have no agreements, arrangements or understandings with the selling stockholder regarding the sale of any of the shares.

The following table presents information regarding the selling stockholder and the shares that it may offer and sell from time to time under this prospectus. The table is prepared based on information supplied to us by the selling stockholder, and reflects its holdings as of April 28, 2020. Neither Lincoln Park nor any of its affiliates has held a position or office, or had any other material relationship, with us or any of our predecessors or affiliates. Beneficial ownership is determined in accordance with Section 13(d) of the Exchange Act and Rule 13d-3 thereunder.

Selling Stockholder	Shares Beneficially Owned Before this Offering	Percentage of Outstanding Shares Beneficially Owned Before this Offering	Shares to be Sold in this Offering Assuming the Company issues the Maximum Number of Shares Under the Purchase Agreement	Percentage of Outstanding Shares Beneficially Owned After this Offering
Lincoln Park Capital Fund, LLC ⁽¹⁾	5,000,000 ⁽²⁾	3.87% ⁽³⁾	8,200,000 ⁽⁴⁾	0.00%

- (1) Josh Scheinfeld and Jonathan Cope, the Managing Members of Lincoln Park Capital, LLC, are deemed to be beneficial owners of all of the shares of common stock owned by Lincoln Park Capital Fund, LLC. Messrs. Cope and Scheinfeld have shared voting and investment power over the shares being offered under the prospectus filed with the SEC in connection with the transactions contemplated under the Purchase Agreement. Lincoln Park Capital, LLC is not a licensed broker dealer or an affiliate of a licensed broker dealer.
- (2) Includes (i) 1.0 million shares sold to Lincoln Park as Initial Purchase Shares under the Purchase Agreement; (ii) the 1.5 million shares sold to Lincoln Park as Commencement Purchase Shares under the Purchase Agreement; and (iii) 2.5 million shares issued to Lincoln Park as Commitment Shares which are being registered under the registration statement of which this prospectus is a part. See the description under the heading *The Lincoln Park Transaction* below for more information about the Purchase Agreement.
- (3) Based on 129,035,167 shares of our Common Stock outstanding as of June 11, 2020.
- (4) Although the Purchase Agreement provides that we may sell up to \$10,250,000 of our common stock to Lincoln Park, in addition to the 2.5 million Commitment Shares, the 1.0 million Initial Purchase Shares and the 1.5 million Commencement Purchase Shares, an additional 3,200,000 shares of our common stock are being offered under this prospectus that may be sold by us to Lincoln Park, at our discretion, from time to time over a 24-month period commencing after the Commencement Date. Depending on the price per share at which we sell our common stock to Lincoln Park pursuant to the Purchase Agreement, we may need to sell to Lincoln Park under the Purchase Agreement more shares of our common stock than are offered under this prospectus in order to receive aggregate gross proceeds equal to the \$10,250,000 total commitment available to us under the Purchase Agreement. If we choose to do so, we must first register for resale under the Securities Act such additional shares. The number of shares ultimately offered for resale by Lincoln Park is dependent upon the number of shares we sell to Lincoln Park under the Purchase Agreement. See “*The Lincoln Park Transaction*.”

PLAN OF DISTRIBUTION

The common stock offered by this prospectus is being offered by the selling stockholder, Lincoln Park. The common stock may be sold or distributed from time to time by the selling stockholder directly to one or more purchasers or through brokers, dealers, or underwriters who may act solely as agents at market prices prevailing at the time of sale, at prices related to the prevailing market prices, at negotiated prices, or at fixed prices, which may be changed. The sale of the common stock offered by this prospectus could be affected in one or more of the following methods:

- ordinary brokers' transactions;
- transactions involving cross or block trades;
- through brokers, dealers, or underwriters who may act solely as agents;
- "at the market" into an existing market for the common stock;
- in other ways not involving market makers or established business markets, including direct sales to purchasers or sales effected through agents;
- in privately negotiated transactions; or
- any combination of the foregoing.

In order to comply with the securities laws of certain states, if applicable, the shares may be sold only through registered or licensed brokers or dealers. In addition, in certain states, the shares may not be sold unless they have been registered or qualified for sale in the state or an exemption from the state's registration or qualification requirement is available and complied with.

Lincoln Park is an "underwriter" within the meaning of Section 2(a)(11) of the Securities Act.

Lincoln Park has informed us that it intends to use an unaffiliated broker-dealer to effectuate all sales, if any, of the common stock that it may purchase from us pursuant to the Purchase Agreement. Such sales will be made at prices and at terms then prevailing or at prices related to the then current market price. Each such unaffiliated broker-dealer will be an underwriter within the meaning of Section 2(a)(11) of the Securities Act. Lincoln Park has informed us that each such broker-dealer will receive commissions from Lincoln Park that will not exceed customary brokerage commissions.

Brokers, dealers, underwriters or agents participating in the distribution of the shares as agents may receive compensation in the form of commissions, discounts, or concessions from the selling stockholder and/or purchasers of the common stock for whom the broker-dealers may act as agent. The compensation paid to a particular broker-dealer may be less than or in excess of customary commissions. Neither we nor Lincoln Park can presently estimate the amount of compensation that any agent will receive.

We know of no existing arrangements between Lincoln Park or any other stockholder, broker, dealer, underwriter or agent relating to the sale or distribution of the shares offered by this prospectus. At the time a particular offer of shares is made, a prospectus supplement, if required, will be distributed that will set forth the names of any agents, underwriters or dealers and any compensation from the selling stockholder, and any other required information.

We will pay the expenses (except brokerage fees and commissions and similar expenses) incurred in registering the shares, including legal and accounting fees. We have agreed to indemnify Lincoln Park and certain other persons against certain liabilities in connection with the offering of shares of common stock offered hereby, including liabilities arising under the Securities Act or, if such indemnity is unavailable, to contribute amounts required to be paid in respect of such liabilities. Lincoln Park has agreed to indemnify us against liabilities under the Securities Act that may arise from certain written information furnished to us by Lincoln Park specifically for use in this prospectus or, if such indemnity is unavailable, to contribute amounts required to be paid in respect of such liabilities.

Lincoln Park has represented to us that at no time prior to the Purchase Agreement has Lincoln Park or its agents, representatives or affiliates engaged in or effected, in any manner whatsoever, directly or indirectly, any short sale (as such term is defined in Rule 200 of Regulation SHO of the Exchange Act) of our common stock or any hedging transaction, which establishes a net short position with respect to our common stock. Lincoln Park agreed that during the term of the Purchase Agreement, it, its agents, representatives or affiliates will not enter into or effect, directly or indirectly, any of the foregoing transactions.

We have advised Lincoln Park that it is required to comply with Regulation M promulgated under the Exchange Act. With certain exceptions, Regulation M precludes the selling stockholder, any affiliated purchasers, and any broker-dealer or other person who participates in the distribution from bidding for or purchasing, or attempting to induce any person to bid for or purchase any security which is the subject of the distribution until the entire distribution is complete. Regulation M also prohibits any bids or purchases made in order to stabilize the price of a security in connection with the distribution of that security. All of the foregoing may affect the marketability of the securities offered by this prospectus.

This offering will terminate on the earlier of (i) termination of the Purchase Agreement or (ii) the date that all shares offered by this prospectus have been sold by Lincoln Park.

Our common stock is currently listed for quotation on the OTCQB Marketplace under the symbol "IWSY."

USE OF PROCEEDS

This prospectus relates to shares of our common stock that may be offered and sold from time to time by Lincoln Park. We may receive up to \$10,000,000 aggregate gross proceeds under the Purchase Agreement from any sales we make to Lincoln Park pursuant to the Purchase Agreement after the date of this prospectus. However, we may not be registering for sale or offering for resale under the registration statement of which this prospectus is a part all of the shares issuable pursuant to the Purchase Agreement. In any event, we will receive no proceeds from the sale of any shares of common stock by Lincoln Park pursuant to this prospectus. As we are unable to predict the timing or amount of potential issuances of all of the shares offered hereby (other than the Commitment Shares or the Initial Purchase Shares), we have not allocated any proceeds of such issuances to any particular purpose. Accordingly, all such proceeds are expected to be used for general research and development, working capital and general corporate purposes.

Pending other uses, we intend to invest any proceeds from the offering in short-term investments or hold them as cash. We cannot predict whether the proceeds invested will yield a favorable return. Our management will have broad discretion in the use of the net proceeds from this offering, and investors will be relying on the judgment of our management regarding the application of the net proceeds.

DESCRIPTION OF OUR SECURITIES

General

Our certificate of incorporation, as amended (our “*Charter*”), authorizes the issuance of up to 345,000,000 shares of our common stock, \$0.01 par value per share, and 5,000,000 shares of preferred stock, \$0.01 par value per share.

As of June 11, 2020, we had 129,035,167 shares of common stock issued and outstanding. Our authorized but unissued shares of common stock are available for issuance without action by our stockholders. All shares of common stock now outstanding are fully paid and non-assessable. In addition, our Board of Directors has designated three series of preferred stock, Series A Convertible Preferred (“*Series A Preferred*”), Series B Convertible Redeemable Stock (“*Series B Preferred*”) and Series C Convertible Preferred (“*Series C Preferred*”). As of June 11, 2020, there were 37,468 shares of Series A Preferred issued and outstanding, 239,400 shares of Series B Preferred issued and outstanding and 1,000 shares of Series C Preferred issued and outstanding.

We may elect or be required to amend our Charter to increase the number of shares of common stock authorized for issuance prior to completing sales of shares of our common stock, or securities convertible and/or exchangeable into shares of our common stock described in this prospectus.

Transfer Agent

The transfer agent and registrar for our common stock is Computershare Trust Company, N.A. The transfer agent and registrar’s address is 250 Royall Street, Canton, Massachusetts 02021.

Common Stock

This section describes the general terms of our common stock that we may offer from time to time. For more detailed information, a holder of our common stock should refer to our Charter and our bylaws, copies of which are filed with the SEC as exhibits to the registration statement of which this prospectus is a part.

Except as otherwise expressly provided in our Charter, or as required by applicable law, all shares of our common stock have the same rights and privileges and rank equally, share ratably and are identical in all respects as to all matters, including, without limitation, those described below. All outstanding shares of common stock are fully paid and nonassessable.

The holders of our common stock have equal ratable rights to dividends from funds legally available, when, as and if declared by our Board of Directors. To date, we have not paid any dividends on our common stock. Holders of common stock are also entitled to share ratably in all of our assets available for distribution to holders of common stock upon liquidation, dissolution or winding up of the affairs. The holders of our common stock have no preemptive or conversion rights or other subscription rights. There are no redemption or sinking fund provisions applicable to our common stock.

Each holder of common stock is entitled to one vote for each share of common stock held on all matters submitted to a vote of the stockholders, including the election of directors. The holders of shares of common stock do not have cumulative voting rights, which means that the holders of more than 50% of such outstanding shares, voting for the election of directors, can elect all of the directors to be elected, if they so choose and in such event, the holders of the remaining shares will not be able to elect any of our directors. The holders of 50% percent of the outstanding common stock constitute a quorum at any meeting of shareholders, and the vote by the holders of a majority of the outstanding shares are required to effect certain fundamental corporate changes, such as liquidation, merger or amendment of our Charter.

DIVIDEND POLICY

We have never paid or declared any cash dividends on our common stock, and we do not anticipate paying any cash dividends on our common stock in the foreseeable future. Shares of our Series B Preferred Stock accrue dividends at a rate of 8.5% per annum, which dividends are payable semiannually in cash. Shares of our Series A and Series C Preferred Stock accrue dividends at a rate of 8% if paid in cash and 10% if paid with common stock, which dividends are payable quarterly.

DESCRIPTION OF OUR BUSINESS

ImageWare Systems, Inc., a Delaware corporation since 2005 and previously incorporated in California in 1987 as a California corporation, has its principal place of business at 13500 Evening Creek Drive N, Suite 550, San Diego, California 92128. We maintain a corporate website at www.iwsinc.com. Our common stock, par value \$0.01 per share (“*Common Stock*”), is currently listed for quotation on the OTCQB marketplace under the symbol “IWSY”. As used in this prospectus, “*we*”, “*us*”, “*our*”, “*ImageWare*”, “*ImageWare Systems*” or the “*Company*” refers to ImageWare Systems, Inc. and all of its subsidiaries.

Overview

The Company is a pioneer and leader in the emerging market for biometrically enabled software-based identity management solutions. Using those human characteristics that are unique to us all, the Company creates software that provides a highly reliable indication of a person’s identity and its “flagship” product is the patented IWS Biometric Engine®. The Company’s products are used to manage and issue secure credentials, including national IDs, passports, driver licenses and access control credentials. The Company’s products also provide law enforcement with integrated mugshot, fingerprint LiveScan and investigative capabilities. The Company also provides comprehensive authentication security software using biometrics to secure physical and logical access to facilities or computer networks or internet sites. Biometric technology is now an integral part of all markets the Company addresses, and all the products are integrated into the IWS Biometric Engine.

Our IWS Biometric Engine is a patented biometric identity management software platform for multi-biometric enrollment, management and authentication, managing population databases of virtually unlimited sizes. It is hardware agnostic and can utilize different types of biometric algorithms. It allows different types of biometrics to be operated at the same time on a seamlessly integrated platform. It is also offered as a Software Development Kit (“*SDK*”) based search engine, enabling developers and system integrators to implement a biometric solution or integrate biometric capabilities into existing applications without having to derive biometric functionality from preexisting applications.

Our secure credential solutions empower customers to create secure and smart digital identification documents with complete ID systems. We develop, sell and support software and design systems that utilize digital imaging and biometrics in the production of photo identification cards, credentials and identification systems. Our products in this market consist of IWS EPI Suite and IWS EPI Builder. These products allow for production of digital identification cards and related databases and records and can be used by, among others, schools, airports, hospitals, corporations or governments. We have added the ability to incorporate multiple biometrics into the ID systems with the integration of IWS Biometric Engine to our secure credential product line.

The Company is also a developer of a biometric based multi-factor authentication (MFA) cloud-based service. The service, GoVerifyID® brings together cloud and mobile technologies to offer multi-factor authentication for smartphone users, for the enterprise, and across industries. GoVerifyID® consists of mobile and desktop client applications and a cloud-based Software-as-a-Service (“*SaaS*”) which services cloud-based template matching requests for authentication requests. GoVerifyID® is leveraged by product developers to enable biometric authentication for their consumers and enterprises securing access to company property and IP. For the enterprise, GoVerifyID® provides turnkey integration with Microsoft Windows, Microsoft Active Directory, CA SSO, IBM Security Access Manager (“*ISAM*”), SAP Cloud Platform, Fujitsu's RunMyProcess and HPE’s Aruba ClearPass. These integrations provide multi-modal biometric authentication to replace or augment passwords for use with enterprise and consumer class systems

Our law enforcement solutions enable agencies to quickly capture, archive, search, retrieve, and share digital images, fingerprints and other biometrics as well as criminal history records on a stand-alone, networked, wireless or web-based platform. We develop, sell and support a suite of modular software products used by law enforcement and public safety agencies to create and manage criminal history records and to investigate crime. Our IWS Law Enforcement solution consists of five software modules: Capture and Investigative modules, which provide a criminal booking system with related databases as well as the ability to create and print mug photo/SMT image lineups and electronic mug-books; a Facial Recognition module, which uses biometric facial recognition to identify suspects; a Web module, which provides access to centrally stored records over the Internet in a connected or wireless fashion; and a LiveScan module, which incorporates LiveScan capabilities into IWS Law Enforcement providing integrated fingerprint and palm print biometric management for civil and law enforcement use. The IWS Biometric Engine is also available to our law enforcement clients and allows them to capture and search using other biometrics such as iris or DNA.

Coronavirus (COVID-19) Pandemic

On March 11, 2020 the World Health Organization declared the novel strain of coronavirus (“COVID-19”) a global pandemic and recommended containment and mitigation measures worldwide. Our offices are currently under a shelter-in-place mandate and many of our clients worldwide are similarly impacted. The global outbreak of COVID-19 continues to rapidly evolve, and the extent to which COVID-19 may impact our business and the markets we serve will depend on future developments, which are highly uncertain and cannot be predicted with confidence, such as the ultimate geographic spread of the disease, the duration of the outbreak, travel restrictions and social distancing in the United States and other countries, business closures or business disruptions, and the effectiveness of actions taken in the United States and other countries to contain and treat the disease. We are continuing to vigilantly monitor the situation with our primary focus on the health and safety of our employees and clients.

Solutions and Products

Our identity management solutions are primarily focused around biometrics and secure credentials providing complete, cross-functional and interoperable systems.

IWS Biometric Engine. This is a biometric identity management platform for multi-biometric enrollment, management and authentication, managing population databases of unlimited sizes without regard to hardware or algorithm. Searches can be 1:1 (verification), 1:N (identification), X:N (investigative) and N:N (database integrity). IWS Biometric Engine is technology and biometric agnostic, enabling the use of biometric devices and algorithms from any vendor, and the support of the following biometric types: finger, face, iris, hand geometry, palm, signature, DNA, voice, 3D face and retina. The IWS Biometric Engine is available as an SDK, as well as a platform for custom configurations to meet specific customer requirements. The added suite of products provides government, law enforcement, border management and enterprise businesses with a wide variety of application-specific solutions that address specific government mandates and technology standards. It also provides users with the ability to integrate into existing legacy systems and expand based upon specific customer requirements.

GoVerifyID®. The Company introduced GoVerifyID®, a multi-factor biometric authentication solution for the enterprise markets on November 14, 2016. Our GoVerifyID products support multi-modal biometric authentication including, but not limited to, face, voice, fingerprint, iris, palm, and more. All the biometrics can be combined with or used as replacements for authentication and access control tools, including tokens, digital certificates, passwords, and PINS, to provide the ultimate level of assurance, accountability, and ease of use for corporate networks, web applications, mobile devices, and PC desktop environments. GoVerifyID provides patented multi-modal biometric identity authentication that can be used in place of passwords or as a strong second factor authentication method. GoVerifyID is provided as a cloud-based Software-as-a-Service (“SaaS”) solution, thereby, eliminating complex IT deployment of biometric software and eliminating startup costs. GoVerifyID works with existing mobile devices, eliminating the need for specialized biometric scanning devices typically used with most biometric solutions.

IWS EPI Suite. This is an ID software solution for producing, issuing, and managing secure credentials and personal identification cards. Users can efficiently manage large amounts of data, images and card designs, as well as track and issue multiple cards per person, automatically populate multiple cards and eliminate redundant data entry. IWS EPI Suite was designed to integrate with our customers’ existing security and computing infrastructure. We believe that this compatibility may be an appealing feature to corporations, government agencies, transportation departments, school boards and other public institutions.

IWS EPI Builder. This is an SDK and a leading secure credential component of identity management and security solutions, providing all aspects of ID functionality from image and biometric capture to the enrollment, issuance and management of secure documents. It contains components which developers or systems integrators can use to support and produce secure credentials, including national IDs, passports, International Civil Aviation Office -compliant travel documents, smartcards and driver licenses. IWS EPI Builder enables organizations to develop custom identification solutions or incorporate sophisticated identification capabilities into existing applications including the ability to capture images, biometric and demographic data; enable biometric identification and verification (1:1 and 1:X); as well as support numerous biometric hardware and software vendors. It also enables users to add electronic identification functionality for other applications, including access control, tracking of time and attendance, point of sale transactions, human resource systems, school photography systems, asset management, inventory control, warehouse management, facilities management and card production systems.

IWS Law Enforcement. IWS Law Enforcement is a digital booking, identification and investigative solution that enables users to digitally capture, store, search and retrieve images and demographic data, including mugshots, fingerprints and SMT's. Law enforcement may choose between submitting fingerprint data directly to the State Automated Fingerprint Identification System ("AFIS"), FBI criminal repository, or other agencies as required. Additional features and functionality include real-time access to images and data, creation of photo lineups and electronic mug books, and production of identification cards and credentials. IWS Law Enforcement also uses off-the-shelf hardware and is designed to comply with open industry standards so that it can operate on an array of systems ranging from a stand-alone personal computer to a wide area network. To avoid duplication of entries, the system can be integrated easily with several other information storage and retrieval systems, such as a records/jail management system ("RMS/JMS") or an automated fingerprint identification system.

Capture. This software module allows users to capture and store a variety of images (facial, SMT and others such as evidence photos) as well as biographical text information. Each record includes images and text information in an easy-to-view format made up of fields designed and defined by the individual agency. Current customers of this module range from agencies that capture a few thousand mug shots per year to those that capture hundreds of thousands of mug shots each year.

LiveScan. This software module is FBI certified and complies with the FBI Integrated Automated Fingerprint Identification System ("IAFIS") Image Quality Specifications ("IQS") while utilizing FBI certified LiveScan devices from most major vendors. LiveScan allows users to capture single to ten prints and palm data, providing an integrated biometric management solution for both civil and law enforcement use. By adding LiveScan capabilities, law enforcement organizations further enhance the investigative process by providing additional identifiers to identify suspects involved in a crime. In addition, officers no longer need to travel to multiple booking stations to capture fingerprints and mugshots. All booking information, including images, may be located at a central designation and from there routed to the State AFIS or FBI criminal history record repository.

Investigative. This software module allows users to search the database created with IWS Law Enforcement. Officers can conduct text searches in many fields, including file number, name, alias, distinctive features, and other information, such as gang membership and criminal history. The Investigative module creates a catalogue of possible matches, allowing officers or witnesses to save time by looking only at mug shots that closely resemble the description of the suspect. This module can also be used to create a line-up of similar facial images from which a witness may identify the suspect.

Facial Recognition. This software module uses biometric facial recognition and retrieval technology to help authorities identify possible suspects. Images taken from surveillance videos or photographs can be searched against a digital database of facial images to retrieve any desired number of faces with similar characteristics. This module can also be used at the time of booking to identify persons using multiple aliases. Using biometrics-based technology, the application can search through thousands of facial images in a matter of seconds, reducing the time it would otherwise take a witness to flip through a paper book of facial images that may or may not be similar to the description of the suspect. The Facial Recognition module then creates a selection of possible matches ranked in order of similarity to the suspect, and a percentage confidence level is attributed to each possible match. The application incorporates search engine technology, which we license from various facial recognition algorithm providers.

EPI Designer for Law Enforcement. The EPI Designer for LE software is a design solution created for the IWS Law Enforcement databases based on the IWS EPI Suite program. This program allows integration with various IWS databases for the production of unique booking/inmate reports, wristbands, photo ID cards, Wanted or BOLO fliers, etc., created from the information stored in booking records. Designs can be created in minutes and quickly added to the IWS Law Enforcement system, allowing all users with appropriate permissions immediate access to the newly added form.

Quick Capture. QuickCapture is a multiple biometric capture application that dynamically adapts to a client's required use case, including different city, state, and federal charge codes. With it, you can collect a variety of biometrics (face, finger, palm, iris, voice, etc.) using a variety of biometric hardware in the order desired as well as any needed biographic information associated with the subjects.

Maintenance and Customer Support

Maintenance and support enrollment entitle software license customers to technical support services, including telephone and internet support and problem resolution services, and the right to receive unspecified product upgrades, maintenance releases and patches released during the term of the support period on a when-and-if-available basis. Maintenance and support service fees are an important source of recurring revenue, and we invest significant resources in providing maintenance and support services.

Customers

We have a wide variety of domestic and international customers. Most of our IWS Law Enforcement customers are government agencies at the federal, state and local levels in the United States. Our secure credential products are also being used in Australia, Canada, the United Arab Emirates, Kuwait, Saudi Arabia, Mexico, Colombia, Costa Rica, Venezuela, Singapore, Indonesia and the Philippines. For the year ended December 31, 2019, two customers accounted for approximately 37% or \$1,301,000 of total revenue and had \$161,000 trade receivables as of the end of the year, as compared to one customer that accounted for approximately 36% or \$1,573,000 of total revenue and had \$0 trade receivables as of the end of the December 31, 2018.

Our Strategy

Our strategy is to provide biometric-based identity management solutions to governments and enterprises through key partners and large systems integrators and by our own direct sales team.

With recent COVID-19 events, remote work and social distancing have quickly been brought to the forefront of society. And while the impact of these events will be uncovered over the coming years, many problems have been immediately realized by corporations and government agencies, which are diligently looking for solutions to these new challenges.

Within a matter of weeks corporations and government agencies have had to heavily rely upon remote access technologies to enable work continuity through the pandemic. This increase in employees remotely accessing sensitive corporate systems has increased the risk of both cybercrime and unintentional information leaks. This risk is also increased by the fact that many employees now use a mixture of personal and corporate owned devices on the job, a trend known as Bring Your Own Device (BYOD).

Verification of an individual through biometrics is an effective way to authenticate users accessing sensitive information and systems. GoVerifyID® provides this functionality and is already integrated in many of the authentication systems leveraged by large companies and agencies to manage the identities of their employees and users. We will market and sell GoVerifyID® as a solution as a solution for protecting corporate systems during this time of increased awareness and opportunity, leveraging targeted web ads and our inside sales team to increase sales through the increased need to securely provide remote access to employees.

Additionally, social distancing and the need to limit personal contact throughout everyday life is driving governments and corporations to deploy new ways to continue work and commerce while minimizing contact points between individuals. We believe this trend will increase the acceptance and use of biometrics as a means of contactless authentication for retail, finance, government services and transportation.

Scaling out biometrics across these verticals is going to require new methods and solutions to support the increased number of users and transactions. With our decades of experience innovating and scaling government grade biometric solutions and our years executed strategy of creating multimodal, vendor agnostic solutions, Imageware has had a rich portfolio of products and solutions to address these new challenges brought on by the pandemic. Over the next year we will work with customers, partners, and sales prospects to leverage and integrate existing product assets to support an end-to-end workflow. Enroll, Validate, Credential and Authenticate. A streamlined, scalable solution to capture biometric data from individuals and then make them usable through smart card and mobile-based access management and authentication to support the operationalization of biometrics in a way that is cost effective, transparent and secure.

Additionally, the law enforcement community continues to be an important market and customer base. Over the past few years innovation within our law enforcement product line has been static, which has resulted in revenue being primarily driven from support and maintenance. Recently ImageWare released a new product offering to the law enforcement sector called, Quick Capture. Quick Capture streamlines the process of capturing biometrics from perpetrators. The law enforcement market will immediately benefit from this product, but we also believe we can leverage this into new places such as; corporate, academia, hospitality, entertainment. We will continue to strategically invest our law enforcement product offerings.

We believe the increasing demand for biometric technology will drive demand for our solutions. Our identity management products are built to accommodate the use of biometrics and meet the demanding requirements across the entire identity life cycle.

The recent outbreak of the novel coronavirus, COVID-19, which has been declared by the World Health Organization to be a pandemic, has spread across the globe and is impacting worldwide economic activity and may impact our strategy. A pandemic, including COVID-19 or other public health epidemic, poses the risk that we or our employees, contractors, suppliers, and other partners may be prevented from conducting business activities for an indefinite period of time and causing shutdowns that may be requested or mandated by governmental authorities. While it is not possible at this time to estimate the impact that COVID-19 could have on our business, the COVID-19 pandemic and mitigation measures have had and may continue to have an adverse impact on global economic conditions which could have an adverse effect on our business.

Sales and Marketing

We market and sell our products in most major world markets directly through our sales force and indirectly through channel partners, including resellers, distributors and systems integrators. Our sales force includes both field, and an inside sales which provides us a lower-cost channel for additional sales into existing customers and for expanding our customer base.

International Operations

We are a global company that conducts sales, sales support, professional services, and support, marketing and product distribution services from a number of international offices. In addition to our sales offices located in San Diego CA, we also conduct Sales activities in Canada, Mexico, Chile, Australia, and Japan. Our product manufacturing and distribution operations are based in San Diego CA, and Portland OR. We regularly seek out opportunities to efficiently expand our operations in international locations that offer highly talented resources as a way to maximize our global competitiveness.

Software Licenses

We license our software under both perpetual and term license models for customer on-premise use. Under perpetual license arrangements, our customers receive the perpetual license right to use our software in conjunction with related maintenance and support services that are generally purchased on an annual or multi-year basis. Under term license arrangements, our customers receive license rights to use our software along with bundled maintenance and support services for the term of the contract. The majority of our contracts provide customers with the right to use one or more of our products up to a specific license capacity. Capacity can be measured in many ways, including the number of servers, number of users, or identities.

Software as a Service Business Model

We also provide on-demand SaaS offerings for certain of our products. With the advent of cloud-based computing and the proliferation of smart mobile devices, which allow for reliable biometric capture and the need to secure access to data, products and services, the Company believes that the market for multi-biometric solutions will expand to encompass significant deployments of biometric systems in the commercial and consumer markets.

Competition

Biometric Market

The market to provide biometric systems to the identity management market is evolving and we face competition from a number of sources. We believe that the strength of our competitive position is based on:

- our ability to provide a system which enables the enrollment, management and authentication of multiple biometrics managing population databases of unlimited sizes;
- searches can be 1:1 (verification), 1:N (identification), X:N (investigative), and N:N (database integrity); and
- the system is technology and biometric agnostic, enabling the use of biometric devices and algorithms from any vendor, and the support of the following biometric types: finger, face, iris, hand geometry, palm, DNA, signature, voice, 3D face and retina.

Our multi-biometric product faces competition from French-based Safran, Irish-based Daon, 3M and Aware Inc., none of which have offerings with the scope and flexibility of our IWS Biometric Engine and its companion suite of products or relevant patent protection.

Credential Market

Due to the breadth of our software offering in the secure credential market space, we face differing degrees of competition in certain market segments. The strength of our competitive position is based upon:

- our strong brand reputation with a customer base, which includes small and medium-sized businesses, Fortune 500 corporations and large government agencies;
- the ease of integrating our technology into other complex applications; and
- the leveraged strength that comes from offering customers software tools, packaged solutions and web-based service applications that support a wide range of hardware peripherals.

Our software faces competition from Datacard Corporation, a privately held manufacturer of hardware, software and consumables for the ID market, as well as small, regionally based companies.

The Law Enforcement and Public Safety Markets

Due to the fragmented nature of the law enforcement and public safety market and the modular nature of our product suite, we face different degrees of competition with respect to each IWS Law Enforcement module. We believe the principal bases on which we compete with respect to all of our products are:

- the unique ability to integrate our modular products into a complete biometric, LiveScan, imaging and investigative system;
- our reputation as a reliable systems supplier;
- the usability and functionality of our products; and
- the responsiveness, availability and reliability of our customer support.

Our law enforcement product line faces competition from other companies such as DataWorks Plus and 3M. Internationally, there are often a number of local companies offering solutions in most countries.

Intellectual Property

We rely on trademark, patent, trade secret and copyright laws and confidentiality and license agreements to protect our intellectual property. We have several federally registered trademarks, including the trademark ImageWare and IWS Biometric Engine, as well as trademarks for which there are pending trademark registrations with the United States, Canadian and other International Patent & Trademark Offices.

We hold several issued patents and have several other patent applications pending for elements of our products. We believe we have the foundational patents regarding the use of multiple biometrics and continue to be an IP leader in the biometric arena. It is our belief that this intellectual property leadership will create a sustainable competitive advantage.

We are an early pioneer in the first to file patents related to multi-modal biometrics and currently are the worldwide leader in multi-modal biometric patents, with 23 issued patents worldwide and 18 patents pending. These technologies allow biometric matching using any type of biometric modality for identity verification while protecting the privacy of an individual. It is our belief that such technology will be critical to providing biometric management solutions for the consumer market where privacy protection has been a historical issue and barrier to biometric adoption.

Employees

We had a total of 75 and 73 full-time employees as of December 31, 2019 and 2018, respectively. In 2019, we had 66 employees based in the United States, six employees based in Canada and three employees based in other countries. In 2018, we had 64 employees based in the United States, six employees based in Canada and three employees based in other countries. Our employees are not covered by any collective bargaining agreement, and we have never experienced a work stoppage. We believe that our relations with our employees are good.

Environmental Regulation

Our business does not require us to comply with any particular environmental regulations.

Legal Proceedings

There is currently no action, suit, proceeding, inquiry or investigation before or by any court, public board, government agency, self-regulatory organization or body pending or, to the knowledge of the executive officers of the Company or any of our subsidiaries, threatened against or affecting the Company, our Common Stock, any of our subsidiaries or of the Company's or our subsidiaries' officers or directors in their capacities as such, in which an adverse decision could have a material adverse effect.

Additional Available Information

We make available, free of charge, at our corporate website www.iwsinc.com copies of our annual reports filed with the United States Securities and Exchange Commission ("SEC") on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, proxy statements, and all amendments to these reports, as soon as reasonably practicable after such material is electronically filed with or furnished to the SEC pursuant to Section 13(a) or 15(d) of the Exchange Act. We also provide copies of our Forms 8-K, 10-K, 10-Q, and proxy statements at no charge to investors upon request. Additionally, all reports filed by us with the SEC are available free of charge via EDGAR through the SEC website at www.sec.gov.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion should be read in conjunction with our consolidated financial statements and the related notes and other financial information appearing elsewhere in this prospectus. Readers are also urged to carefully review and consider the various disclosures made by us, which attempt to advise interested parties of the factors which affect our business, including (without limitation) the disclosures made under the captions "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Risk Factors", and in the audited consolidated financial statements and related notes included elsewhere in this prospectus.

Overview

The Company is a pioneer and leader in the emerging market for biometrically enabled software-based identity management solutions. Using those human characteristics that are unique to us all, we create software that provides a highly reliable indication of a person's identity. Our "flagship" product is our patented IWS Biometric Engine®. Scalable for small city business or worldwide deployment, our IWS Biometric Engine is a multi-biometric software platform that is hardware and algorithm independent, enabling the enrollment and management of unlimited population sizes. It allows a user to utilize one or more biometrics on a seamlessly integrated platform. Our products are used to manage and issue secure credentials, including national IDs, passports, driver licenses and access control credentials. Our products also provide law enforcement with integrated mug shot, LiveScan fingerprint and investigative capabilities. We also provide comprehensive authentication security software using biometrics to secure physical and logical access to facilities or computer networks or Internet sites. Biometric technology is now an integral part of all markets we address, and all of our products are integrated into the IWS Biometric Engine.

With the advent of cloud-based computing and the proliferation of smart mobile devices, which allow for reliable biometric capture and the need to secure access to data, products and services, the Company believes that the market for multi-biometric solutions will expand to encompass significant deployments of biometric systems in the commercial and consumer markets. The Company therefore intends to leverage the strength of its experience servicing existing government clients who have deployed the Company's products for large populations, as well as its foundational patent portfolio in the field of multi-modal biometrics and the fusion of multiple biometric algorithms, to address the growing commercial and consumer market.

Our biometric technology is a core software component of an organization's security infrastructure and includes a multi-biometric identity management solution for enrolling, managing, identifying and verifying the identities of people by the physical characteristics of the human body. We develop, sell and support various identity management capabilities within government (federal, state and local), law enforcement, commercial enterprises, and transportation and aviation markets for identification and verification purposes. Our IWS Biometric Engine is a patented biometric identity management software platform for multi-biometric enrollment, management and authentication, managing population databases of virtually unlimited sizes. It is hardware agnostic and can utilize different types of biometric algorithms. It allows different types of biometrics to be operated at the same time on a seamlessly integrated platform. It is also offered as an SDK based search engine, enabling developers and system integrators to implement a biometric solution or integrate biometric capabilities into existing applications without having to derive biometric functionality from pre-existing applications. The IWS Biometric Engine combined with our secure credential platform, IWS EPI Builder, provides a comprehensive, integrated biometric and secure credential solution that can be leveraged for high-end applications such as passports, driver licenses, national IDs, and other secure documents.

Our law enforcement solutions enable agencies to quickly capture, archive, search, retrieve, and share digital images, fingerprints and other biometrics as well as criminal history records on a stand-alone, networked, wireless or web-based platform. We develop, sell and support a suite of modular software products used by law enforcement and public safety agencies to create and manage criminal history records and to investigate crime. Our IWS Law Enforcement solution consists of five software modules: Capture and Investigative modules, which provide a criminal booking system with related databases as well as the ability to create and print mug photo/SMT image lineups and electronic mugbooks; a Facial Recognition module, which uses biometric facial recognition to identify suspects; a Web module, which provides access to centrally stored records over the Internet in a connected or wireless fashion; and a LiveScan module, which incorporates LiveScan capabilities into IWS Law Enforcement providing integrated fingerprint and palm print biometric management for civil and law enforcement use. The IWS Biometric Engine is also available to our law enforcement clients and allows them to capture and search using other biometrics such as iris or DNA.

Our secure credential solutions empower customers to create secure and smart digital identification documents with complete ID systems. We develop, sell and support software and design systems which utilize digital imaging and biometrics in the production of photo identification cards, credentials and identification systems. Our products in this market consist of IWS EPI Suite and IWS EPI Builder. These products allow for the production of digital identification cards and related databases and records and can be used by, among others, schools, airports, hospitals, corporations or governments. We have added the ability to incorporate multiple biometrics into the ID systems with the integration of IWS Biometric Engine to our secure credential product line.

Our enterprise authentication software includes the IWS Desktop Security product, which is a comprehensive authentication management infrastructure solution providing added layers of security to workstations, networks and systems through advanced encryption and authentication technologies. IWS Desktop Security is optimized to enhance network security and usability, and uses multi-factor authentication methods to protect access, verify identity and help secure the computing environment without sacrificing ease-of-use features such as quick login. Additionally, IWS Desktop Security provides an easy integration with various smart card-based credentials including the Common Access Card (“CAC”), Homeland Security Presidential Directive 12 (“HSPD-12”), Personal Identity Verification (“PIV”) credential, and Transportation Worker Identification Credential (“TWIC”) with an organization’s access control process. IWS Desktop Security provides the crucial end-point component of a Logical Access Control System (“LACS”), and when combined with a Physical Access Control System (“PACS”), organizations benefit from a complete door to desktop access control and security model.

Recent Market Conditions

During March 2020, a global pandemic was declared by the World Health Organization related to the rapidly growing outbreak of a novel strain of coronavirus (“COVID-19”).

The pandemic has significantly impacted the economic conditions both in the United States and worldwide, with accelerated effects in February through April, as federal, state and local governments react to the public health crisis, creating significant uncertainties in both the worldwide and the United States economies. In the interest of public health and safety, jurisdictions (international, national, state and local), required and continue to require mandatory office closures. As of the date of this report, while our employees are working remotely, all of our facilities are closed. The situation is rapidly changing and additional impacts to our business may arise that we are not aware of currently. We cannot predict whether, when or the manner in which the conditions surrounding COVID-19 will change including the timing of lifting any restrictions or office closure requirements.

The full extent of COVID-19’s impact on our operations and financial performance depends on future developments that are uncertain and unpredictable, including the duration and spread of the pandemic, its impact on capital and financial markets and any new information that may emerge concerning the severity of the virus, its spread to other regions as well as the actions taken to contain it, among others.

On March 27, 2020, President Trump signed into law the “Coronavirus Aid, Relief and Economic Security Act (“CARES Act”). The CARES Act, among other things, includes provisions relating to refundable payroll tax credits, deferment of employer side social security payments, net operating loss carryback periods, alternative minimum tax credit refunds, modifications to the net interest deduction limitations, increased limitations on qualified charitable contributions and technical corrections to tax depreciation methods for qualified improvement property.

The Company continues to examine the impact that the CARES Act may have on our business. Currently the Company is unable to determine the impact that the CARES Act will have on our financial condition, results of operation or liquidity.

Critical Accounting Estimates

The discussion and analysis of our consolidated financial condition and results of operations are based on our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States of America (“GAAP”). The preparation of these consolidated financial statements in accordance with GAAP requires us to utilize accounting policies and make certain estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingencies as of the date of the consolidated financial statements and the reported amounts of revenue and expense during a fiscal period. The SEC considers an accounting policy to be critical if it is important to a company’s financial condition and results of operations, and if it requires significant judgment and estimates on the part of management in its application.

Significant estimates include the evaluation of our ability to continue as a going concern, the allowance for doubtful accounts receivable, deferred tax asset valuation allowances, recoverability of goodwill, assumptions used in the Black-Scholes model to calculate the fair value of share based payments, fair value of Series A Preferred, fair value of derivatives issued with and affected by the Series C Preferred Financing, assumptions used in the application of revenue recognition policies, assumptions used in the derivation of the Company’s incremental borrowing rate used in the computation of the Company’s operating lease liabilities and assumptions used in the application of fair value methodologies to calculate the fair value of pension assets and obligations. Actual results could differ from estimates.

The following are our critical accounting policies because we believe they are both important to the portrayal of our financial condition and results of operations and require critical management judgments and estimates about matters that are uncertain. If actual results or events differ materially from those contemplated by us in making these estimates, our reported financial condition and results of operations for future periods could be materially affected.

Revenue Recognition. Effective January 1, 2018, we adopted Accounting Standards Codification (“ASC”), Topic 606, Revenue from Contracts with Customers (“ASC 606”), using the modified retrospective transition method.

In accordance with ASC 606, revenue is recognized when control of the promised goods or services is transferred to our customers, in an amount that reflects the consideration we expect to be entitled to in exchange for those goods or services.

The core principle of the standard is that we should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which we expect to be entitled in exchange for those goods or services. To achieve that core principle, we apply the following five step model:

1. Identify the contract with the customer;
2. Identify the performance obligation in the contract;
3. Determine the transaction price;
4. Allocate the transaction price to the performance obligations in the contract; and
5. Recognize revenue when (or as) each performance obligation is satisfied.

At contract inception, we assess the goods and services promised in a contract with a customer and identify as a performance obligation each promise to transfer to the customer either: (i) a good or service (or a bundle of goods or services) that is distinct or (ii) a series of distinct goods or services that are substantially the same and that have the same pattern of transfer to the customer. We recognize revenue only when we satisfy a performance obligation by transferring a promised good or service to a customer.

Determining the timing of the satisfaction of performance obligations as well as the transaction price and the amounts allocated to performance obligations requires judgement.

We disclose disaggregation of our customer revenue by classes of similar products and services as follows:

- Software licensing and royalties;
- Sales of computer hardware and identification media;
- Services; and
- Post-contract customer support.

Software licensing and royalties

Software licenses consist of revenue from the sale of software for identity management applications. Our software licenses are functional intellectual property and typically provide customers with the right to use our software in perpetuity as it exists when made available to the customer. We recognize revenue from software licensing at a point in time upon delivery, provided all other revenue recognition criteria are met.

Royalties consist of revenue from usage-based arrangements and guaranteed minimum-based arrangements. We recognize revenue for royalty arrangements at the later of (i) when the related sales occur, or (ii) when the performance obligation to which some or all of the royalty has been allocated has been satisfied.

Computer hardware and identification media

We generate revenue from the sale of computer hardware and identification media. Revenue for these items is recognized upon delivery of these products to the customer, provided all other revenue recognition criteria are met.

Services

Services revenue is comprised primarily of software customization services, software integration services, system installation services and customer training. Revenue is generally recognized upon completion of services and customer acceptance provided all other revenue recognition criteria are met.

Post-contract customer support ("PCS")

Post contract customer support consists of maintenance on software and hardware for our identity management solutions. We recognize PCS revenue from periodic maintenance agreements. Revenue is generally recognized ratably over the respective maintenance periods provided no significant obligations remain. Costs related to such contracts are expensed as incurred.

Arrangements with multiple performance obligations

A performance obligation is a promise in a contract to transfer a distinct good or service to the customer. In addition to selling software licenses, hardware and identification media, services and post-contract customer support on a standalone basis, certain contracts include multiple performance obligations. For such arrangements, we allocate revenue to each performance obligation based on our best estimate of the relative standalone selling price. The standalone selling price for a performance obligation is the price at which we would sell a promised good or service separately to a customer. The primary methods used to estimate standalone selling price are as follows: (i) the expected cost-plus margin approach, under which we forecast our expected costs of satisfying a performance obligation and then add an appropriate margin for that distinct good or service and (ii) the percent discount off of list price approach.

Contract costs

We recognize an asset for the incremental costs of obtaining a contract with a customer if we expect the benefit of those costs to be longer than one year. We apply a practical expedient to expense costs as incurred for costs to obtain a contract when the amortization period is one year or less.

Other items

We do not offer rights of return for our products and services in the normal course of business.

Sales tax collected from customers is excluded from revenue.

Allowance for Doubtful Accounts. We provide an allowance for our accounts receivable for estimated losses that may result from our customers' inability to pay. We determine the amount of allowance by analyzing historical losses, customer concentrations, customer creditworthiness, current economic trends, and the age of the accounts receivable balances and changes in our customer payment terms when evaluating the adequacy of the allowance for doubtful accounts.

Valuation of Goodwill, Other Intangible and Long-Lived Assets. The Company accounts for its intangible assets under the provisions of ASC 350, "Intangibles - Goodwill and Other". In accordance with ASC 350, intangible assets with a definite life are analyzed for impairment under ASC 360-10-05 "Property, Plant and Equipment" and intangible assets with an indefinite life are analyzed for impairment under ASC 360 annually, or more often if circumstances dictate. The Company performs its annual goodwill impairment test in the fourth quarter of each year, or if required, at the end of each fiscal quarter. In December 2018, the Company adopted the provisions of ASU 2017-04, "Intangibles - Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment". The provisions of ASU 2017-04 eliminate the requirement to calculate the implied fair value of goodwill to measure a goodwill impairment charge. Instead, entities will record an impairment charge based on the excess of a reporting unit's carrying amount over its fair value. Entities that have reporting units with zero or negative carrying amounts will no longer be required to perform a qualitative assessment assuming they pass the simplified impairment test.

The Company did not record any goodwill impairment charges for the years ended December 31, 2019 or 2018.

The Company evaluates long-lived assets for impairment whenever events or changes in circumstances indicate their net book value may not be recoverable. When such factors and circumstances exist, the Company compares the projected undiscounted future cash flows associated with the related asset or group of assets over their estimated useful lives against their respective carrying amount. Impairment, if any, is based on the excess of the carrying amount over the fair value, based on market value when available, or discounted expected cash flows, of those assets and is recorded in the period in which the determination is made. The Company's management currently believes there is no impairment of its long-lived assets. There can be no assurance, however, that market conditions will not change or demand for the Company's products under development will continue. Either of these could result in future impairment of long-lived assets.

There are many management assumptions and estimates underlying the determination of an impairment loss, and estimates using different, but reasonable, assumptions could produce significantly different results. Significant assumptions include estimates of future levels of revenue and operating expense. Therefore, the timing and recognition of impairment losses by us in the future, if any, may be highly dependent upon our estimates and assumptions. There can be no assurance that goodwill impairment will not occur in the future.

Stock-Based Compensation. At December 31, 2019, the Company had one stock-based compensation plan for employees and nonemployee directors, which authorizes the granting of various equity-based incentives including stock options and restricted stock.

The Company estimates the fair value of its stock options using a Black-Scholes option-pricing model, consistent with the provisions of ASC 718, “*Compensation – Stock Compensation*”. The fair value of stock options granted is recognized to expense over the requisite service period. Stock-based compensation expense for all share-based payment awards is recognized using the straight-line single-option method. Stock-based compensation expense is reported in general and administrative, sales and marketing, engineering and customer service expense based upon the departments to which substantially all of the associated employees report and credited to additional paid-in capital.

ASC 718 requires the use of a valuation model to calculate the fair value of stock-based awards. For the years ended December 31, 2019 and 2018, the Company has elected to use the Black-Scholes option-pricing model, which incorporates various assumptions including volatility, expected life, and interest rates. The Company is required to make various assumptions in the application of the Black-Scholes option-pricing model. The Company has determined that the best measure of expected volatility is based on the historical weekly volatility of the Company’s Common Stock. Historical volatility factors utilized in the Company’s Black-Scholes computations for options granted during the years ended December 31, 2019 and 2018 ranged from 64% and 57%. The Company has elected to estimate the expected life of an award based upon the SEC approved “simplified method” noted under the provisions of Staff Accounting Bulletin Topic 14. The expected term used by the Company to value the grants issued in 2019 and 2018 as computed by this method was 5.17 years. The effect of the difference between the actual historical expected life and the simplified method was immaterial. The interest rate used is the risk-free interest rate and is based upon U.S. Treasury rates appropriate for the expected term. Interest rates used in the Company’s Black-Scholes calculations were 2.58% for the years ended December 31, 2019 and 2018. Dividend yield is zero, as the Company does not expect to declare any dividends on the Company’s common shares in the foreseeable future.

In addition to the key assumptions used in the Black-Scholes model, the estimated forfeiture rate at the time of valuation is a critical assumption. The Company has estimated an annualized forfeiture rate of approximately 0% for corporate officers, 4.1% for members of the Board of Directors and 6.0% for all other employees. The Company reviews the expected forfeiture rate annually to determine if that percent is still reasonable based on historical experience.

Income Taxes. The Company accounts for income taxes in accordance with ASC 740, “*Accounting for Income Taxes*”. Deferred income taxes are recognized for the tax consequences related to temporary differences between the carrying amount of assets and liabilities for financial reporting purposes and the amounts used for tax purposes at each year-end, based on enacted tax laws and statutory tax rates applicable to the periods in which the differences are expected to affect taxable income. A valuation allowance is established when necessary based on the weight of available evidence, if it is considered more likely than not that all or some portion of the deferred tax assets will not be realized. Income tax expense is the sum of current income tax plus the change in deferred tax assets and liabilities.

ASC 740-10 requires a company to first determine whether it is more-likely-than-not (defined as a likelihood of more than fifty percent) that a tax position will be sustained based on its technical merits as of the reporting date, assuming that taxing authorities will examine the position and have full knowledge of all relevant information. A tax position that meets this more-likely-than-not threshold is then measured and recognized at the largest amount of benefit that is greater than fifty percent likely to be realized upon effective settlement with a taxing authority.

We recognize and measure uncertain tax positions in accordance with GAAP, pursuant to which we only recognize the tax benefit from an uncertain tax position if it is more likely than not that the tax position will be sustained on examination by the taxing authorities, based on the technical merits of the position. Any tax benefits recognized in the consolidated financial statements from such positions are then measured based on the largest benefit that has a greater than fifty percent likelihood of being realized upon ultimate settlement. We report a liability for unrecognized tax benefits resulting from uncertain tax positions taken or expected to be taken in a tax return. GAAP further requires that a change in judgment related to the expected ultimate resolution of uncertain tax positions be recognized in earnings in the quarter of such change. We recognize interest and penalties, if any, related to unrecognized tax benefits in income tax expense.

We file annual income tax returns in multiple taxing jurisdictions around the world. A number of years may elapse before an uncertain tax position is audited and finally resolved. While it is often difficult to predict the final outcome or the timing of resolution of any particular uncertain tax position, we believe that our analysis of income tax reserves reflects the most likely outcome. We adjust these reserves, if any, as well as the related interest, in light of changing facts and circumstances. Settlement of any particular position could require the use of cash.

Significant judgment is required in evaluating the Company's uncertain tax positions and determining the Company's provision for income taxes. No assurance can be given that the final tax outcome of these matters will not be different from that which is reflected in the Company's historical income tax provisions and accruals. The Company adjusts these items in light of changing facts and circumstances. To the extent that the final tax outcome of these matters is different than the amounts recorded, such differences will impact the provision for income taxes in the period in which such determination is made.

The Internal Revenue Code (the "*Revenue Code*") limits the availability of certain tax credits and net operating losses that arose prior to certain cumulative changes in a corporation's ownership resulting in a change of control of the Company. The Company's use of its net operating loss carryforwards and tax credit carryforwards will be significantly limited because the Company believes it underwent "ownership changes", as defined under Section 382 of the Revenue Code, in 1991, 1995, 2000, 2003, 2004, 2011 and 2012, though the Company has not performed a study to determine the limitation. The Company has reduced its deferred tax assets to zero relating to its federal and state research credits because of such limitations. The Company continues to disclose the tax effect of the net operating loss carryforwards at their original amount as the actual limitation has not yet been quantified. The Company has also established a full valuation allowance for substantially all deferred tax assets due to uncertainties surrounding its ability to generate future taxable income to realize these assets. Since substantially all deferred tax assets are fully reserved, future changes in tax benefits will not impact the effective tax rate. Management periodically evaluates the recoverability of the deferred tax assets. If it is determined at some time in the future that it is more likely than not that deferred tax assets will be realized, the valuation allowance would be reduced accordingly at that time.

On March 27, 2020, President Trump signed the CARES Act into law, which, among other things, includes provisions relating to refundable payroll tax credits, deferment of employer side social security payments, net operating loss carryback periods, alternative minimum tax credit refunds, modifications to the net interest deduction limitations, increased limitations on qualified charitable contributions and technical corrections to tax depreciation methods for qualified improvement property.

The Company continues to examine the impact that the CARES Act may have on our business. Currently the Company is unable to determine the impact that the CARES Act will have on our financial condition, results of operation or liquidity.

Fair-Value Measurements. The Company accounts for fair value measurements in accordance with ASC 820, “Fair Value Measurements and Disclosures”, which defines fair value, establishes a framework for measuring fair value in generally accepted accounting principles, and expands disclosures about fair value measurements.

ASC 820 establishes a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest priority to unobservable inputs (Level 3 measurements). The three levels of the fair value hierarchy under ASC 820 are described below:

Level1	Unadjusted quoted prices in active markets that are accessible at the measurement date for identical, unrestricted assets or liabilities.
Level2	Applies to assets or liabilities for which there are inputs other than quoted prices included within Level 1 that are observable for the asset or liability such as quoted prices for similar assets or liabilities in active markets; quoted prices for identical assets or liabilities in markets with insufficient volume or infrequent transactions (less active markets); or model-derived valuations in which significant inputs are observable or can be derived principally from, or corroborated by, observable market data.
Level3	Prices or valuation techniques that require inputs that are both significant to the fair value measurement and unobservable (supported by little or no market activity).

Assessing the significance of a particular input to the fair value measurement requires judgment, considering factors specific to the asset or liability. Determining whether a fair value measurement is based on Level 1, Level 2, or Level 3 inputs is important because certain disclosures are applicable only to those fair value measurements that use Level 3 inputs. The use of Level 3 inputs may include information derived through extrapolation or interpolation which involves management assumptions as well as valuation techniques employing Monte Carlo simulation methodologies, binomial stock price models and variable conversion probabilities.

Lease Liabilities and Operating Lease Right-of-Use Assets

The Company is a party to certain contractual arrangements for office space which meet the definition of leases under Accounting Standards Codification (“ASC”) Topic 842 – Leases (“ASC 842”). In accordance with ASC 842, the Company has determined that such arrangements are operating leases and accordingly the Company has, as of January 1, 2019, recorded operating lease right-of-use assets and related lease liability for the present value of the lease payments over the lease terms using the Company’s estimated weighted-average incremental borrowing rate of approximately 14.5%. The Company has utilized the practical expedient regarding lease and nonlease components and has combined such items into a single combined component. The Company has also utilized the practical expedient regarding leases of twelve months or less and has excluded such leases from its computation of lease liability and related right-of-use assets. The Company has also elected the optional transition package of practical expedients which include:

A package of practical expedient to not reassess:

- Whether a contract is or contains a lease
- Lease classification
- Initial direct costs

For a detailed discussion on the application of these and other accounting policies, see Note 2 in the Notes to the Consolidated Financial Statements.

Results of Operations

This management's discussion and analysis of financial condition and results of operations should be read in conjunction with the consolidated financial statements and related notes contained elsewhere in this prospectus.

Comparison of Results for Fiscal Years Ended December 31, 2019 and 2018**Product Revenue**

	Twelve Months Ended December 31,		\$ Change	% Change
	2019	2018		
Net Product Revenue (dollars in thousands)				
Software and royalties	\$ 489	\$ 1,334	\$ (845)	(63)%
Percentage of total net product revenue	53%	76%		
Hardware and consumables	\$ 96	\$ 133	\$ (37)	(28)%
Percentage of total net product revenue	10%	7%		
Services	\$ 338	\$ 294	\$ 44	15%
Percentage of total net product revenue	37%	17%		
Total net product revenue	\$ 923	\$ 1,761	\$ (838)	(48)%

Software and royalty revenue decreased 63% or approximately \$845,000 during the year ended December 31, 2019 as compared to the corresponding period in 2018. This decrease is attributable to lower identification project related revenue of approximately \$705,000, lower law enforcement project related revenue of approximately \$76,000, lower sales of boxed identity management software sold through our distribution channel of approximately \$21,000 and lower royalty revenue of approximately \$43,000. The decrease in identification project related revenue is reflective of additional software licenses sold into existing identification projects caused by increased end-user utilization during the twelve months ended December 31, 2018. The decrease in royalty revenue results primarily from lower reported usage from certain customers and the decrease in our law enforcement project revenue resulted from a decrease in the timing of procurement by our law enforcement customers. The decrease in boxed identity management software sold through our distribution channel reflects slightly lower procurement from both domestic and international customers.

Revenue from the sale of hardware and consumables decreased approximately \$37,000 during the year ended December 31, 2019 as compared to the corresponding period in 2018 due to a decrease in project related solutions containing hardware and consumables and a decrease in replacement hardware procurement by our customers.

Services revenue is comprised primarily of software integration services, system installation services and customer training. Such revenue increased \$44,000 during the year ended December 31, 2019 as compared to the corresponding period in 2018, due to an increase in the service element of project related work completed during the year ended December 31, 2019.

We believe that the period-to-period fluctuations of identity management software revenue in project-oriented solutions are largely due to the timing of government procurement with respect to the various programs we are pursuing. Although no assurances can be given, based on management's current visibility into the timing of potential government procurements and potential partnerships and current pilot programs, we believe that we will see an increase in government procurement and implementations with respect to identity management initiatives; however, government procurement initiatives, implementations and pilots are frequently delayed and extended and we cannot predict the timing of such initiatives.

As discussed more fully elsewhere in this prospectus, the full extent of COVID-19's impact on our operations and financial performance depends on future developments that are uncertain and unpredictable, including the duration and spread of the pandemic, its impact on capital and financial markets and any new information that may emerge concerning the severity of the virus, its spread to other regions as well as the actions taken to contain it, among others.

During the twelve months ended December 31, 2019, we continued our efforts to move the Biometric Engine into cloud and mobile markets, and expand our end-user market into non-government sectors, including commercial, consumer and healthcare applications. Our approach to the markets we serve is to partner with larger integrators as resellers who have both the infrastructure and resources to sell into the worldwide market. We rely upon these partners for guidance as to when they expect revenue for our products to begin to ramp. During the year ended December 31, 2019 we saw additional customers implement GoVerify ID®, our cloud based mobile biometric authentication software as a service. Management believes that additional implementations will occur resulting in increased identities under management.

Maintenance Revenue

Maintenance Revenue (dollars in thousands)	Twelve Months Ended December 31,		\$ Change	% Change
	2019	2018		
Total maintenance revenue	\$ 2,583	\$ 2,643	\$ (60)	(2)%

Maintenance revenue was approximately \$2,583,000 for the year ended December 31, 2019, as compared to approximately \$2,643,000 for the corresponding periods in 2018. For the year ended December 31, 2019, identity management maintenance revenue was approximately \$1,275,000 as compared to \$1,344,000 for the comparable period in 2018. The decrease in identity management maintenance revenue of approximately \$69,000 reflects the expiration of certain maintenance contracts. Law enforcement maintenance revenue was approximately \$1,308,000 for the twelve months ended December 2019 as compared to \$1,299,000 for the comparable period in 2018. This increase of approximately \$9,000 is primarily due to the expansion of our law enforcement customer installed base.

We anticipate growth of our maintenance revenue through the retention of existing customers combined with the continued expansion of our installed base resulting from the completion of project-oriented work; however, we cannot predict the timing of this anticipated growth, if ever. Furthermore, we cannot predict how the effects of the COVID-19 pandemic, discussed more fully elsewhere in this prospectus may affect our future growth.

Cost of Product Revenue

Cost of Product Revenue: (dollars in thousands)	Twelve Months Ended December 31,		\$ Change	% Change
	2019	2018		
Software and royalties	\$ 36	\$ 11	\$ 25	227%
Percentage of software and royalty product revenue	7%	1%		
Hardware and consumables	\$ 66	\$ 92	\$ (26)	(28)%
Percentage of hardware and consumables product revenue	69%	69%		
Services	\$ 116	\$ 102	\$ 14	14%
Percentage of services product revenue	34%	35%		
Total product cost of revenue	\$ 218	\$ 205	\$ 13	6%
Percentage of total product revenue	24%	12%		

The cost of software and royalty product revenue increased approximately \$25,000 despite lower software and royalty revenue for the year ended December 31, 2019 as compared to the corresponding period in 2018 due to the 2019 period containing certain fixed third-party software license costs and the 2018 period containing significant software license revenue with minimal third-party license costs.

The cost of product revenue for our hardware and consumable sales during the year ended December 31, 2019 decreased approximately \$26,000 as compared to the corresponding period in 2018 due primarily to lower hardware and consumable product revenue of approximately \$37,000 during the 2019 period.

Cost of services revenue increased approximately \$14,000 during the year ended December 31, 2019 as compared to the corresponding period in 2018. This increase reflects higher service revenue of approximately \$44,000. In addition to changes in costs of services product revenue caused by revenue level fluctuations, costs of services can vary as a percentage of service revenue from period to period depending upon both the level and complexity of professional service resources utilized in the completion of the service element.

Cost of Maintenance Revenue

Maintenance cost of revenue (dollars in thousands)	Twelve Months Ended December 31,		\$ Change	% Change
	2019	2018		
Total maintenance cost of revenue	\$ 425	\$ 671	\$ (246)	(37)%
Percentage of total maintenance revenue	16%	25%		

Cost of maintenance revenue decreased approximately \$246,000 during the year ended December 31, 2019 as compared to the corresponding period in 2018, resulting principally from lower maintenance labor costs incurred during the year ended December 31, 2019 as compared to the corresponding period in 2018 due primarily to the composition of engineering resources used in the provision of maintenance services and reductions in headcount in our customer support department.

Product Gross Profit

Product gross profit (dollars in thousands)	Twelve Months Ended December 31,		\$ Change	% Change
	2019	2018		
Software and royalties	\$ 453	\$ 1,323	\$ (870)	(66)%
Percentage of software and royalty product revenue	93%	99%		
Hardware and consumables	\$ 30	\$ 41	\$ (11)	(27)%
Percentage of hardware and consumables product revenue	31%	31%		
Services	\$ 222	\$ 192	\$ 30	16%
Percentage of services product revenue	66%	65%		
Total product gross profit	\$ 705	\$ 1,556	\$ (851)	(55)%
Percentage of total product revenue	76%	88%		

Software and royalty gross profit decreased 66% or approximately \$870,000 for the year ended December 31, 2019 as compared to the corresponding period in 2018, due primarily to lower software and royalty revenue of approximately \$845,000 combined with higher software and royalty cost of revenue of approximately \$25,000 for the same period. This increase in software and royalty cost of revenue despite lower software and royalty revenue during the 2019 period as compared to the comparable 2018 period reflects the 2018 period containing software revenue with extremely minimal third-party software costs whereas the 2019 period did not contain similar revenues with related costs. In addition to changes in costs of software and royalty product revenue caused by revenue level fluctuations, costs of products can vary as a percentage of product revenue from period to period depending upon level of software customization and third -party software license content included in product sales during a given period.

Hardware and consumables gross profit decreased approximately \$11,000 for the year ended December 31, 2019, as compared to the 2018 period. This decrease resulted from lower sales of hardware and consumables revenues of approximately \$37,000 combined with corresponding lower cost of hardware and consumables product revenue of \$26,000 for the year ended December 31, 2019 as compared to the corresponding period in 2018.

Services gross profit increased approximately \$30,000 during the year ended December 31, 2019, as compared to the corresponding period in 2018, with such increase primarily resulting from higher service revenue of approximately \$44,000 combined with higher cost of service revenue of approximately \$14,000 for the year ended December 31, 2019 as compared to the corresponding period in 2018.

Maintenance Gross Profit

Maintenance gross profit (dollars in thousands)	Twelve Months Ended December 31,		\$ Change	% Change
	2019	2018		
Total maintenance gross profit	\$ 2,158	\$ 1,972	\$ 186	9%
Percentage of total maintenance revenue	84%	75%		

Gross profit related to maintenance revenue increased 9% or approximately \$186,000 for the year ended December 31, 2019 as compared to the corresponding period in 2018. This increase results from lower maintenance revenue of approximately \$60,000 due to the expiration of certain Identification customer maintenance contracts offset by lower cost of maintenance revenue of approximately \$246,000 due to headcount reductions in our service department combined with lower maintenance labor cost incurred during the same period due to the composition of engineering resources used in the provision of maintenance services.

Operating Expense

Operating expense (dollars in thousands)	Twelve Months Ended December 31,		\$ Change	% Change
	2019	2018		
General and administrative	\$ 3,614	\$ 4,285	\$ (671)	(16)%
Percentage of total net revenue	103%	97%		
Sales and marketing	\$ 3,937	\$ 3,571	\$ 366	10%
Percentage of total net revenue	112%	81%		
Research and development	\$ 7,488	\$ 7,351	\$ 137	2%
Percentage of total net revenue	214%	167%		
Depreciation and amortization	\$ 71	\$ 51	\$ 20	39%
Percentage of total net revenue	2%	1%		

General and Administrative Expense

General and administrative expense is comprised primarily of salaries and other employee-related costs for executive, financial, and other infrastructure personnel. General legal, accounting and consulting services, insurance, occupancy and communication costs are also included with general and administrative expense.

The dollar decrease of approximately \$671,000 in general and administrative expense for the year ended December 31, 2019 as compared to the corresponding period in 2018 is comprised of the following major components:

- Decrease in personnel related expense of approximately \$24,000;
- Decreases in professional services of approximately \$395,000, which includes lower Board of Director fees of approximately \$320,000, lower auditing fees of approximately \$183,000 and lower legal fees of approximately \$40,000 offset by higher general corporate expense of approximately \$54,000, higher investor relations fees of approximately \$21,000, higher patent-related fees of approximately \$15,000, higher contractor fees of approximately \$16,000 and higher contract services of approximately \$42,000;
- Decrease in travel, insurances, licenses, dues, rent, and office related costs of approximately \$50,000;
- Decrease in financing related expense of approximately \$29,000; and
- Decrease in stock-based compensation expense of approximately \$173,000.

We continue to focus our efforts on achieving additional future operating efficiencies by reviewing and improving upon existing business processes and evaluating our cost structure. We believe these efforts will allow us to continue to gradually decrease our level of general and administrative expense expressed as a percentage of total revenue.

Sales and Marketing Expense

Sales and marketing expense consists primarily of the salaries, commissions, other incentive compensation, employee benefits and travel expense of our sales, marketing, and business development.

The dollar increase in sales and marketing expense of approximately \$366,000 during the year ended December 31, 2019 as compared to the corresponding period in 2018, is primarily comprised of the following major components:

- Increase in personnel related expense of approximately \$108,000 driven primarily by headcount increases;
- Increase in contractor and contract services of approximately \$200,000 resulting from increased utilization of certain sales consultants of approximately \$136,000 combined with higher marketing dues and subscription expense and contract services of approximately \$64,000 ;
- Increase in travel, trade show expense and office related expense of approximately \$72,000;
- Decrease in stock-based compensation expense of approximately \$68,000; and
- Increase in our Mexico sales office expense and other of approximately \$54,000.

We anticipate that the level of expense incurred for sales and marketing during the year ended December 31, 2020 will increase as we pursue large project solution opportunities, however we cannot predict how the effects of the COVID-19 pandemic, discussed more fully elsewhere in this prospectus may affect our level of anticipated expenditures.

Research and Development Expense

Research and development expense consists primarily of salaries, employee benefits and outside contractors for new product development, product enhancements, custom integration work and related facility costs.

Research and development expense increased approximately \$137,000 for the year ended December 31, 2019, as compared to the corresponding period in 2018, due primarily to the following major components:

- Increase in personnel related expense of approximately \$354,000 due to headcount increases offset by approximately \$335,000 in capitalized labor into work in process inventory related to in-process projects;
- Increase in contractor fees and contract services of approximately \$242,000 for services related to the accelerated development of mobile identity management applications offset by approximately \$167,000 in capitalized labor into work in process inventory related to in-process projects ;
- Decrease in stock-based compensation of approximately \$62,000; and
- Increase in rent, office related expense and engineering tools and supplies of approximately \$105,000 .

Our level of expenditures in research and development reflects our belief that to maintain our competitive position in markets characterized by rapid rates of technological advancement, we must continue to invest significant resources in new systems and software as well as continue to enhance existing products.

Depreciation and Amortization

During the year ended December 31, 2019, depreciation and amortization expense increased approximately \$20,000 as compared to the corresponding period in 2018. The relatively small amount of depreciation and amortization reflects the relatively small property and equipment carrying value. The increase is reflective of certain furniture and leasehold improvement asset additions in the fourth quarter of 2018.

Interest Expense (Income), Net

For the year ended December 31, 2019, we recognized interest income of \$90,000 and interest expense of \$0. For the year ended December 31, 2018, we recognized interest income of \$78,000 and interest expense of \$541,000. The decrease in interest expense reflects the conversion of all amounts outstanding under the Company's related-party lines of credit into shares of Series A Preferred stock in September 2018.

Interest expense for the year ended December 31, 2018 contains the following components:

- Approximately \$8,000 of amortization expense of deferred financing fees related to our Lines of Credit;
- Approximately \$162,000 of amortization expense of recognized beneficial conversion feature related to our Lines of Credit; and
- Approximately \$371,000 related to coupon interest on our 8% Line of Credit borrowings.

Other Income

For the year ended December 31, 2019, we recognized other income of approximately \$0 and other expense of \$1,000. Other expense for the year ended December 31, 2019 is comprised of approximately \$1,000 in foreign transaction expense.

For the year ended December 31, 2018, we recognized other income of approximately \$4,000 and other expense of \$0. Other income for the year ended December 31, 2018 is comprised of approximately \$4,000 from miscellaneous receipts.

Change in Fair Value of Derivative Liabilities

For the year ended December 31, 2019, we recognized approximately \$696,000 from the decrease of derivative liabilities arising from the consummation of the Series C Financing in September 2019. Such decrease was determined by management using fair value methodologies and is included as non-cash income under the caption “Change in fair value of derivative liabilities” in our consolidated statement of operations for twelve months ended December 31, 2019.

For the year ended December 31, 2018, we recognized approximately \$232,000 from the increase of derivative liabilities arising from the consummation of the Series C Financing in September 2018. Such increase was determined by management using fair value methodologies and is included as a non-cash expense under the caption “Change in fair value of derivative liabilities” in our consolidated statement of operations for the year ended December 31, 2018.

Income Tax Expense

During the years ended December 31, 2019 and 2018, we recorded an expense for income taxes of \$10,000 and \$11,000, respectively. These tax expenses relates to taxes on income generated in certain foreign jurisdictions offset by research and development tax credits generated in certain foreign jurisdictions.

We have incurred consolidated pre-tax losses during the years ended December 31, 2019, and 2018, and have incurred operating losses in all prior periods. Management has determined that it is more likely than not that a tax benefit from such losses will not be realized and has established a full valuation allowance for any tax benefits. Accordingly, we did not record a benefit for income taxes for these periods.

Liquidity, Capital Resources and Going Concern

Historically, our principal sources of cash have included customer payments from the sale of our products, proceeds from the issuance of common and preferred stock and proceeds from the issuance of debt, including our Lines of Credit (defined below). Our principal uses of cash have included cash used in operations, product development, and payments relating to purchases of property and equipment. We expect that our principal uses of cash in the future will be for product development, including customization of identity management products for enterprise and consumer applications, further development of intellectual property, development of SaaS capabilities for existing products as well as general working capital and capital expenditure requirements. Management expects that, as our revenue grows, our sales and marketing and research and development expense will continue to grow, albeit at a slower rate and, as a result, we will need to generate significant net revenue to achieve and sustain income from operations.

Related Party Financings

On February 12, 2020, the Company entered into a factoring agreement with a member of the Company's Board of Directors for \$350,000. Such amount is to be repaid with the proceeds from certain of the Company's trade accounts receivable approximating \$500,000 and are due no later than 21 days after February 12, 2020. As of May 15, 2020, despite collection of the Company's trade accounts receivable, \$315,000 of such amounts have not been repaid and the Company is seeking an extension from the Board member.

In April 2020, the Company received an aggregate amount of \$550,000 from two members of the Company's Board of Directors. Terms of repayment are currently being negotiated between the Company and the Board members.

2020 Common Stock Financings

On February 20, 2020, the Company entered into a securities purchase agreement (the "*Triton Purchase Agreement*") with Triton Funds LP, (a Delaware limited partnership ("*Triton*" or the "*Investor*"). The Triton Purchase Agreement provides the Company the right to sell to Triton, and Triton is obligated to purchase, up to \$2.0 million worth of shares of the Company's Common Stock under the Triton Purchase Agreement (the "*Offering*"). Pursuant to the terms and conditions set forth in the Triton Purchase Agreement, the purchase price of the Common Stock will be based on the number of shares of Common Stock equal to the amount in U.S. Dollars that the Company intends to sell to the Investor to be set forth in each written notice sent to the Investor by the Company (the "*Purchase Notice*") and delivered to the Investor (the "*Purchase Notice Amount*"), divided by the lowest daily volume weighted average price of the Company's Common stock listed on the OTC Markets during the five business days prior to closing (the "*Purchased Shares*"). The Closing of the purchase of the Purchased Shares as set forth in the Purchase Notice will occur no later than three business days following receipt of the Purchased Shares by the Investor.

The Offering was made pursuant to an effective registration statement on Form S-3, as previously filed with the SEC on July 10, 2018, and a related prospectus supplement filed on February 21, 2020. The Offering will terminate upon the earlier date of either (i) that date which the Investor has purchased an aggregate of \$2.0 million in Purchased Shares pursuant to the Triton Purchase Agreement; or (i) March 31, 2020. The Company intends to use the proceeds from the Offering for general working capital purposes.

On April 29, 2020, the Company closed on the offer and sale to Triton of 6.0 million shares of Common Stock resulting in gross proceeds to the Company of \$765,000, or a per share purchase price of \$0.13 per share. The offering follows the offer and sale to Triton of 4.0 million shares of Common Stock for \$0.16 per share, which offering closed on March 10, 2020, resulting in gross proceeds to the Company of \$640,000.

On April 28, 2020 (the "*Execution Date*"), the "Company" entered into a purchase agreement, dated as of the Execution Date, as amended June 11, 2020 (the "*Purchase Agreement*"), and a registration rights agreement, dated as of the Execution Date (the "*Registration Rights Agreement*"), with Lincoln Park Capital Fund, LLC ("*Lincoln Park*"), pursuant to which Lincoln Park has committed to purchase up to \$10,250,000 of the Company's Common Stock.

Under the terms and subject to the conditions of the Purchase Agreement, including stockholder approval of an amendment to the Company's Certificate of Incorporation to increase the number of shares of the Company's common stock to 345 million shares, the Company has the right, but not the obligation, to sell to Lincoln Park, and Lincoln Park is obligated to purchase up to \$10,250,000 worth of shares of Common Stock. Such sales of Common Stock by the Company, if any, will be subject to certain limitations, and may occur from time to time, at the Company's sole discretion, over the 24-month period commencing on the date that a registration statement covering the resale of shares of Common Stock that have been and may be issued under the Purchase Agreement, which the Company agreed to file with the SEC pursuant to the Registration Rights Agreement, is declared effective by the SEC and a final prospectus in connection therewith is filed and the other conditions set forth in the Purchase Agreement are satisfied, all of which are outside the control of Lincoln Park (such date on which all of such conditions are satisfied, the "*Commencement Date*"). The Company had 30 business days to file the registration statement from the Execution Date, however, Lincoln Park has waived the requirement to file the registration statement within 30 days.

Under the Purchase Agreement, on any business day over the term of the Purchase Agreement, the Company has the right, in its sole discretion, to present Lincoln Park with a purchase notice (each, a "*Purchase Notice*") directing Lincoln Park to purchase up to 125,000 shares of Common Stock per business day, which increases to up to 425,000 shares in the event the price of the Company's Common Stock is not below \$0.55 per share (the "*Regular Purchase*") (subject to adjustment for any reorganization, recapitalization, non-cash dividend, stock split, reverse stock split or other similar transaction as provided in the Purchase Agreement). In each case, Lincoln Park's maximum commitment in any single Regular Purchase may not exceed \$500,000. The Purchase Agreement provides for a purchase price per Purchase Share (the "*Purchase Price*") equal to the lesser of:

- the lowest sale price of the Company's Common Stock on the purchase date; and
- the average of the three lowest closing sale prices for the Company's Common Stock during the fifteen consecutive business days ending on the business day immediately preceding the purchase date of such shares.

In addition, on any date on which the Company submits a Purchase Notice to Lincoln Park, the Company also has the right, in its sole discretion, to present Lincoln Park with an accelerated purchase notice (each, an "*Accelerated Purchase Notice*") directing Lincoln Park to purchase an amount of stock (the "*Accelerated Purchase*") equal to up to the lesser of (i) three times the number of shares of Common Stock purchased pursuant to such Regular Purchase; and (ii) 30% of the aggregate shares of the Company's Common Stock traded during all or, if certain trading volume or market price thresholds specified in the Purchase Agreement are crossed on the applicable Accelerated Purchase Date, the portion of the normal trading hours on the applicable Accelerated Purchase Date prior to such time that any one of such thresholds is crossed (such period of time on the applicable Accelerated Purchase Date, the "*Accelerated Purchase Measurement Period*"), provided that Lincoln Park will not be required to buy shares of Common Stock pursuant to an Accelerated Purchase Notice that was received by Lincoln Park on any business day on which the last closing trade price of the Company's Common Stock on the OTC Markets (or alternative national exchange in accordance with the Purchase Agreement) is below \$0.25 per share. The purchase price per share of Common Stock for each such Accelerated Purchase will be equal to the lesser of:

- 95% of the volume weighted average price of the Company's Common Stock during the applicable Accelerated Purchase Measurement Period on the applicable Accelerated Purchase Date; and
- the closing sale price of the Company's Common Stock on the applicable Accelerated Purchase Date.

The Company may also direct Lincoln Park on any business day on which an Accelerated Purchase has been completed and all of the shares to be purchased thereunder have been properly delivered to Lincoln Park in accordance with the Purchase Agreement, to purchase an amount of stock (the "*Additional Accelerated Purchase*") equal to up to the lesser of (i) three times the number of shares purchased pursuant to such Regular Purchase; and (ii) 30% of the aggregate number of shares of the Company's Common Stock traded during a certain portion of the normal trading hours on the applicable Additional Accelerated Purchase date as determined in accordance with the Purchase Agreement (such period of time on the applicable Additional Accelerated Purchase date, the "*Additional Accelerated Purchase Measurement Period*"), provided that the closing price of the Company's Common Stock on the business day immediately preceding such business day is not below \$0.25 (subject to adjustment for any reorganization, recapitalization, non-cash dividend, stock split, reverse stock split or other similar transaction as provided in the Purchase Agreement). Additional Accelerated Purchases will be equal to the lower of:

- 95% of the volume weighted average price of the Company's Common Stock during the applicable Additional Accelerated Purchase Measurement Period on the applicable Additional Accelerated Purchase date; and
- The closing sale price of the Company's Common Stock on the applicable Additional Accelerated Purchase date.

Table of Contents

The aggregate number of shares that the Company can sell to Lincoln Park under the Purchase Agreement may in no case exceed that number which, together with Lincoln Park's then current holdings of Common Stock, exceed 4.99% of the Common Stock outstanding immediately prior to the delivery of the Purchase Notice.

Lincoln Park has no right to require the Company to sell any shares of Common Stock to Lincoln Park, but Lincoln Park is obligated to make purchases as the Company directs, subject to certain conditions. There are no upper limits on the price per share that Lincoln Park must pay for shares of Common Stock.

The Company has agreed with Lincoln Park that it will not enter into any "variable rate" transactions with any third party for a period defined in the Purchase Agreement.

The Company issued to Lincoln Park 2,500,000 shares of Common Stock as commitment shares in consideration for entering into the Purchase Agreement on the Execution Date.

The Purchase Agreement and the Registration Rights Agreement contain customary representations, warranties, agreements and conditions to completing future sale transactions, indemnification rights and obligations of the parties. The Company has the right to terminate the Purchase Agreement at any time, at no cost or penalty, subject to the survival of certain provisions set forth in the Purchase Agreement. During any "event of default" under the Purchase Agreement, which are not outside of Lincoln Park's control, Lincoln Park does not have the right to terminate the Purchase Agreement; however, the Company may not initiate any regular or other purchase of shares by Lincoln Park, until such event of default is cured. In addition, in the event of bankruptcy proceedings by or against the Company, the Purchase Agreement will automatically terminate.

Actual sales of shares of Common Stock to Lincoln Park under the Purchase Agreement will depend on a variety of factors to be determined by the Company from time to time, including, among others, market conditions, the trading price of the Common Stock and determinations by the Company as to the appropriate sources of funding for the Company and its operations. Lincoln Park has no right to require any sales by the Company but is obligated to make purchases from the Company as it directs in accordance with the Purchase Agreement. Lincoln Park has covenanted not to cause or engage in any manner whatsoever, any direct or indirect short selling or hedging of the Company's shares.

In April 2020, in connection with the execution of the Purchase Agreement, the Company sold, and Lincoln Park purchased, 1.0 million shares of Common Stock for a purchase price of \$100,000 ("*Original Purchase*"). In June 2020, in connection with the Purchase Agreement, the Company sold, and Lincoln Park purchased, 1.5 million shares of Common Stock for a purchase price of \$150,000 (the "*Commencement Purchase*")

CARES Act Financing

On March 27, 2020, President Trump signed the CARES Act into law. On May 4, 2020, the Company entered into a loan agreement ("*PPP Loan*") with Comerica Bank ("*Comerica*") under the Paycheck Protection Program (the "*PPP*"), which is part of the CARES Act administered by the United States Small Business Administration ("*SBA*"). As part of the application for these funds, the Company in good faith, has certified that the current economic uncertainty made the loan request necessary to support the ongoing operations of the Company. This certification further requires the Company to take into account our current business activity and our ability to access other sources of liquidity sufficient to support ongoing operations in a manner that is not significantly detrimental to the business. Under this program, the Company received proceeds of approximately \$1,571,000, from the PPP Loan. In accordance with the requirements of the PPP, the Company intends to use proceeds from the PPP Loan primarily for payroll costs, rent and utilities. The PPP Loan has a 1.00% interest rate per annum, matures on May 4, 2022 and is subject to the terms and conditions applicable to loans administered by the SBA under the PPP. Under the terms of PPP, all or certain amounts of the PPP Loan may be forgiven if they are used for qualifying expenses as described in the CARES Act, which the Company continues to evaluate.

2019 Common Stock Financings

In May 2019, the Company completed a registered direct offering of 5,954,545 shares of its Common Stock at a price of \$1.10 per share, resulting in gross proceeds to the Company of approximately \$6,550,000. Net proceeds to the Company were approximately \$6,095,000 after recognition of direct offering costs.

2018 Series C Financing

On September 10, 2018, the Company offered and sold a total of 890 shares of Series C Preferred at a purchase price of \$10,000 per share, and on September 21, 2018, the Company sold an additional 110 shares of Series C Preferred at a purchase price of \$10,000 per share. The total net proceeds to the Company were approximately \$8,789,000, after deducting financing related costs incurred in conjunction with the Series C Financing.

Related-Party Lines of Credit

On September 10, 2018, the Company entered into agreements with two members of the Company's Board of Directors, Neal Goldman and Charles Crocker, pursuant to which Messrs. Goldman and Crocker agreed to exchange approximately \$6,300,000 and \$600,000, respectively, of outstanding debt (including accrued and unpaid interest) owed under the terms of their respective lines of credit for an aggregate of 6,896 shares of Series A Preferred. As a result of this agreement, all indebtedness, liabilities and other obligations arising under the respective lines of credit were cancelled and deemed satisfied in full.

For a more detailed discussion of the Company's former Lines of Credit, see Note 5, Related Parties to these consolidated financial statements.

Going Concern and Management's Plan

At December 31, 2019, we had negative working capital of approximately \$1,653,000, as compared to positive working capital of approximately \$3,078,000 at December 31, 2018. Our principal sources of liquidity at December 31, 2019 consisted of cash and cash equivalents of \$1,030,000. Our principal sources of liquidity at December 31, 2018 consisted of cash and cash equivalents of \$5,694,000.

Considering the financings consummated in 2020 and in May 2019, as well as our projected cash requirements, and assuming we are unable to generate incremental revenue, our available cash will be insufficient to satisfy our cash requirements for the next twelve months from the date of this filing. Based on the Company's rate of cash consumption in the first quarter of 2020 and the last quarter of 2019, the Company estimates it will need additional capital in the third quarter of 2020 and its prospects for obtaining that capital are uncertain. As a result of the Company's historical losses and financial condition, there is substantial doubt about the Company's ability to continue as a going concern.

To address our working capital requirements, management has begun instituting several cost cutting measures and may utilize cash proceeds available under the Lincoln Park facility. Additionally, management may seek additional equity and/or debt financing through the issuance of additional debt and/or equity securities or may seek strategic or other transactions intended to increase shareholder value. There are currently no formal committed financing arrangements to support our projected cash shortfall, including commitments to purchase additional debt and/or equity securities, or other agreements, and no assurances can be given that we will be successful in raising additional debt and/or equity securities, or entering into any other transaction that addresses our ability to continue as a going concern.

In view of the matters described in the preceding paragraph, recoverability of a major portion of the recorded asset amounts shown in the accompanying consolidated balance sheet is dependent upon continued operations of the Company, which, in turn, is dependent upon the Company's ability to continue to raise capital and generate positive cash flows from operations. However, the Company operates in markets that are emerging and highly competitive. There is no assurance that the Company will be able to obtain additional capital, operate at a profit or generate positive cash flows in the future.

The consolidated financial statements do not include any adjustments relating to the recoverability and classification of recorded asset amounts and classifications of liabilities that might be necessary should the Company be unable to continue as a going concern.

Operating Activities

Net cash used in operating activities was \$11,267,000 during the year ended December 31, 2019 as compared to \$10,310,000 during the year ended December 31, 2018. During the year ended December 31, 2019, net cash used in operating activities consisted of net loss of \$11,581,000 and an increase in working capital and other assets and liabilities of \$287,000. Those amounts were offset by approximately \$723,000 of non-cash costs and \$696,000 in non-cash income. Non-cash costs were \$652,000 in stock-based compensation and \$71,000 in depreciation and amortization. Non-cash income consisted of \$696,000 in the change in fair value of derivative liabilities. During the year ended December 31, 2019, we used cash of \$209,000 from increases in current assets offset by \$168,000 from decreases in our operating leases right-of-use assets and generated cash of \$357,000 through increases in current liabilities and deferred revenue offset by \$32,000 used from decreases in contract costs.

During the year ended December 31, 2018, net cash used in operating activities consisted of net loss of \$12,550,000 and an increase in working capital and other assets and liabilities of \$489,000. Those amounts were offset by approximately \$1,751,000 of non-cash costs, including \$1,298,000 in stock-based compensation, \$170,000 in debt issuance cost amortization and debt discount amortization, \$51,000 in depreciation and amortization, and \$232,000 in the change in fair value of derivative liabilities. During the year ended December 31, 2018, we used cash of \$539,000 from increases in current assets and generated cash of \$1,081,000 through increases in current liabilities and deferred revenue.

Investing Activities

Net cash used in investing activities was \$31,000 for the year ended December 31, 2019 as compared to \$240,000 for the year ended December 31, 2018. For the year ended December 31, 2019, we used cash of \$31,000 to fund capital expenditures of software. For the year ended December 31, 2018, we used cash of \$240,000 to fund capital expenditures of leasehold improvements and office furniture.

Financing Activities

We generated cash of \$6,635,000 from financing activities for the year ended December 31, 2019, as compared to \$8,900,000 for the year ended December 31, 2018. During the year ended December 31, 2019, we generated cash of approximately \$166,000 from the exercise of 351,334 stock options resulting in the issuance of 351,334 shares of Common Stock, and \$6,520,000 from the sale of 5,954,545 shares of Common Stock and used cash of approximately \$51,000 for the payment of dividends on our Series B Preferred Stock. During the year ended December 31, 2018, we generated cash of approximately \$162,000 from the exercise of 235,852 stock options resulting in the issuance of 235,852 shares of Common Stock, and generated cash of \$10,000,000 in gross proceeds from the Series C Financing, offset by \$1,211,000 in offering costs. During the year ended December 31, 2018, we used cash of approximately \$51,000 for the payment of dividends on our Series B Preferred.

Debt

As a result of the conversion of amounts outstanding under the Company's related-party lines of credit on September 10, 2018, at December 31, 2018, the Lines of Credit and all indebtedness, liabilities and other obligations arising thereunder were terminated, cancelled and deemed satisfied in full. As a result, no future borrowings are available under the Lines of Credit.

Real Property Leases

Our corporate headquarters is located in San Diego, California, where we now occupy 8,511 square feet of office space at a cost of approximately \$30,000 per month. We entered into this facility's lease in July 2018 and this new lease commenced on November 1, 2018 and terminates on April 30, 2025. In addition to our corporate headquarters, we also occupied the following spaces at December 31, 2019:

- 1,508 square feet in Ottawa, Province of Ontario, Canada, at a cost of approximately \$3,000 per month until the expiration of the lease on March 31, 2021;
- 9,720 square feet in Portland, Oregon, at a cost of approximately \$22,000 per month until the expiration of the lease on February 28, 2023; and
- 183 square feet of office space in Mexico City, Mexico, at a cost of approximately \$2,000 per month until September 30, 2020.

Prior to entering into the new lease agreement in July 2018 and moving our corporate headquarters to a new location, we occupied 9,927 of office space in San Diego, at a cost of approximately \$30,000 per month.

Stock-Based Compensation

Stock-based compensation related to equity options and restricted stock has been classified as follows in the accompanying consolidated statements of operations (in thousands):

	Year Ended December 31,	
	2019	2018
Cost of revenue	\$ 13	\$ 19
General and administrative	347	840
Sales and marketing	148	216
Research and development	135	197
Total	<u>\$ 643</u>	<u>\$ 1,272</u>

Off-Balance Sheet Arrangements

At December 31, 2019, we did not have any relationships with unconsolidated entities or financial partnerships, such as entities often referred to as structured finance, special purpose or variable interest entities, which would have been established for the purpose of facilitating off-balance sheet arrangements or other contractually narrow or limited purposes. In addition, we did not engage in trading activities involving non-exchange traded contracts. As a result, we are not exposed to any financing, liquidity, market or credit risk that could arise if we had engaged in such relationships. We do not have relationships and transactions with persons or entities that derive benefits from their non-independent relationship with us or our related parties except as disclosed elsewhere in this prospectus.

Recently Issued Accounting Pronouncements

From time to time, new accounting pronouncements are issued by the Financial Accounting Standards Board (the "FASB"), or other standard setting bodies, which are adopted by us as of the specified effective date. Unless otherwise discussed, the Company's management believes the impact of recently issued standards not yet effective will not have a material impact on the Company's consolidated financial statements upon adoption. See Note 2 to these consolidated financial statements for a detailed discussion of recently issued accounting pronouncements.

Impact of Inflation

The primary inflationary factor affecting our operations is labor costs, and we do not believe that inflation has materially affected earnings during the past four years. Substantial increases in costs and expense, particularly labor and operating expense, could have a significant impact on our operating results to the extent that such increases cannot be passed along to customers and end users.

DIRECTORS AND EXECUTIVE OFFICERS

The following sets forth certain information regarding each of our directors and executive officers as of the date of this prospectus.

Name (1)	Age	Title/Position Held with the Company
Kristin Taylor	53	Chief Executive Officer
Jonathan D. Morris	44	Senior Vice President, Chief Financial Officer
David Harding	50	Senior Vice President, Chief Technical Officer
S. James Miller, Jr.	66	Chair of the Board
David Carey	75	Director
Neal Goldman	75	Director
Guy Steve Hamm	72	Director
Dana W. Kammersgard	64	Director
David Loesch	75	Director

- (1) As previously disclosed by the Company, Charles Croker resigned from the Board effective February 14, 2019, Robert T. Clutterbuck and Charles Frischer resigned from the Board effective May 8, 2019, and John Cronin resigned from the Board effective April 1, 2020. In addition, S. James Miller, Jr. resigned from his position as Chief Executive Officer but remains in his position as Executive Chairman of the Board of Directors, and Wayne Wetherell resigned from his position as the Company's Senior Vice President, Chief Financial Officer and Corporate Secretary, effective May 1, 2020.

The following biographical information regarding the foregoing directors and officers of the Company is presented below:

Kristin Taylor serves as our Chief Executive Officer since her appointment in March 2020, and is a seasoned innovative technology executive with over 20 years of experience in leading organizational modernization and developing go-to-market strategies. She currently serves as Principal at Veritas Lux since November 2019 and previously served as a consultant with Kristin Taylor Consulting since 2012, in which she developed a proprietary patented and algorithmic methodology to weigh and rank the most influential global technical analysts. From 2017 to 2019, Ms. Taylor served as Vice President of Worldwide Analyst Relations at IBM and led the efforts to modernize and transform IBM's analyst relations organization. From 2013 to 2017, she served as Vice President, Global Analyst and Public Relations at MediaTek, the third largest fabless semiconductor company worldwide with a \$30 billion market cap, where she led the buildout of a new global public and analyst relations organization to penetrate the North American, European, Latin American, Russian and Indian markets. Prior to that, she served in various positions of increasing responsibility with Qualcomm from 1998 to 2010 including as Head of Industry Analyst Relations, Senior Director of Business Development, and as a Director in Information Technology. Ms. Taylor earned her Bachelor's degree in Sociology and Business Management from the University of New Hampshire.

Jonathan D. Morris serves as our Senior Vice President, Chief Financial Officer since his appointment in May 2020. Mr. Morris has over 23 years of experience as a finance executive holding key leadership positions in financial management, mergers & acquisitions, private equity, and both merchant banking and investment banking. Mr. Morris previously served as Chief Financial Officer of American Patriot Brands, a provider of consumer staples since joining the organization in 2019. Prior to that, Mr. Morris served in Direct Investments and Special Opportunities with Private Family Office from 2015 to 2019, where his primary responsibilities included the investment sourcing and long-term strategic partnerships with core stakeholders both domestically and internationally. From 2012 to 2015, he served in technology, media and telecommunications with Blackstone Group and from 2005 to 2012, he held positions within investment banking divisions of Credit Suisse. Mr. Morris began his career in 1997 within the merchant banking division of Lombard, Odier et Cie, private bank in Switzerland. Mr. Morris earned his Bachelor's degree in Finance from the University of Virginia and an MBA from Georgetown University.

David Harding serves as our Senior Vice President and Chief Technology Officer since his appointment in January 2006. Mr. Harding has more than 25 years of technology implementation and managerial experience and is responsible for strategic design, technology infrastructure and core strategy from concept through delivery. Before joining the Company, from 2001 to 2003, Mr. Harding was the Chief Technology Officer at IC Solutions, Inc., where he was responsible for all technology departments including the development and management of software, IT and quality assurance, as well as their respective hardware, software and human resource budgets. From 1999 to 2000, he served as the Chief Technology Officer at Thirsty.com and from 1996 to 1999, he served as the Chief Technology Officer at Fulcrum Point Technologies, Inc., and as a consultant to Access360, which is now part of IBM/Tivoli, from 1995 to 1996.

S. James Miller, Jr. served as our Chief Executive Officer and President since 1990 until March 2, 2020 and currently serves as Chair of the Board since 1996. Prior to joining the Company, from 1980 to 1990, Mr. Miller was an executive with Oak Industries, Inc., a manufacturer of components for the telecommunications industry. While at Oak Industries, Mr. Miller served as a director and as Senior Vice President, General Counsel, Corporate Secretary and Chairman/President of Oak Industries' Pacific Rim subsidiaries. He has a J.D. from the University of San Diego School of Law and a B.A. from the University of California, San Diego.

The Nominating and Corporate Governance Committee believes that Mr. Miller possesses substantial managerial expertise necessary to lead the Company through its various stages of development and growth. Additionally, the historical knowledge of the Company and his knowledge of the daily operations of the Company is extremely valuable to the Board of Directors and management as it executes the Company's business plan. In addition, the Board of Directors values the input provided by Mr. Miller given his legal expertise.

David Carey was appointed to the Board in February 2006. Mr. Carey currently serves as the Chairman of Proxy Boards for Leonard DRS Technologies and OnPoint Consulting. In addition, he is a member of the Proxy Board for Informatica Federal Operations, Corp. and serves on a number of Advisory Boards. Mr. Carey briefly served on the Board of Cybergly, Inc., a publicly-listed company prior to his resignation in 2015. He is a former Executive Director of the Central Intelligence Agency ("CIA"), where he served for 32 years until 2001. During his career with the CIA, Mr. Carey held several senior positions including that of Executive Director, often referred to as the Chief Operating Officer within the agency. Mr. Carey earned his B.S. in Economics from Cornell University and a MBA from the University of Delaware.

The Board of Directors believes that Mr. Carey's experience as a former Executive Director of the CIA and his in-depth knowledge and expertise with IT security matters as well as his extensive network within the intelligence and security community, provides the Board with specialized expertise and insight into the specific markets in which the Company operates.

Neal Goldman was appointed to the Board in August 2012. Mr. Goldman is currently President, Chief Compliance Officer and a director of Goldman Capital Management, Inc., an employee owned investment advisor that he founded in 1985. Additionally, Mr. Goldman is Chairman of Charles and Colvard, LTD, a specialty jewelry company. Mr. Goldman has previously served as a member of the Board of Directors and its Compensation Committee for Blyth, Inc., a New York Stock Exchange-listed designer and marketer of home decorative and fragrance products.

Mr. Goldman is the Company's largest shareholder and has significant investment experience. As a result, the Board of Directors believes that Mr. Goldman provides valuable insight to the Board of Directors as it seeks to build shareholder value.

Guy Steve Hamm was appointed to the Board in October 2004. Mr. Hamm served as CFO of Aspen Holding, a privately held insurance provider, from December 2005 to February 2007. In 2003, Mr. Hamm retired from PricewaterhouseCoopers, where he was a national partner-in-charge of middle market. Mr. Hamm was instrumental in growing the Audit Business Advisory Services (“*ABAS*”) Middle Market practice at PricewaterhouseCoopers, where he was responsible for \$300 million in revenue and more than 100 partners. Mr. Hamm is a graduate of San Diego State University.

The Board of Directors believes that Mr. Hamm’s experience in public accounting, together with his managerial experience as a Chief Financial Officer, provides the Audit Committee with the expertise needed to oversee the Company’s finance and accounting functions and oversight of its independent registered public accountants.

Dana Kammersgard was appointed to the Board in May of 2016. He is currently the Executive Vice President, Cloud Systems and Solutions for Seagate Technology (“*Seagate Systems*”), where he is responsible for all storage systems related products and strategies. Prior to joining Seagate Systems in 2015, he served as the President, Chief Executive Officer and a director of Dot Hill System Corp. (“*Dot Hill*”) since 2006. Mr. Kammersgard served as President of Dot Hill from 2004 to 2006 and from 1999 to 2004, he served as its Chief Technical Officer. Mr. Kammersgard was a Founder of Artecon, Inc. (“*Articon*”) a storage systems company, where he served as a director from its inception in 1984 until the Articon’s merger with a competitor, Box Hill Systems Corp. in 1999. While at Artecon, Mr. Kammersgard served in various positions, including Secretary and Senior Vice President of Engineering from March 1998 until August 1999, and as Vice President of Sales and Marketing from March 1997 until March 1998. Prior to that, Mr. Kammersgard was the Director of Software Development at Calma, a division of General Electric Company. Mr. Kammersgard holds a B.A. in chemistry from the University of California, San Diego.

The Board of Directors believes that Mr. Kammersgard’s engineering and technical experience, coupled with his senior executive management experience with technology companies, is valuable to the Company’s Board of Directors and senior management in navigating the technical and marketing challenges within the industry.

David Loesch was appointed to the Board in September 2001. Prior to that, he served as a Special Agent with the Federal Bureau of Investigations (“*FBI*”) for 29 years and upon his retirement from the FBI, Mr. Loesch was the Assistant Director in Charge of the Criminal Justice Information Services Division. He was awarded the Presidential Rank Award for Meritorious Executive in 1998 and has served on the Board of Directors of the Special Agents Mutual Benefit Association since 1996. He is also a member of the International Association of Chiefs of Police and the Society of Former Special Agents of the FBI, Inc. In 1999, Mr. Loesch was appointed by former Attorney General Janet Reno to serve as one of 15 original members of the Compact Council, an organization charged with promulgating rules and procedures governing the use and exchange of criminal history records for non-criminal justice use. Mr. Loesch served in the United States Army as an Officer with the 101st Airborne Division in Vietnam. He holds a Bachelor’s degree from Canisius College and a Master’s degree in Criminal Justice from George Washington University. Mr. Loesch continues to work as a private consultant on criminal justice information sharing and the use of biometrics to help identify criminals and individuals of special concern.

The Board of Directors believes that Mr. Loesch’s extensive service as a Special Agent with the FBI, together with his knowledge of security issues relevant to the Company’s products and markets, provides the Board of Directors and the Company with valuable input regarding the Company’s competitors and the markets in which the Company serves.

Section 16(a) Beneficial Ownership Reporting Compliance

Section 16(a) of the Exchange Act requires our directors and executive officers, and persons who beneficially own more than 10% of a registered class of our equity securities, to file with the SEC initial reports of ownership and reports of changes in ownership of our Common Stock and other equity securities. Such persons are required by SEC regulations to furnish us with copies of all Section 16(a) forms they file. To our knowledge, based solely on a review of the copies of such reports furnished to us and written representations that no other reports were required, during the fiscal year ended December 31, 2019, all Section 16(a) filing requirements were complied with in a timely manner.

Code of Ethics

The Company has adopted a *Code of Business Conduct and Ethics* policy that applies to our directors and employees (including the Company's principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions). The Company intends to promptly disclose (i) the nature of any amendment to this code of ethics that applies to our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions and (ii) the nature of any waiver, including an implicit waiver, from a provision of this code of ethics that is granted to one of these specified individuals, the name of such person who is granted the waiver and the date of the waiver on our website in the future. A copy of our Code of Business Conduct and Ethics can be obtained from our website at <http://www.iwsinc.com>.

Board Leadership Structure

Our Board of Directors has discretion to determine whether to separate or combine the roles of Chief Executive Officer and Chair of the Board. Prior to the appointment of Kristin Taylor as President and Chief Executive Officer on March 2, 2020, and during the year ended December 31, 2019, S. James Miller held the roles of both Chief Executive Officer and Chair of the Board since 1996, and our Board believed that at the time, his combined role was advantageous to the Company and its stockholders. The Board now believes it to be in the best interest of the Company and its stockholders as well as the Board, to separate these roles to allow Mr. Miller to focus solely on the Chair's responsibility to develop meeting agendas that focus the Board's time and attention on the most critical matters and to facilitate constructive dialogue among Board members on strategic issues. Ms. Taylor will then be able to focus her time and attention on the in-depth knowledge of the issues, opportunities and risks facing the Company, our business and our industry to fulfill the responsibilities of our Chief Executive Officer.

The Board maintains effective independent oversight through a number of governance practices, including open and direct communication with management, input on meeting agendas, and regular executive sessions.

Board Role in Risk Assessment

Management, in consultation with outside professionals, as applicable, identifies risks associated with the Company's operations, strategies and financial statements. Risk assessment is also performed through periodic reports received by the Audit Committee from management, counsel and the Company's independent registered public accountants relating to risk assessment and management. Audit Committee members meet privately in executive sessions with representatives of the Company's independent registered public accountants. The Board also provides risk oversight through its periodic reviews of the financial and operational performance of the Company.

Director Independence

Our Board of Directors has determined that all of its members, other than Mr. Goldman, who beneficially owns approximately 31.9% of the Company's Common Stock, are "independent" within the meaning of the Nasdaq Stock Market Rules and SEC rules regarding independence.

Committees of the Board of Directors

Our Board of Directors has an Audit Committee, a Compensation Committee and a Nominating and Corporate Governance Committee, each of which has the composition and responsibilities described below.

Audit Committee

The Audit Committee provides assistance to the Board of Directors in fulfilling its legal and fiduciary obligations in matters involving our accounting, auditing, financial reporting, internal control and legal compliance functions by approving the services performed by our independent accountants and reviewing their reports regarding our accounting practices and systems of internal accounting controls. The Audit Committee also oversees the audit efforts of our independent accountants and takes those actions as it deems necessary to satisfy it that the accountants are independent of management. The Audit Committee currently consists of Messrs. Hamm (Committee Chair), Carey and Loesch, each of whom is a non-management member of our Board of Directors. Mr. Hamm is also our Audit Committee financial expert, as currently defined under current SEC rules. The Audit Committee met three times during the year ended December 31, 2019. We believe that the composition of our Audit Committee meets the criteria for independence under, and the functioning of our Audit Committee complies with the applicable Nasdaq Stock Market Rules and SEC rules and regulations.

Compensation Committee

The Compensation Committee determines our general compensation policies and the compensation provided to our directors and officers. The Compensation Committee also reviews and determines bonuses for our officers and other employees. In addition, the Compensation Committee reviews and determines equity-based compensation for our directors, officers, employees and consultants and administers our stock option plans. The Compensation Committee currently consists of Messrs. Carey (Committee Chair) and Goldman, each of whom is a non-management member of our Board of Directors. The Compensation Committee met one time during the year ended December 31, 2019. Although Mr. Carey meet the criteria for independence under the applicable Nasdaq Stock Market Rules and SEC rules and regulations, Mr. Goldman is not considered independent under such requirements.

Nominating and Corporate Governance Committee

The Nominating and Corporate Governance Committee is responsible for making recommendations to the Board of Directors regarding candidates for directorships and the size and composition of the Board. In addition, the Nominating and Corporate Governance Committee is responsible for overseeing our corporate governance guidelines and reporting and making recommendations to the Board concerning corporate governance matters. The Nominating and Corporate Governance Committee currently consists of all the nonemployee members of the Board. The Nominating and Corporate Governance Committee met three times during the year ended December 31, 2019.

Indemnification of Officers and Directors

To the extent permitted by Delaware law, the Company will indemnify its directors and officers against expenses and liabilities they incur to defend, settle, or satisfy any civil or criminal action brought against them on account of their being or having been Company directors or officers unless, in any such action, they are adjudged to have acted with gross negligence or willful misconduct.

EXECUTIVE COMPENSATION

Executive Compensation Discussion and Analysis

Overview of Compensation Program

The Compensation Committee of our Board of Directors has responsibility for establishing, implementing and monitoring adherence to our compensation philosophy. The Board of Directors has delegated to the Compensation Committee the responsibility for determining our compensation policies and procedures for senior management, including the named executive officers, periodically reviewing these policies and procedures, and making recommendations concerning executive compensation to be considered by the full board of directors, when such approval is required under any of our plans or policies or by applicable laws. The Compensation Committee also has the principal responsibility for the administration of our stock plans, including the approval of stock option grants to the named executive officers.

The compensation received by our named executive officers in fiscal year 2019 is set forth in the Summary Compensation Table, below. For 2019, the named executive officers included: (i) S. James Miller, Jr., Chair of the Board of Directors and former Chief Executive Officer; (ii) David Harding, Senior Vice President Engineering, Chief Technical Officer, and (iii) David Somerville, former Senior Vice President Sales and Marketing.

Compensation Philosophy

In general, our executive compensation policies are designed to recruit, retain and motivate qualified executives by providing them with a competitive total compensation package based in large part on the executive's contribution to our financial and operational success, the executive's personal performance and increases in stockholder value as measured by the price of our common stock. We believe that the total compensation paid to our executives should be fair, reasonable and competitive.

We seek to have a balanced approach to executive compensation with each primary element of compensation (base salary, variable compensation and equity incentives) designed to play a specific role. Overall, we design our compensation programs to allow for the recruitment, retention and motivation of the key executives and high-level talent required in order for us to:

- achieve or exceed our annual financial plan and achieve profitability;
- make continuous progression towards achieving our long-term strategic objectives to be a high-growth company with growing profitability; and
- increase our share price to provide greater value to our stockholders.

Role of Executive Officers in Compensation Decisions

The Compensation Committee considers action on executive compensation annually. They discuss their proposed actions with the Chief Executive Officer and make recommendations for any changes to the Company's Board of Directors. Only the Compensation Committee and the Board of Directors are authorized to approve the compensation for any named executive officer. Because our Chief Executive Officer is also a member of our Board of Directors, he does not participate in any conversation or approvals related to his compensation. Compensation of new executives is based on hiring negotiations between the individuals and our Chief Executive Officer and/or Compensation Committee.

Elements of Compensation

Consistent with our compensation philosophy and objectives, we offer executive compensation packages consisting of the following three components:

- base salary;
- annual incentive compensation (in the form of bonuses or otherwise); and
- equity awards pursuant to the terms and conditions of our 1999 Stock Award Plan (the “1999 Plan”).

In each fiscal year, the Compensation Committee determines the amount and relative weight of each component for all executives, including the named executive officers. Base salaries are paid in fixed amounts and thus do not encourage risk taking. For 2019, we had no incentive bonus programs.

We also have issued stock options focusing the recipients on the achievement of certain short- and longer-term goals and objectives. The Compensation Committee believes that these awards do not encourage unnecessary or excessive risk taking because the ultimate value of the awards is tied to our stock price, and the vesting schedules align our employees’ interests even more closely with those of our investors.

Base Salary

Because our compensation philosophy stresses performance-based awards, base salary is intended to be a smaller portion of total executive compensation relative to long-term equity. Therefore, we target executive base salary at the median level of the compensation guidelines that have been approved by the Compensation Committee. In addition, the Compensation Committee takes into account the executive’s scope of responsibility and significance to the execution of our long-term strategy, past accomplishments, experience and personal performance and compares each executive’s base salary with those of the other members of senior management. The Compensation Committee may give different weighting to each of these factors for each executive, as it deems appropriate. The Compensation Committee did not retain a compensation consultant or determine a compensation peer group for 2019. In 2019, there were no changes to the base salaries paid to our named executive officers except for the contractually specified cost of living adjustments.

Annual Incentive Compensation

The Compensation Committee has not adopted an executive bonus plan for 2020.

Equity Awards

Although we do not have a mandated policy regarding the ownership of shares of Common Stock by officers and directors, we believe that granting equity awards to executives and other key employees on an ongoing basis gives them a strong incentive to maximize stockholder value and aligns their interests with those of our other stockholders on a long-term basis. Our 1999 Plan enables us to grant equity awards, as well as other types of stock-based compensation, to our executive officers and other employees. Under authority delegated to it by the board of directors, the Compensation Committee reviews and approves all equity awards granted to named executive officers under the 1999 Plan. Typically, the options granted upon the executive’s hire vest over three years with a third vesting on the one-year anniversary, and the remainder vesting quarterly over the next eight quarters. The options granted to executives in connection with an annual performance review typically begin vesting on the one-year anniversary of the grant date, and vest ratably over the following eight quarters. Our general policy is to grant the options with an exercise price equal to fair market value, which currently is the closing price of our Common Stock, as reported by the OTCQB marketplace, on the grant date.

We intend to grant equity awards to achieve retention and motivation:

- upon the hiring of key executives and other personnel;
- annually, when we review progress against corporate and personal goals; and
- when we believe that competitive forces or economic conditions threaten to cause our key executives to lose their motivation and/or where retention of these key executives is in jeopardy.

With the Compensation Committee's approval, we grant options to purchase shares of Common Stock when we initially hire executives and other employees, as a long-term performance incentive. The Compensation Committee has determined the size of the initial option grants to newly hired executives with reference to existing guidelines and hiring negotiations with the individual, in addition to other relevant information regarding the size and type of compensation package considered necessary to enable us to recruit, retain and motivate the executive.

Historically, no employee was eligible for an annual performance grant until the employee had worked for us for at least sixty days. The Compensation Committee reviews our Chief Executive Officer's and other executives' performance and determines whether they should be granted an option to purchase additional shares. Aside from stock award grants in connection with annual performance reviews, we do not have a policy of granting additional awards to executives and, consequently, the Board of Directors and the Compensation Committee has not adopted a policy with respect to granting awards in coordination with the release of material non-public information.

In determining the size of equity awards the Compensation Committee takes into account the executive's current position with and responsibilities to us.

Only the Board of Directors or the Compensation Committee may approve options or other equity-based compensation to our executives. However, the Board of Directors has authorized our Chief Executive Officer to approve option grants to non-executive employees. All such grants must be consistent with equity incentive guidelines approved by the Compensation Committee. The exercise price for such grants must be equal to the most recent closing price of a share of the Common Stock as reported by the OTCQB marketplace on the date of grant.

Going forward, we intend to continue to evaluate and consider equity grants to our executives on an annual basis. We expect to consider potential equity awards for executives at the same time as we annually review our employees' performance and determine whether to award grants for all employees.

Accounting and Tax Considerations

Our Compensation Committee has reviewed the impact of tax and accounting treatment on the various components of our executive compensation program. Section 162(m) of the Internal Revenue Code (the "Code") generally disallows a tax deduction to publicly held companies for compensation paid to "covered" executive officers, to the extent that compensation paid to such an officer exceeds \$1.0 million during the taxable year. We endeavor to award compensation that will be deductible for income tax purposes, though other factors will also be considered. Our Compensation Committee may authorize compensation payments that do not comply with the exemptions to Section 162(m) when we believe that such payments are appropriate to attract and retain executive talent.

Say-on-Pay

Our stockholders have not yet had the opportunity to provide feedback on our executive compensation through an advisory vote, as we have not held an annual meeting of stockholders since 2011, at which time we were not required to hold a “Say-on-Pay” vote as we followed the disclosure guidelines of a Smaller Reporting Company.

Compensation Committee Interlocks and Insider Participation

As of December 31, 2019, the members of our Compensation Committee were, David Carey (Committee Chair), John Cronin and Neal Goldman. As a result of Mr. Cronin’s resignation from the Board, the Compensation Committee currently consists of Messrs. Carey and Goldman. None of the current or past members of our Compensation Committee is or has been an officer or employee of our Company. None of our executive officers currently serves, or in the past year has served, as a member of the compensation committee (or other board committee performing equivalent functions or, in the absence of any such committee, the entire board of directors) or director of any entity that has one or more executive officers serving on our Compensation Committee or our Board of Directors.

COMPENSATION COMMITTEE REPORT

The Compensation Committee has reviewed and discussed with management the Compensation Discussion and Analysis provisions included in our Annual Report on Form 10-K for the year ended December 31, 2019. Based on this review and discussion, the Compensation Committee recommended to the board of directors that the Compensation Discussion and Analysis be included in our Annual Report on Form 10-K for the year ended December 31, 2019.

The Compensation Committee of the Board of Directors:

David Carey, Committee Chair
Neal Goldman

Summary Compensation Table

The following table sets forth certain information about the compensation paid or accrued during the years ended December 31, 2019 and 2018 to our Chief Executive Officer and each of our two most highly compensated executive officers other than our Chief Executive Officer who were serving as executive officers at December 31, 2019, and whose annual compensation exceeded \$100,000 during such year or would have exceeded \$100,000 during such year if the executive officer were employed by the Company for the entire fiscal year (collectively the “Named Executive Officers”).

Name and Principal Position	Year	Salary	Stock Awards	Option Awards ⁽¹⁾⁽²⁾	All Other Compensation	Total
S. James Miller, Jr.	2019	\$ 400,856	\$ -	\$ -	\$ 16,799	\$ 417,655
<i>Chair of the Board and Former Chief Executive Officer</i>	2018	\$ 387,787	\$ -	\$ 199,408	\$ 19,967 (3)	\$ 607,162
David Harding	2019	\$ 275,000	\$ -	\$ -	\$ 4,784	\$ 279,784
<i>Vice President and Chief Technical Officer</i>	2018	\$ 275,000	\$ -	\$ 161,481	\$ 5,288 (4)	\$ 441,769
David Somerville	2019	235,000	\$ -	-	8,963	243,963
<i>Former Sr. Vice President Sales and Marketing</i>	2018	\$ 230,631	\$ -	\$ 90,400	\$ 67,089 (5)	\$ 388,120

(1) All option awards were granted under the 1999 Plan.

(2) The amounts presented in this column do not reflect the cash value or realizable value of option grants to the named executive officers during the year ended December 31, 2019 or 2018. During the year ended December 31, 2019 and 2018, no named executive officer exercised an option and therefore no value was realized during the reporting period. The amounts reflect the grant date fair value of the options awarded in the fiscal years ended December 31, 2019 and 2018, respectively, in accordance with the provisions of FASB ASC Topic 718. We have elected to use the Black-Scholes option-pricing model, which incorporates various assumptions including volatility, expected life, and interest rates. We are required to make various assumptions in the application of the Black-Scholes option-pricing model and have determined that the best measure of expected volatility is based on the historical weekly volatility of our common stock. Historical volatility factors utilized in our Black-Scholes computations for options granted during the years ended December 31, 2019 and 2018 ranged from 64% to 57%. We have elected to estimate the expected life of an award based upon the SEC approved “simplified method” noted under the provisions of Staff Accounting Bulletin Topic 14. The expected term used by the Company during the years ended December 31, 2019 and 2018 was 5.17 years. The difference between the actual historical expected life and the simplified method was immaterial. The interest rate used is the risk-free interest rate and is based upon U.S. Treasury rates appropriate for the expected term. Interest rates used in the Company’s Black-Scholes calculations for the years ended December 31, 2019 and 2018 was 2.58%. Dividend yield is zero, as we do not expect to declare any dividends on our common shares in the foreseeable future. In addition to the key assumptions used in the Black-Scholes model, the estimated forfeiture rate at the time of valuation is a critical assumption. We have estimated an annualized forfeiture rate of 0% for corporate officers, 4.1% for members of the Board of Directors and 6.0% for all other employees. We review the expected forfeiture rate annually to determine if that percent is still reasonable based on historical experience.

(3) This amount includes premiums on life insurance and disability insurance of \$2,984 and matching 401(k) contributions of \$1,800.

(4) This amount includes premiums on life insurance and disability insurance of \$8,399 and matching 401(k) contributions of \$8,400.

(5) This amount includes premiums in life insurance and disability insurance of \$1,848 and matching 401(k) contributions of \$7,115. Effective March 9, 2020, Mr. Somerville resigned from his position with the Company.

Grants of Plan Based Awards

There were no plan-based awards granted in 2019 to the Named Executive Officers.

Outstanding Equity Awards at Fiscal Year-End

The following table sets forth information regarding unexercised options, stock that has not vested and equity incentive awards held by each of the then Named Executive Officers outstanding as of December 31, 2019:

Name	Option Awards				Stock Awards	
	Number of Securities Underlying Unexercised Options: Exercisable (#)	Number of Securities Underlying Unexercised Options: Unexercisable (#)	Option Exercise Price (\$)	Option Expiration Date	Number of Shares That Have Not Vested (#)	Market Value of Shares That Have Not Vested (\$)
David Harding	325,000	—	\$ 0.92	2/2/2022	—	\$ —
	100,000	—	\$ 0.93	2/8/2023	—	\$ —
	75,000	—	\$ 1.93	10/29/2023	—	\$ —
	50,000	—	\$ 2.29	12/15/2024	—	\$ —
	125,000	—	\$ 1.73	9/14/2025	—	\$ —
	300,000	—	\$ 1.37	9/20/2026	—	\$ —
	58,375	41,625	\$ 1.75	1/31/2028	—	\$ —
Former Named Executive Officers						
S. James Miller, Jr.	225,000	—	\$ 1.11	3/10/2021	—	\$ —
	450,000	—	\$ 0.92	2/2/2022	—	\$ —
	100,000	—	\$ 0.93	2/8/2023	—	\$ —
	100,000	—	\$ 1.93	10/29/2023	—	\$ —
	50,000	—	\$ 2.29	12/15/2024	—	\$ —
	150,000	—	\$ 1.73	9/14/2025	—	\$ —
	300,000	—	\$ 1.37	9/20/2026	—	\$ —
116,679	83,330	\$ 1.75	1/31/2028	—	\$ —	
David Somerville	175,000	125,000	\$ 1.75	1/31/2028	—	\$ —

Employment Agreements

Kristin Taylor. On March 2, 2020, we entered into an employment agreement with Ms. Kristin Taylor, our President and Chief Executive Officer. This agreement provides for an annual base salary of \$330,000 for a period of 24 months effective April 10, 2020. The agreement is also provides for (i) the grant of a stock option to purchase 1.75 million shares of the Company's Common Stock, which stock option shall vest in three equal annual installments beginning one year from the date of issuance; (ii) an annual bonus equal to 100% of Ms. Taylor's annual salary upon meeting the following performance objectives: (a) the Company establishing a major partnership that generates \$1.5 million in revenue during the calendar year 2020; (b) the Company achieving positive cash flow by the year ended December 31, 2020; (c) the Company's operating loss being reduced by a minimum of 50% by the year ended December 31, 2020; and (d) total sales exceeding \$10.0 million in 2020, with each objective equal to 25% of the total bonus objective. If all performance objectives are met, Ms. Taylor will be granted an additional stock option to purchase 500,000 shares of Common Stock. In the event of termination of her employment other than by reason of death or disability, or for cause, the employment agreement is also anticipated to provide Ms. Taylor with certain severance payments, including continuation of her salary for the greater of one year or the remaining term under her employment agreement.

David Harding. On May 21, 2007, we entered into a Change of Control and Severance Benefits Agreement with Mr. David Harding, our Vice President and Chief Technical Officer. This agreement was originally for a two-year term, ending on May 21, 2009; however, the agreement has been amended to extend the expiration date to December 31, 2019. Under the terms of the agreement, Mr. Harding is paid a semi-monthly base salary of \$11,458, and is entitled to the following severance benefits if we terminate his employment without cause or in the event of an involuntary termination: (i) a lump sum cash payment equal to six months base salary; and continuation of Mr. Harding's medical and disability insurance for a period of six months. In the event that Mr. Harding's employment is terminated within six months prior to or thirteen months following a change of control (defined below), Mr. Harding is entitled to the severance benefits described above, except that 100% of Mr. Harding's outstanding stock options and restricted stock awards will immediately vest.

For purposes of the above-referenced agreements, termination for "cause" means the executive's commission of a criminal act or an act of fraud, embezzlement, breach of trust or other act of gross misconduct; violations of policies or rules of the Company; refusal to follow the direction given by the Company from time to time or breach of any covenant or obligation under the above-referenced agreements or other agreements with the Company; neglect of duty; misappropriation, concealment, or conversion of any money or property of the Company; intentional damage or destruction of property of the Company; reckless conduct which endangers the safety of other persons or property during the course of employment or while on premises leased or owned by the Company; or a breach of any obligation or requirement set forth in the above-referenced agreements. A "change in control" as used in these agreements generally means the occurrence of any of the following events: (i) the acquisition by any person or group of 50% or more of our outstanding voting stock; (ii) the consummation of a merger, consolidation, reorganization, or similar transaction other than a transaction: (1) in which substantially all of the holders of our voting stock hold or receive directly or indirectly 50% or more of the voting stock of the resulting entity or a parent company thereof, in substantially the same proportions as their ownership of the Company immediately prior to the transaction, or (2) in which the holders of our capital stock immediately before such transaction will, immediately after such transaction, hold as a group on a fully diluted basis the ability to elect at least a majority of the directors of the surviving corporation (or a parent company); (iii) there is consummated a sale, lease, exclusive license, or other disposition of all or substantially all of the consolidated assets of us and our Subsidiaries, other than a sale, lease, license, or other disposition of all or substantially all of the consolidated assets of us and our Subsidiaries to an entity, 50% or more of the combined voting power of the voting securities of which are owned by our stockholders in substantially the same proportions as their ownership of the Company immediately prior to such sale, lease, license, or other disposition; or (iv) individuals who, on the date the applicable agreement was adopted by the Board, are Directors (the "Incumbent Board") cease for any reason to constitute at least a majority of the Directors; *provided, however*, that if the appointment or election (or nomination for election) of any new Director was approved or recommended by a majority vote of the members of the Incumbent Board then still in office, such new member shall, for purposes of the applicable agreement, be considered as a member of the Incumbent Board.

Former Named Executive Officers

S. James Miller, Jr. On October 1, 2005, we entered into an employment agreement with Mr. Miller, pursuant to which Mr. Miller served as President and Chief Executive Officer until his resignation on March 2, 2020. Historically, Mr. Miller's employment agreement was amended annually to extend the expiration date, and was amended on January 31, 2019 to extend the expiration date of the agreement to December 31, 2019. The agreement provided for annual base compensation in the amount of \$291,048, which amount, as a result of cost-of-living adjustments, was increased to \$400,856. Under this agreement, Mr. Miller was entitled to reimbursement for reasonable expenses incurred in connection with our business. Under the terms of the agreement, Mr. Miller was entitled to the following severance benefits if we terminated his employment without cause or in the event of an involuntary termination: (i) a lump sum cash payment equal to twenty-four months base salary; (ii) continuation of Mr. Miller's fringe benefits and medical insurance for a period of three years; and (iii) immediate vesting of 50% of Mr. Miller's outstanding stock options and restricted stock awards. In the event that Mr. Miller's employment is terminated within six months prior to or thirteen months following a change of control (defined below), Mr. Miller was entitled to the severance benefits described above, except that 100% of Mr. Miller's outstanding stock options and restricted stock awards will immediately vest. As a result of Mr. Miller's resignation as President and Chief Executive Officer on March 2, 2020, all outstanding options will continue to vest as long as Mr. Miller remains as a member of the Board of Directors.

Securities Authorized for Issuance Under Equity Compensation Plans

The following table provides information as of December 31, 2019 regarding equity compensation plans approved by our security holders and equity compensation plans that have not been approved by our security holders:

Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted-Average exercise price of outstanding options, warrants and rights	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a))
	(a)	(b)	(c)

Equity compensation plans approved by security holders:

1999 Stock Award Plan, as amended and restated	7,204,672	\$ 1.32	401,919
--	-----------	---------	---------

Description of Equity Compensation Plans

1999 Stock Option Plan

The 1999 Plan was adopted by the Company’s Board of Directors on December 17, 1999. Under the terms of the 1999 Plan, the Company could, originally, issue up to 350,000 non-qualified or incentive stock options to purchase Common Stock of the Company. During the year ended December 31, 2014, the Company subsequently amended and restated the 1999 Plan, whereby it increased the share reserve for issuance to approximately 7.0 million shares of the Company’s Common Stock. Subsequently, in February 2018, the Company amended and restated the 1999 Plan, whereby it increased the share reserve for issuance by an additional 2.0 million shares. The 1999 Plan prohibits the grant of stock option or stock appreciation right awards with an exercise price less than fair market value of Common Stock on the date of grant. The 1999 Plan also generally prohibits the “re-pricing” of stock options or stock appreciation rights, although awards may be bought-out for a payment in cash or the Company’s stock. The 1999 Plan permits the grant of stock-based awards other than stock options, including the grant of “full value” awards such as restricted stock, stock units and performance shares. The 1999 Plan permits the qualification of awards under the plan (payable in either stock or cash) as “performance-based compensation” within the meaning of Section 162(m) of the Internal Revenue Code. The number of options issued and outstanding and the number of options remaining available for future issuance are shown in the table below. The number of authorized shares available for issuance under the plan at December 31, 2019 was approximately 402,000.

DIRECTOR COMPENSATION

Board members who also serve on the Audit Committee receive additional monthly compensation of \$458 for the Committee Chair and \$208 for the remaining members of the Audit Committee. Board members who also serve on the Compensation Committee receive additional monthly compensation of \$417 for the Committee Chair and \$208 for the remaining members of the Compensation Committee. The members of the Board are also eligible for reimbursement for their expenses incurred in attending Board meetings in accordance with our policies. For the fiscal year ended December 31, 2019 the total amounts of compensation to non-employee directors (excluding reimbursable expenses) was approximately \$82,564, which amount was paid \$20,500 in cash with the remainder paid in stock options.

Each of our non-employee directors is also eligible to receive stock option grants under the 1999 Plan. Stock options granted under the 1999 Plan are intended by us not to qualify as incentive stock options under the Code.

The term of stock options granted under the 1999 Plan is ten years. In the event of a merger of us with or into another corporation or a consolidation, acquisition of assets or other change-in-control transaction involving us, an equivalent option will be substituted by the successor corporation; *provided, however*, that we may cancel outstanding options upon consummation of the transaction by giving at least thirty (30) days' notice.

The following table sets forth the compensation awarded to, earned by, or paid to each person who served as a director during the year ended December 31, 2019, other than a director who also served as an executive officer:

	Fees Earned					Total
	or Paid in Cash (\$)	Stock Awards (\$)	Option Awards (\$)⁽¹⁾	All Other Compensation (\$)	(\$)	
Current Directors						
David Carey	\$ 7,500	\$ -	\$ 8,131	\$ -	\$ 15,631	
Neal Goldman	\$ 2,500	\$ -	\$ 8,131	\$ -	\$ 10,631	
Guy Steve Hamm	\$ 5,500	\$ -	\$ 8,131	\$ -	\$ 13,631	
Dana Kammersgard	\$ 0	\$ -	\$ 12,865	\$ -	\$ 12,865	
David Loesch	\$ 2,500	\$ -	\$ 8,131	\$ -	\$ 10,631	
Former Directors						
Robert T. Clutterbuck ⁽²⁾	\$ -	\$ -	\$ 3,152	\$ -	\$ 3,152	
Charles Crocker ⁽³⁾	\$ -	\$ -	\$ 2,240	\$ -	\$ 2,240	
John Cronin ⁽⁴⁾	\$ 2,500	\$ -	\$ 8,131	\$ -	\$ 10,631	
Charles Frischer ⁽²⁾	\$ -	\$ -	\$ 3,152	\$ -	\$ 3,152	

(1) The amounts reflect the grant date fair value of options recognized as compensation in 2019, in accordance with the provisions of FASB ASC Topic 718, and thus may include amounts from awards granted prior to 2019.

(2) Messrs. Clutterbuck and Frischer resigned from their positions as members of our Board of Directors on May 6, 2019.

(3) Mr. Crocker resigned from his position as a member of our Board of Directors on February 14, 2019.

(4) Mr. Cronin resigned from his position as a member of our Board of Directors on April 1, 2020.

CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS

Related Party Lines of Credit

At January 1, 2018, the Company had certain convertible Lines of Credit borrowing facilities with two members of the Company's Board of Directors. Before their termination, (described more fully below), these convertible Lines of Credit bore interest at 8% per annum and were convertible into that number of shares of the Company's common stock equal to the quotient obtained by dividing the outstanding balance by \$1.25. These convertible Lines of Credit had a maturity date of December 31, 2018.

The Company evaluated the Lines of Credit and determined that the instruments contained a contingent beneficial conversion feature, i.e. an embedded conversion right that enabled the holder to obtain the underlying Common Stock at a price below market value. The beneficial conversion feature was contingent, as the terms of the conversion did not permit the Company to compute the number of shares that the holder would receive if the contingent event occurred (i.e. future borrowings under the Line of Credit). The Company has considered the accounting for this contingent beneficial conversion feature using the guidance in ASC 470, Debt. The guidance in ASC 470 states that a contingent beneficial conversion feature in an instrument shall not be recognized in earnings until the contingency is resolved. The beneficial conversion features of borrowings under the Line of Credit were to be measured using the intrinsic value calculated at the date the contingency is resolved using the conversion price and trading value of the Company's Common Stock at the date the Lines of Credit were issued (commitment date).

For the years ended December 31, 2019 and 2018, the Company recorded approximately \$0 and \$30,000, respectively, in debt discount attributable to beneficial conversion feature and accreted approximately \$0 and \$162,000, respectively, of debt discount. Such expense is recorded as a component of interest expense in the Company's consolidated statements of operations.

On September 10, 2018, the Company entered into an agreement with the board members, pursuant to which they agreed to exchange approximately \$6.3 million and \$0.6 million, respectively, of outstanding debt (including accrued and unpaid interest) owed under the terms of their respective Lines of Credit for an aggregate of 6,896 shares of the Company's Series A Preferred. As a result of this exchange, all indebtedness, liabilities and other obligations arising under the Lines of Credit were terminated, cancelled and deemed satisfied in full. Because the holders of the Lines of Credit are members of the Company's Board of Directors and shareholders of the Company, they are considered related parties and the exchange transaction is considered a capital transaction and is recorded within the equity accounts of the Company.

Notes Payable

On February 12, 2020, the Company entered into a factoring agreement with a member of the Company's Board of Directors for \$350,000. Such amount is to be repaid with the proceeds from certain of the Company's trade accounts receivable approximating \$500,000 and are due no later than 21 days after February 12, 2020. As of May 15, 2020, despite collection of the Company's trade accounts receivable, \$315,000 of such amounts have not been repaid and the Company is seeking an extension from the Board member.

In April 2020, the Company received an aggregate amount of \$550,000 from two members of the Company's Board of Directors. Terms of repayment are currently being negotiated between the Company and Board Members.

Professional Services Agreement

During the year ended December 31, 2018, the Company entered into professional services agreement with a firm whose managing director is also a member of the Company's Board of Directors. During the year ended December 31, 2018, the Company recorded and paid one-half of the aggregate fee of \$50,000 with the remaining payment being made during the year ended December 31, 2019.

Review, Approval or Ratification of Transactions with Related Persons

As provided in the charter of our Audit Committee, it is our policy that we will not enter into any transactions required to be disclosed under Item 404 of the SEC's Regulation S-K unless the Audit Committee or another independent body of our Board of Directors first reviews and approves the transactions.

In addition, pursuant to our Code of Ethical Conduct and Business Practices, all employees, officers and directors of ours and our subsidiaries are prohibited from engaging in any relationship or financial interest that is an actual or potential conflict of interest with us without approval. Employees, officers and directors are required to provide written disclosure to the Chief Executive Officer as soon as they have any knowledge of a transaction or proposed transaction with an outside individual, business or other organization that would create a conflict of interest or the appearance of one.

MARKET FOR COMMON EQUITY AND RELATED STOCKHOLDER MATTERS

Market Information

Our Common Stock does not trade on an established securities exchange. Our Common Stock is quoted under the symbol “TWSY” on the OTCQB marketplace. Any OTCQB marketplace quotations reflect inter-dealer prices, without retail mark-up, mark-down or commissions and may not necessarily represent actual transactions.

The following table sets forth the high and low sale prices for our Common Stock for each quarter in 2019 and 2018:

	<u>High</u>	<u>Low</u>
2019 Fiscal Quarters		
First Quarter	\$ 1.80	\$ 0.75
Second Quarter	\$ 1.60	\$ 0.88
Third Quarter	\$ 0.95	\$ 0.38
Fourth Quarter	\$ 0.50	\$ 0.23
2018 Fiscal Quarters		
First Quarter	\$ 2.24	\$ 1.50
Second Quarter	\$ 1.90	\$ 1.08
Third Quarter	\$ 1.44	\$ 0.86
Fourth Quarter	\$ 1.01	\$ 0.55

Holders

As of June 11, 2020, we had approximately 194 registered holders of record of our Common Stock. A significant number of our shares of Common Stock were held in street name and, as such, we believe that the actual number of beneficial owners of our Common Stock is significantly higher.

Dividends

We have never declared or paid cash dividends on our Common Stock. We currently intend to retain all available funds and any future earnings for use in the operation of our business and do not anticipate paying any cash dividends in the foreseeable future. Any future determination to declare cash dividends will be made at the discretion of our Board of Directors and will depend on our financial condition, results of operations, capital requirements, general business conditions and other factors that our Board of Directors may deem relevant.

As of December 31, 2019, and 2018, we had cumulative undeclared dividends of approximately \$0 relating to our Series A Preferred, \$8,000 relating to our Series B Preferred and \$0 related to our Series C Preferred.

Securities Authorized for Issuance under Equity Compensation Plans

For a discussion of our equity compensation plans, please see “*Securities Authorized for Equity Compensation Under Equity Compensation Plans*” above.

Recent Sales of Unregistered Securities

We issued certain equity securities in unregistered transactions during 2020 and fiscal year 2019. All of the securities issued in non-registered transactions were issued in reliance on Section 3(a)(9) and/or Section 4(a)(2) of the Securities Act and were reported in our Quarterly Reports on Form 10-Q and in our Current Reports on Form 8-K filed with the Securities and Exchange Commission during the fiscal year ended December 31, 2019 and through the date of this report.

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

As of June 11, 2020, we had four classes of voting stock outstanding: (i) Common Stock; (ii) our Series A Preferred; (iii) our Series B Preferred and (iv) our Series C Preferred. The following tables sets forth information regarding shares of Series A Preferred, Series B Preferred, Series C Preferred, and Common Stock beneficially owned as of June 11, 2020 by:

- (i) Each of our officers and directors;
- (ii) All officer and directors as a group; and
- (iii) Each person known by us to beneficially own five percent or more of the outstanding shares of our Common Stock, Series A Preferred, Series B, and Series C. Percent ownership is calculated based on 37,467 shares of Series A Preferred, 239,400 shares of Series B Preferred, 1,000 shares of Series C Preferred and 129,035,167 shares Common Stock outstanding as of June 11, 2020.

Beneficial Ownership of Series A Preferred

Name, Address and Title (if applicable) (1)	Series A Preferred Stock (2)	% Ownership of Class (2)
<i>Directors and Named Executive Officers: (3)</i>		
S. James Miller, Jr., Chair of the Board	100	*
Wayne Wetherell, Former Chief Financial Officer	25	*
Neal Goldman, Director	9,434	25.2%
<i>Total beneficial ownership of directors and officers as a group (9 persons):</i>	9,559	25.5%
<i>5% Stockholders:</i>		
Charles Frischer 4404 52nd Avenue NE Seattle, WA 98105	3,105	8.3%
Robert C. Clutterbuck 1360 East 9th Street, Suite 1250 Cleveland, OH 44114	2,148	5.7%
CF Special Situation Fund I, LP (4) 1360 East 9th Street, Suite 1250 Cleveland, OH 44114	5,605	15.0%
CAP I LLC (5) 14000 Quail Spring Parkway, Suite 2200 Oklahoma City, OK 73134	3,000	8.0%
Richard Leahy 322 Pilots Point Mt. Pleasant, SC 29464	2,000	5.3%

* less than 1%

- (1) The business address of each of the executive officers and directors is 13500 Evening Creek Drive N., Suite 550, San Diego, CA 92128.
- (2) Beneficial ownership is determined in accordance with the rules of the SEC and generally includes voting or investment power with respect to securities.
- (3) Each of the Company's Named Executive Officers and directors who do not hold shares of Series A Preferred are excluded from this table.
- (4) Robert T. Clutterbuck is President of CF Special Situation Fund I, LP.
- (5) Mr. David Sackler, President of CAP I LLC, may be deemed to have voting and investment discretion over the securities identified herein.

Beneficial Ownership of Series B Preferred

Name, Address and Title (if applicable) (1)	Series B Preferred Stock (2)	% Ownership of Class (2)
Darrellyn Carpenter	28,000	12%
Frederick C. Orton	20,000	8%
Howard Harrison	20,000	8%
Wesley Hampton	16,000	7%

(1) Each of the Company's Named Executive Officers and directors who do not hold shares of Series B Preferred are excluded from this table. The business address of each of the executive officers and directors is 13500 Evening Creek Drive N., Suite 550, San Diego, CA 92128.

(2) Beneficial ownership is determined in accordance with the rules of the SEC and generally includes voting or investment power with respect to securities.

Beneficial Ownership of Series C Preferred

Name, Address and Title (if applicable) (1)	Series C Preferred Stock (2)	% Ownership of Class (2)
Blackwell Partners LLC – Series A (3) c/o Nantahala Capital Management, LLC 19 Old Kings Highway South, Suite 200 Darien, CT 06820	128	12.8%
Geode Capital Management LP 1 Post Office Square, 20th Floor Boston, MA 02109	100	10.0%
Nantahala Capital Partners Limited Partnership (3) c/o Nantahala Capital Management, LLC 19 Old Kings Highway South, Suite 200 Darien, CT 06820	54	5.4%
Nantahala Capital Partners II Limited Partnership (3) c/o Nantahala Capital Management, LLC 19 Old Kings Highway South, Suite 200 Darien, CT 06820	112	11.2%
Nantahala Capital Partners SI LP (3) c/o Nantahala Capital Management, LLC 19 Old Kings Highway South, Suite 200 Darien, CT 06820	397	39.7%
Shellback Financial, LLC 16405 45th Avenue North Minneapolis, MN 55446	100	10.0%
Silver Creek CS SAV, L.L.C. (3) c/o Nantahala Capital Management, LLC 19 Old Kings Highway South, Suite 200 Darien, CT 06820	59	5.9%

(1) Each of the Company's Named Executive Officers and directors who do not hold shares of Series C Preferred are excluded from this table.

(2) Beneficial ownership is determined in accordance with the rules of the SEC and generally includes voting or investment power with respect to securities.

(3) Nantahala Capital Management, LLC is a Registered Investment Adviser and has been delegated the legal power to vote and/or direct the disposition of securities on behalf of these entities as a General Partner or Investment Manager and would be considered the beneficial owner of such securities. The above shall not be deemed to be an admission by the record owners that they are themselves beneficial owners of these shares of Series C Preferred for purposes of Section 13(d) of the Exchange Act or any other purpose.

Beneficial Ownership of Common Stock

Name and Address	Number of Shares (1)	Percent of Class (2)
<i>Directors and Named Executive Officers:</i>		
S. James Miller, Jr., Chair of the Board (3)	2,641,856	2.0%
David Carey, Director (4)	369,022	*
Neal Goldman, Director (5)	42,578,390	31.1
G. Steve Hamm, Director (6)	266,608	*
Dana W. Kammersgard, Director (7)	234,836	*
David Loesch, Director (8)	297,230	*
Kristin Taylor, Chief Executive Officer	0	*
Jonathan D. Morris, Chief Financial Officer	0	*
David Harding, Chief Technical Officer (9)	1,108,350	*0%
<i>Total beneficial ownership of directors and Named Executive Officers as a group (9 persons):</i>	47,938,240	31.0%

* less than 1%

- (1) All entries exclude beneficial ownership of shares issuable pursuant to options that have not vested or that are not otherwise exercisable as of the date hereof, or which will not become vested or exercisable within 60 days of June 11, 2020.
- (2) Percentages are rounded to nearest one-tenth of one percent. Percentages are based on 129,035,167 shares of Common Stock outstanding as of June 11, 2020. Options that are presently exercisable or exercisable within 60 days of June 11, 2020 are deemed to be beneficially owned by the stockholder holding the options for the purpose of computing the percentage ownership of that stockholder, but are not treated as outstanding for the purpose of computing the percentage of any other stockholder.
- (3) Includes 75,201 shares held jointly with spouse, 1,541,668 shares issuable upon exercise of stock options, each exercisable within 60 days of June 11, 2020, and 92,817 shares issuable upon the conversion of Series A Preferred, and 3,987 shares issuable upon the exercise of warrants.
- (4) Includes 162,336 shares issuable upon exercise of stock options exercisable within 60 days of June 11, 2020.
- (5) Includes 8,756,370 shares issuable upon the conversion of Series A Preferred and 147,336 shares issuable upon exercise of stock options, each exercisable within 60 days of June 11, 2020. Mr. Goldman exercises sole voting and dispositive power over 33,298,556 shares, and shared voting and dispositive power over 3,147,700 reported shares, of which 3,000,000 shares are owned by the Goldman Family 2012 GST Trust and 147,700 shares are owed by The Neal and Marlene Goldman Foundation, and 376,128 shares issuable upon the exercise of warrants.
- (6) Includes 162,336 shares issuable upon exercise of stock options exercisable within 60 days of June 11, 2020.
- (7) Includes 149,336 shares issuable upon exercise of stock options exercisable within 60 days of June 11, 2020.
- (8) Includes 162,336 shares issuable upon exercise of stock options, each exercisable within 60 days of June 11, 2020.
- (9) Includes 1,058,350 shares issuable upon exercise of stock options exercisable within 60 days of June 11, 2020.

LEGAL MATTERS

The validity of the securities offered hereby will be passed upon for us by Disclosure Law Group, a Professional Corporation, San Diego, California (“DLG”).

EXPERTS

Our consolidated financial statements appearing elsewhere in this registration statement for the years ended December 31, 2019 and 2018, and the effectiveness of our internal control over financial reporting as of December 31, 2019, have been audited by Mayer Hoffman McCann P.C., an independent registered public accounting firm, as set forth in their reports thereon (which include an explanatory paragraph related to the change in the method of accounting for leases and an explanatory paragraph about the existence of substantial doubt about the Company’s ability to continue as a going concern). Such consolidated financial statements are included herein in reliance upon such reports given on the authority of such firm as experts in accounting and auditing, in giving said reports.

WHERE YOU CAN FIND MORE INFORMATION

We are a public company and file annual, quarterly and special reports, proxy statements and other information with the SEC. You may read and copy any document we file at the SEC’s public reference room at 100 F Street, NE, Washington, D.C. Because we are subject to the information and reporting requirements of the Exchange Act, we file periodic reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the Internet at the SEC’s website at <http://www.sec.gov>.

We have filed with the Commission a registration statement under the Securities Act of 1933, as amended, relating to the offering of these securities. The registration statement, including the attached exhibits, contains additional relevant information about us and the securities. This prospectus does not contain all of the information set forth in the registration statement. You can obtain a copy of the registration statement for free at www.sec.gov.

We have not incorporated by reference into this prospectus the information on our website, and you should not consider it to be a part of this prospectus.

IMAGEWARE SYSTEMS, INC.
INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

	Page
Reports of Independent Registered Public Accounting Firm	F-2
Consolidated Balance Sheets as of December 31, 2019 and 2018	F-4
Consolidated Statements of Operations for the years ended December 31, 2019 and 2018	F-5
Consolidated Statements of Comprehensive Loss for the years ended December 31, 2019 and 2018	F-6
Consolidated Statements of Shareholders' Equity (Deficit) for the years ended December 31, 2019 and 2018	F-7
Consolidated Statements of Cash Flows for the years ended December 31, 2019 and 2018	F-9
Notes to Consolidated Financial Statements	F-10

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of:
ImageWare Systems, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of **ImageWare Systems, Inc.** (the “*Company*”) as of December 31, 2019 and 2018, and the related consolidated statements of operations, comprehensive loss, shareholders’ deficit and cash flows for each of the two years in the period ended December 31, 2019, and the related notes (collectively referred to as the “*financial statements*”). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2019 and 2018, and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2019, in conformity with accounting principles generally accepted in the United States of America.

Adoption of New Accounting Standard

As discussed in Note 2 to the financial statements, the Company changed its method of accounting for lease agreements as a result of the adoption of Accounting Standards Codification Topic 842, *Leases*, effective January 1, 2019, under the modified retrospective method.

Going Concern Uncertainty

The accompanying financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 1 to the financial statements, the Company does not generate sufficient cash flows from operations to maintain operations and, therefore, is dependent on additional financing to fund operations. These conditions raise substantial doubt about the Company’s ability to continue as a going concern. Management’s plans in regard to these matters are also described in Note 1 to the financial statements. The financial statements do not include any adjustments to reflect the possible future effects on the recoverability and classification of assets or the amounts and classification of liabilities that may result from the outcome of this uncertainty.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the Company’s internal control over financial reporting as of December 31, 2019, based on criteria established in the *Internal Control—Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) and our report dated May 15, 2020, expressed an unqualified opinion.

Basis for Opinion

These financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on the Company’s financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (“*PCAOB*”) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ Mayer Hoffman McCann P.C.

We have served as the Company's auditor since 2011.

San Diego, California
May 15, 2020

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of:
ImageWare Systems, Inc.

Opinion on Internal Control over Financial Reporting

We have audited ImageWare Systems, Inc.'s (the "*Company*") internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control—Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO criteria). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2019, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("*PCAOB*"), the consolidated balance sheets of the Company as of December 31, 2019 and 2018, and the related consolidated statements of operations, comprehensive loss, shareholders' deficit and cash flows for each of the two years in the period ended December 31, 2019, and our report dated May 15, 2020, expressed an unqualified opinion on those consolidated financial statements, and included explanatory paragraphs regarding the Company's change in method of accounting for lease agreements as a result of the adoption of Accounting Standards Codification Topic 842, *Leases*, effective January 1, 2019, as well as the existence of substantial doubt about the Company's ability to continue as a going concern.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with accounting principles generally accepted in the United States of America. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Mayer Hoffman McCann P.C.

San Diego, California
May 15, 2020

IMAGEWARE SYSTEMS, INC.
CONSOLIDATED BALANCE SHEETS
(In thousands, except share and per share data)

ASSETS	December 31, 2019	December 31, 2018
Current Assets:		
Cash and cash equivalents	\$ 1,030	\$ 5,694
Accounts receivable, net of allowance for doubtful accounts of \$7 and \$0 at December 31, 2019 and 2018, respectively.	657	968
Inventory, net	615	29
Other current assets	243	233
Total Current Assets	2,545	6,924
Property and equipment, net	216	244
Other assets	257	332
Operating lease right-of-use assets	1,906	—
Intangible assets, net of accumulated amortization	70	82
Goodwill	3,416	3,416
Total Assets	\$ 8,410	\$ 10,998
LIABILITIES, MEZZANINE EQUITY AND SHAREHOLDERS' DEFICIT		
Current Liabilities:		
Accounts payable	\$ 515	\$ 678
Deferred revenue	1,629	1,215
Accrued expense	1,312	888
Operating lease liabilities, current portion	373	—
Derivative liabilities	369	1,065
Total Current Liabilities	4,198	3,846
Other long-term liabilities	118	147
Lease liabilities, net of current portion	1,716	—
Pension obligation	2,256	1,876
Total Liabilities	8,288	5,869
Mezzanine Equity:		
Series C Convertible Redeemable Preferred Stock, \$0.01 par value, designated 1,000 shares, 1,000 shares issued and outstanding at December 31, 2019 and December 31, 2018, respectively; liquidation preference \$10,000 at December 31, 2019 and December 31, 2018, respectively.	8,884	8,156
Shareholders' Deficit:		
Preferred stock, authorized 4,000,000 shares:		
Series A Convertible Redeemable Preferred Stock, \$0.01 par value; designated 38,000 shares, 37,467 shares issued and outstanding at December 31, 2019 and 2018, respectively; liquidation preference \$37,467 at December 31, 2019 and 2018, respectively.	—	—
Series B Convertible Redeemable Preferred Stock, \$0.01 par value; designated 750,000 shares, 389,400 shares issued and 239,400 shares outstanding at December 31, 2019 and 2018, respectively; liquidation preference \$607 at December 31, 2019 and 2018, respectively.	2	2
Common Stock, \$0.01 par value, 175,000,000 shares authorized; 113,353,176 and 98,230,336 shares issued at December 31, 2019 and 2018, respectively, and 113,346,472 shares and 98,223,632 shares outstanding at December 31, 2019 and 2018, respectively.	1,133	981
Additional paid-in capital	195,079	184,130
Treasury stock, at cost 6,704 shares	(64)	(64)
Accumulated other comprehensive loss	(1,741)	(1,428)
Accumulated deficit	(203,171)	(186,648)
Total Shareholders' Deficit	(8,762)	(3,027)
Total Liabilities, Mezzanine Equity and Shareholders' Deficit	\$ 8,410	\$ 10,998

The accompanying notes are an integral part of these consolidated financial statements.

IMAGEWARE SYSTEMS, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS
(In thousands, except share and per share amounts)

	Year Ended December 31,	
	2019	2018
Revenue:		
Product	\$ 923	\$ 1,761
Maintenance	2,583	2,643
	<u>3,506</u>	<u>4,404</u>
Cost of revenue:		
Product	218	205
Maintenance	425	671
Gross profit	<u>2,863</u>	<u>3,528</u>
Operating expense:		
General and administrative	3,614	4,285
Sales and marketing	3,937	3,571
Research and development	7,488	7,351
Depreciation and amortization	71	51
	<u>15,110</u>	<u>15,258</u>
Loss from operations	(12,247)	(11,730)
Interest (income) expense, net	(90)	463
Change in fair value of derivative liabilities	(696)	232
Other components of net periodic pension expense	109	118
Other (income) expense, net	1	(4)
Loss before income taxes	<u>(11,571)</u>	<u>(12,539)</u>
Income tax expense	10	11
Net loss	\$ (11,581)	\$ (12,550)
Preferred dividends, deemed dividends and accretion	(5,670)	(3,913)
Net loss available to common shareholders	<u>\$ (17,251)</u>	<u>\$ (16,463)</u>
Basic and diluted loss per common share — see Note 2:		
Basic and diluted loss per share available to common shareholders	\$ (0.17)	\$ (0.17)
Basic and diluted weighted-average shares outstanding	<u>104,372,048</u>	<u>95,210,572</u>

The accompanying notes are an integral part of these consolidated financial statements.

IMAGEWARE SYSTEMS, INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS
(In thousands)

	Year Ended December 31,	
	2019	2018
Net loss	\$ (11,581)	\$ (12,550)
Other comprehensive income (loss):		
Reduction (increase) in additional minimum pension liability	(312)	209
Foreign currency translation adjustment	(1)	27
Comprehensive loss	<u>\$ (11,894)</u>	<u>\$ (12,314)</u>

The accompanying notes are an integral part of these consolidated financial statements.

IMAGEWARE SYSTEMS, INC.
CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY (DEFICIT)
(In thousands, except share amounts)

	Series A Convertible, Redeemable Preferred		Series B Convertible, Redeemable Preferred		Common Stock		Treasury Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total
	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount				
Balance at December 31, 2018	<u>37,467</u>	<u>\$ -</u>	<u>239,400</u>	<u>\$ 2</u>	<u>98,230,336</u>	<u>\$ 981</u>	<u>(6,704)</u>	<u>\$ (64)</u>	<u>\$184,130</u>	<u>\$ (1,428)</u>	<u>\$ (186,648)</u>	<u>\$ (3,027)</u>
Accretion of Preferred Stock discount	-	-	-	-	-	-	-	-	(728)	-	-	(728)
Issuance of common stock net of financing costs	-	-	-	-	5,954,545	60	-	-	6,060	-	-	6,120
Issuance of common stock pursuant to option exercises	-	-	-	-	351,334	4	-	-	162	-	-	166
Stock-based compensation expense	-	-	-	-	-	-	-	-	643	-	-	643
Warrants issued in lieu of cash as compensation for services	-	-	-	-	-	-	-	-	9	-	-	9
Foreign currency translation adjustment	-	-	-	-	-	-	-	-	-	(1)	-	(1)
Additional minimum pension liability	-	-	-	-	-	-	-	-	-	(312)	-	(312)
Dividends on Series A preferred stock, \$(103.03)/share	-	-	-	-	6,959,523	70	-	-	3,791	-	(3,861)	-
Dividends on Series B preferred stock, \$(0.21)/share	-	-	-	-	-	-	-	-	-	-	(51)	(51)
Dividends on Series C preferred stock, \$(1,030.28)/share	-	-	-	-	1,857,438	18	-	-	1,012	-	(1,030)	-
Net loss	-	-	-	-	-	-	-	-	-	-	(11,581)	(11,581)
Balance at December 31, 2019	<u>37,467</u>	<u>\$ -</u>	<u>239,400</u>	<u>\$ 2</u>	<u>113,353,176</u>	<u>\$ 1,133</u>	<u>(6,704)</u>	<u>\$ (64)</u>	<u>\$195,079</u>	<u>\$ (1,741)</u>	<u>\$ (203,171)</u>	<u>\$ (8,762)</u>

[Table of Contents](#)

	Series A Convertible, Redeemable Preferred		Series B Convertible, Redeemable Preferred		Common Stock		Treasury Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total
	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount				
Balance at December 31, 2017	<u>31,021</u>	<u>-</u>	<u>239,400</u>	<u>2</u>	<u>94,174,540</u>	<u>941</u>	<u>(6,704)</u>	<u>(64)</u>	<u>172,414</u>	<u>(1,664)</u>	<u>(170,481)</u>	<u>1,148</u>
Issuance of common stock pursuant to Series A Preferred Stock conversions	(450)	-	-	-	391,304	4	-	-	(4)	-	-	-
Related Party debt exchange for Series A Preferred Stock	6,896	-	-	-	-	-	-	-	6,802	-	-	6,802
Cumulative effect of ASC 606 adoption	-	-	-	-	-	-	-	-	-	-	96	96
Accretion of Series A Preferred Stock discount	-	-	-	-	-	-	-	-	(200)	-	-	(200)
Issuance of common stock warrants as compensation	-	-	-	-	-	-	-	-	26	-	-	26
Issuance of Common Stock pursuant to option exercises	-	-	-	-	235,852	2	-	-	162	-	-	164
Recognition of beneficial conversion feature on convertible debt	-	-	-	-	-	-	-	-	30	-	-	30
Modification of preferred stock	-	-	-	-	-	-	-	-	92	-	(92)	-
Stock-based compensation expense	-	-	-	-	-	-	-	-	1,272	-	-	1,272
Additional minimum pension liability	-	-	-	-	-	-	-	-	-	209	-	209
Foreign currency translation adjustment	-	-	-	-	-	-	-	-	-	27	-	27
Dividends on Series A Preferred Stock, \$(99.14)/share	-	-	-	-	3,074,008	31	-	-	3,220	-	(3,251)	-
Dividends on Series B Preferred stock, \$(0.21)/share	-	-	-	-	-	-	-	-	-	-	(51)	(51)
Dividends on Series C Preferred Stock, \$(1,042.38)/share	-	-	-	-	354,632	3	-	-	316	-	(319)	-
Net loss	-	-	-	-	-	-	-	-	-	-	(12,550)	(12,550)
Balance at December 31, 2018	<u>37,467</u>	<u>-</u>	<u>239,400</u>	<u>2</u>	<u>98,230,336</u>	<u>981</u>	<u>(6,704)</u>	<u>(64)</u>	<u>184,130</u>	<u>(1,428)</u>	<u>(186,648)</u>	<u>(3,027)</u>

The accompanying notes are an integral part of these consolidated financial statements.

IMAGEWARE SYSTEMS, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)

	Year Ended December 31,	
	2019	2018
Cash flows from operating activities		
Net loss	\$ (11,581)	\$ (12,550)
Adjustments to reconcile net loss to net cash used by operating activities:		
Depreciation and amortization	71	51
Amortization of debt discounts and debt issuance costs	—	170
Stock-based compensation	643	1,272
Warrants issued in lieu of cash as compensation for services	9	26
(Gain) loss from change in fair value of derivative liabilities	(696)	232
Change in assets and liabilities		
Accounts receivable	311	(414)
Inventory	(586)	50
Other assets	66	(229)
Operating lease right-of-use assets	168	—
Accounts payable	(162)	221
Accrued expense	37	600
Deferred revenue	415	200
Contract costs	(29)	—
Pension obligation	67	61
Total adjustments	<u>314</u>	<u>2,240</u>
Net cash used by operating activities	<u>(11,267)</u>	<u>(10,310)</u>
Cash flows from investing activities		
Purchase of property and equipment	(31)	(240)
Net cash used by investing activities	<u>(31)</u>	<u>(240)</u>
Cash flows from financing activities		
Proceeds from issuance of common stock, net	6,520	—
Proceeds from exercise of stock options	166	162
Proceeds from issuance of preferred stock, net of issuance costs	—	8,789
Dividends paid to preferred stockholders	(51)	(51)
Net cash provided by financing activities	<u>6,635</u>	<u>8,900</u>
Effect of exchange rate changes on cash and cash equivalents	(1)	27
Net increase (decrease) in cash and cash equivalents	(4,664)	(1,623)
Cash and cash equivalents at beginning of year	5,694	7,317
Cash and cash equivalents at end of year	<u>\$ 1,030</u>	<u>\$ 5,694</u>
Supplemental disclosure of cash flow information:		
Cash paid for interest	\$ —	\$ —
Cash paid for income taxes	\$ —	\$ —
Summary of non-cash investing and financing activities:		
Exchange of related party indebtedness for Series A Convertible Preferred Stock	\$ —	\$ 6,802
Beneficial conversion feature of related party lines of credit	\$ —	\$ 30
Stock dividends on Series A Convertible Preferred Stock	\$ 3,861	\$ 3,251
Stock dividends on Series C Convertible Redeemable Preferred Stock	\$ 1,030	\$ 319
Recognition of operating lease right-of-use assets from adoption of ASC 842	\$ 2,265	\$ —
Recognition of lease liabilities of ASC 842	\$ (2,280)	\$ —
Conversion of Series A Convertible Preferred Stock into Common Stock	\$ —	\$ 4
Recognition of derivative liabilities on preferred stock issuance	\$ —	\$ 833
Deemed dividend on preferred stock modification	\$ —	\$ 92
Accretion of discount on Series C Convertible Redeemable Preferred Stock	\$ 728	\$ 200
Reduction in additional minimum pension liability	\$ 312	\$ 209
Accrued financing costs	\$ 400	\$ —

The accompanying notes are an integral part of these consolidated financial statements.

IMAGEWARE SYSTEMS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
DECEMBER 31, 2019 AND 2018

1. DESCRIPTION OF BUSINESS AND OPERATIONS

Overview

As used in this Report, “we”, “us”, “our”, “ImageWare”, “ImageWare Systems” or the “Company” refers to ImageWare Systems, Inc. and all of its subsidiaries. ImageWare Systems, Inc. is incorporated in the state of Delaware. The Company is a pioneer and leader in the emerging market for biometrically enabled software-based identity management solutions. Using those human characteristics that are unique to us all, the Company creates software that provides a highly reliable indication of a person’s identity. The Company’s “flagship” product is the patented IWS Biometric Engine®. The Company’s products are used to manage and issue secure credentials, including national IDs, passports, driver licenses and access control credentials. The Company’s products also provide law enforcement with integrated mug shot, fingerprint LiveScan and investigative capabilities. The Company also provides comprehensive authentication security software using biometrics to secure physical and logical access to facilities or computer networks or internet sites. Biometric technology is now an integral part of all markets the Company addresses, and all the products are integrated into the IWS Biometric Engine.

Liquidity, Going Concern and Management’s Plan

Historically, our principal sources of cash have included customer payments from the sale of our products, proceeds from the issuance of common and preferred stock and proceeds from the issuance of debt. Our principal uses of cash have included cash used in operations, product development, and payments relating to purchases of property and equipment. We expect that our principal uses of cash in the future will be for product development, including customization of identity management products for enterprise and consumer applications, further development of intellectual property, development of Software-as-a-Service (“SaaS”) capabilities for existing products as well as general working capital and capital expenditure requirements. Management expects that, as our revenue grows, our sales and marketing and research and development expense will continue to grow, albeit at a slower rate and, as a result, we will need to generate significant net revenue to achieve and sustain positive cash flows from operations.

At December 31, 2019, we had negative working capital of approximately \$1,653,000. Our principal sources of liquidity at December 31, 2019 consisted of cash and cash equivalents of \$1,030,000.

Related Party Financings

On February 12, 2020, the Company entered into a factoring agreement with a member of the Company’s Board of Directors for \$350,000. Such amount is to be repaid with the proceeds from certain of the Company’s trade accounts receivable approximating \$500,000 and were due no later than 21 days after February 12, 2020. As of May 15, 2020, despite collection of the Company’s trade accounts receivable, \$315,000 of such amounts have not been repaid and the Company is seeking an extension from the Board member.

In April 2020, the Company received an aggregate amount of \$550,000 from two members of the Company’s Board of Directors. Terms of repayment are currently being negotiated between the Company and Board Members.

2020 Common Stock Financings

On February 20, 2020, the Company entered into a securities purchase agreement (the “Triton Purchase Agreement”) with Triton Funds LP, (a Delaware limited partnership (“Triton” or the “Investor”). The Triton Purchase Agreement provides the Company the right to sell to Triton, and Triton is obligated to purchase, up to \$2.0 million worth of shares of the Company’s common stock, par value \$0.01 per share (“Common Stock”), under the Triton Purchase Agreement (the “Offering”). Pursuant to the terms and conditions set forth in the Triton Purchase Agreement, the purchase price of the Common Stock will be based on the number of shares of Common Stock equal to the amount in U.S. Dollars that the Company intends to sell to the Investor to be set forth in each written notice sent to the Investor by the Company (the “Purchase Notice”) and delivered to the Investor (the “Purchase Notice Amount”), divided by the lowest daily volume weighted average price of the Company’s Common stock listed on the OTC Markets during the five business days prior to closing (the “Purchased Shares”). The Closing of the purchase of the Purchased Shares as set forth in the Purchase Notice will occur no later than three business days following receipt of the Purchased Shares by the Investor.

The Offering was made pursuant to an effective registration statement on Form S-3 (Registration Statement Number 333-225935), as previously filed with the Securities and Exchange Commission (the "SEC") on July 10, 2018, and a related prospectus supplement filed on February 21, 2020. The Offering will terminate upon the earlier date of either (i) that date which the Investor has purchased an aggregate of \$2.0 million in Purchased Shares pursuant to the Triton Purchase Agreement; or (ii) March 31, 2020. The Company intends to use the proceeds from the Offering for general working capital purposes.

On April 29, 2020, the Company closed on the offer and sale to Triton of 6.0 million shares of Common Stock resulting in gross proceeds to the Company of \$765,000, or a per share purchase price of \$0.13 per share. The offering follows the offer and sale to Triton of 4.0 million shares of Common Stock for \$0.16 per share, which offering closed on March 10, 2020, resulting in gross proceeds to the Company of \$640,000. Aggregate net proceeds from this financing approximated \$1,389,000 after recognition of direct offering costs.

On April 28, 2020 (the "Execution Date"), the "Company" entered into a purchase agreement, dated as of the Execution Date (the "Purchase Agreement"), and a registration rights agreement, dated as of the Execution Date (the "Registration Rights Agreement"), with Lincoln Park Capital Fund, LLC ("Lincoln Park"), pursuant to which Lincoln Park has committed to purchase up to \$10,250,000 of the Company's common stock, \$0.01 par value per share (the "Common Stock").

Under the terms and subject to the conditions of the Purchase Agreement, including stockholder approval of an amendment to the Company's Certificate of Incorporation to increase the number of shares of the Company's common stock to 345 million shares, the Company has the right, but not the obligation, to sell to Lincoln Park, and Lincoln Park is obligated to purchase up to \$10,250,000 worth of shares of Common Stock. Such sales of Common Stock by the Company, if any, will be subject to certain limitations, and may occur from time to time, at the Company's sole discretion, over the 24-month period commencing on the date that a registration statement covering the resale of shares of Common Stock that have been and may be issued under the Purchase Agreement, which the Company agreed to file with the SEC pursuant to the Registration Rights Agreement, is declared effective by the SEC and a final prospectus in connection therewith is filed and the other conditions set forth in the Purchase Agreement are satisfied, all of which are outside the control of Lincoln Park (such date on which all of such conditions are satisfied, the "Commencement Date"). The Company has 30 business days to file the registration statement from the Execution Date.

Under the Purchase Agreement, on any business day over the term of the Purchase Agreement, the Company has the right, in its sole discretion, to present Lincoln Park with a purchase notice (each, a "Purchase Notice") directing Lincoln Park to purchase up to 125,000 shares of Common Stock per business day, which increases to up to 425,000 shares in the event the price of the Company's Common Stock is not below \$0.55 per share (the "Regular Purchase") (subject to adjustment for any reorganization, recapitalization, non-cash dividend, stock split, reverse stock split or other similar transaction as provided in the Purchase Agreement). In each case, Lincoln Park's maximum commitment in any single Regular Purchase may not exceed \$500,000. The Purchase Agreement provides for a purchase price per Purchase Share (the "Purchase Price") equal to the lesser of:

- the lowest sale price of the Company's Common Stock on the purchase date; and
- the average of the three lowest closing sale prices for the Company's Common Stock during the fifteen consecutive business days ending on the business day immediately preceding the purchase date of such shares.

In addition, the Purchase Agreement also provides for accelerated purchases and other terms and conditions as more fully described in Note 18.

Actual sales of shares of Common Stock to Lincoln Park under the Purchase Agreement will depend on a variety of factors to be determined by the Company from time to time, including, among others, market conditions, the trading price of the Common Stock and determinations by the Company as to the appropriate sources of funding for the Company and its operations. Lincoln Park has no right to require any sales by the Company but is obligated to make purchases from the Company as it directs in accordance with the Purchase Agreement. Lincoln Park has covenanted not to cause or engage in any manner whatsoever, any direct or indirect short selling or hedging of the Company's shares.

In April 2020, in connection with the execution of the Purchase Agreement, the Company sold, and Lincoln Park purchased, 1.0 million shares of Common Stock for a purchase price of \$100,000 (“*Original Purchase*”). Due to the terms of the Purchase Agreement as described above, management is not currently expecting the related proceeds from this agreement to be sufficient to sustain operations for an extended period of time.

CARES Act Financing

On March 27, 2020, President Trump signed into law the “Coronavirus Aid, Relief and Economic Security Act (“*CARES Act*”). On May 4, 2020, the Company entered into a loan agreement (“*PPP Loan*”) with Comerica Bank (“*Comerica*”) under the Paycheck Protection Program (the “*PPP*”), which is part of the CARES Act administered by the United States Small Business Administration (“*SBA*”). As part of the application for these funds, the Company in good faith, has certified that the current economic uncertainty made the loan request necessary to support the ongoing operations of the Company. This certification further requires the Company to take into account our current business activity and our ability to access other sources of liquidity sufficient to support ongoing operations in a manner that is not significantly detrimental to the business. Under the PPP, the Company received proceeds of approximately \$1,571,000, from the PPP Loan. In accordance with the requirements of the PPP, the Company intends to use proceeds from the PPP Loan primarily for payroll costs, rent and utilities. The PPP Loan has a 1.00% interest rate per annum, matures on May 4, 2022 and is subject to the terms and conditions applicable to loans administered by the SBA under the PPP. Under the terms of PPP, all or certain amounts of the PPP Loan may be forgiven if they are used for qualifying expenses as described in the CARES Act, which the Company continues to evaluate.

On March 11, 2020, the World Health Organization declared the COVID-19 outbreak a pandemic. The COVID-19 pandemic is affecting the United States and global economies and may affect the Company's operations and those of third parties on which the Company relies. Additionally, as the duration of the COVID-19 pandemic is difficult to assess or predict, the impact of the COVID-19 pandemic on the financial markets may reduce our ability to access capital, which could negatively impact the Company's short-term and long-term liquidity. These effects could have a material impact on the Company's liquidity, capital resources, operations and business and those of the third parties on which the Company relies.

Considering the financings consummated in 2020, as well as our projected cash requirements, and assuming we are unable to generate incremental revenue, our available cash will be insufficient to satisfy our cash requirements for the next twelve months from the date of this filing. At May 6, 2020, cash on hand approximated \$2,012,000 of which approximately \$1,571,000 was the PPP loan and is to be used primarily for payroll costs, rent and utilities. Based on the Company's rate of cash consumption in the first quarter of 2020 and the last quarter of 2019, the Company estimates it will need additional capital in the third quarter of 2020 and its prospects for obtaining that capital are uncertain. As a result of the Company's historical losses and financial condition, there is substantial doubt about the Company's ability to continue as a going concern.

To address our working capital requirements, management has begun instituting several cost cutting measures and may utilize cash proceeds available under the Lincoln Park facility. Additionally, management may seek additional equity and/or debt financing through the issuance of additional debt and/or equity securities or may seek strategic or other transactions intended to increase shareholder value. There are currently no financing arrangements to support our projected cash shortfall, including commitments to purchase additional debt and/or equity securities, or other agreements, and no assurances can be given that we will be successful in raising additional debt and/or equity securities, or entering into any other transaction that addresses our ability to continue as a going concern.

In view of the matters described in the preceding paragraph, recoverability of a major portion of the recorded asset amounts shown in the accompanying consolidated balance sheet is dependent upon continued operations of the Company, which, in turn, is dependent upon the Company's ability to continue to raise capital and generate positive cash flows from operations. However, the Company operates in markets that are emerging and highly competitive. There is no assurance that the Company will be able to obtain additional capital, operate at a profit or generate positive cash flows in the future. Therefore, management's plans do not alleviate the substantial doubt of the Company's ability to continue as a going concern.

The consolidated financial statements do not include any adjustments relating to the recoverability and classification of recorded asset amounts and classifications of liabilities that might be necessary should the Company be unable to continue as a going concern.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Presentation

The financial statements are prepared under the Financial Accounting Standards Board (“FASB”) Accounting Standards Codification (“ASC”) Topic 105-10, *Generally Accepted Accounting Principles*, in accordance with accounting principles generally accepted in the U.S. (“GAAP”).

Principles of Consolidation

The consolidated financial statements include the accounts of the Company and its wholly owned subsidiaries. The Company’s wholly-owned subsidiaries are: XImage Corporation, a California Corporation; ImageWare Systems ID Group, Inc., a Delaware corporation (formerly Imaging Technology Corporation); I.W. Systems Canada Company, a Nova Scotia unlimited liability company; ImageWare Digital Photography Systems, LLC, a Nevada limited liability company (formerly Castleworks LLC); Digital Imaging International GmbH, a company formed under German laws; and Image Ware Mexico S de RL de CV, a company formed under Mexican laws. All significant intercompany transactions and balances have been eliminated.

Operating Cycle

Assets and liabilities related to long-term contracts are included in current assets and current liabilities in the accompanying consolidated balance sheets, although they will be liquidated in the normal course of contract completion which may take more than one operating cycle.

Use of Estimates

The preparation of the consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements, and the reported amounts of revenue and expense during the reporting period. Significant estimates include the evaluation of our ability to continue as a going concern, the allowance for doubtful accounts receivable, deferred tax asset valuation allowances, recoverability of goodwill, assumptions used in the Black-Scholes model to calculate the fair value of share based payments, fair value of financial instruments issued with and affected by the Series C Preferred Financing (defined below), fair value of Series A Preferred (defined below), assumptions used in the application of revenue recognition policies, assumptions used in the derivation of the Company’s incremental borrowing rate used in the computation of the Company’s operating lease liabilities and assumptions used in the application of fair value methodologies to calculate the fair value of pension assets and obligations. Actual results could differ from estimates.

Accounts Receivable

In the normal course of business, the Company extends credit without collateral requirements to its customers that satisfy pre-defined credit criteria. Accounts receivable are recorded net of an allowance for doubtful accounts. Accounts receivable are considered delinquent when the due date on the invoice has passed. The Company records its allowance for doubtful accounts based upon its assessment of various factors. The Company considers historical experience, the age of the accounts receivable balances, the credit quality of its customers, current economic conditions and other factors that may affect customers’ ability to pay to determine the level of allowance required. Accounts receivable are written off against the allowance for doubtful accounts when all collection efforts by the Company have been unsuccessful.

Inventories

Finished goods inventories are stated at the lower of cost, determined using the average cost method, or net realizable value. See Note 6.

Property, Equipment and Leasehold Improvements

Property and equipment, consisting of furniture and equipment, are stated at cost and are being depreciated on a straight-line basis over the estimated useful lives of the assets, which generally range from three to five years. Maintenance and repairs are charged to expense as incurred. Major renewals or improvements are capitalized. When assets are sold or abandoned, the cost and related accumulated depreciation are removed from the accounts and the resulting gain or loss is recognized. Expenditures for leasehold improvements are capitalized. Amortization of leasehold improvements is computed using the straight-line method over the shorter of the remaining lease term or the estimated useful lives of the improvements.

Revenue Recognition. Effective January 1, 2018, we adopted Accounting Standards Codification (“ASC”), Topic 606, Revenue from Contracts with Customers (“ASC 606”), using the modified retrospective transition method.

In accordance with ASC 606, revenue is recognized when control of the promised goods or services is transferred to our customers, in an amount that reflects the consideration we expect to be entitled to in exchange for those goods or services.

The core principle of the standard is that we should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which we expect to be entitled in exchange for those goods or services. To achieve that core principle, we apply the following five step model:

1. Identify the contract with the customer;
2. Identify the performance obligation in the contract;
3. Determine the transaction price;
4. Allocate the transaction price to the performance obligations in the contract; and
5. Recognize revenue when (or as) each performance obligation is satisfied.

At contract inception, we assess the goods and services promised in a contract with a customer and identify as a performance obligation each promise to transfer to the customer either: (i) a good or service (or a bundle of goods or services) that is distinct or (ii) a series of distinct goods or services that are substantially the same and that have the same pattern of transfer to the customer. We recognize revenue only when we satisfy a performance obligation by transferring a promised good or service to a customer.

Determining the timing of the satisfaction of performance obligations as well as the transaction price and the amounts allocated to performance obligations requires judgement.

We disclose disaggregation of our customer revenue by classes of similar products and services as follows:

- Software licensing and royalties;
- Computer hardware and identification media;
- Services; and
- Post-contract customer support.

Software licensing and royalties

Software licenses consist of revenue from the sale of software for identity management applications. Our software licenses are functional intellectual property and typically provide customers with the right to use our software in perpetuity as it exists when made available to the customer. We recognize revenue from software licensing at a point in time upon delivery, provided all other revenue recognition criteria are met.

Royalties consist of revenue from usage-based arrangements and guaranteed minimum-based arrangements. We recognize revenue for royalty arrangements at the later of (i) when the related sales occur, or (ii) when the performance obligation to which some or all of the royalty has been allocated has been satisfied.

Computer hardware and identification media

We generate revenue from the sale of computer hardware and identification media. Revenue for these items is recognized upon delivery of these products to the customer, provided all other revenue recognition criteria are met.

Services

Services revenue is comprised primarily of software customization services, software integration services, system installation services and customer training. Revenue is generally recognized upon completion of services and customer acceptance provided all other revenue recognition criteria are met.

Post-contract customer support (“PCS”)

Post contract customer support consists of maintenance on software and hardware for our identity management solutions. We recognize PCS revenue from periodic maintenance agreements. Revenue is generally recognized ratably over the respective maintenance periods provided no significant obligations remain. Costs related to such contracts are expensed as incurred.

Arrangements with multiple performance obligations

A performance obligation is a promise in a contract to transfer a distinct good or service to the customer. In addition to selling software licenses, hardware and identification media, services and post-contract customer support on a standalone basis, certain contracts include multiple performance obligations. For such arrangements, we allocate revenue to each performance obligation based on our best estimate of the relative standalone selling price. The standalone selling price for a performance obligation is the price at which we would sell a promised good or service separately to a customer. The primary methods used to estimate standalone selling price are as follows: (i) the expected cost-plus margin approach, under which we forecast our expected costs of satisfying a performance obligation and then add an appropriate margin for that distinct good or service and (ii) the percent discount off of list price approach.

Contract costs

We recognize an asset for the incremental costs of obtaining a contract with a customer if we expect the benefit of those costs to be longer than one year. We apply a practical expedient to expense costs as incurred for costs to obtain a contract when the amortization period is one year or less. At December 31, 2018, we had recorded approximately \$147,000 in contract costs relating to capitalized commissions. During the year ended December 31, 2019, we recognized approximately \$29,000 of capitalized contract costs as expense. Such expense is included as a component of operating expense and is included under the caption “Sales and marketing” in our consolidated statement of operations for the year ended December 31, 2019. We recorded no additional contract costs in the year ended December 31, 2019. We recognized approximately \$132,000 of revenue during the year ended December 31, 2019 that was related to contract costs at the beginning of the period.

Other items

We do not offer rights of return for our products and services in the normal course of business.

Sales tax collected from customers is excluded from revenue.

The adoption of ASC 606 as of January 1, 2018 resulted in a cumulative positive adjustment to beginning accumulated deficit and accounts receivable of approximately \$96,000. The following table sets forth our disaggregated revenue for the years ended December 31, 2019 and 2018:

Net Revenue (dollars in thousands)	Year Ended December 31,	
	2019	2018
Software and royalties	\$ 489	\$ 1,334
Hardware and consumables	96	133
Services	338	294
Maintenance	2,583	2,643
Total net revenue	<u>\$ 3,506</u>	<u>\$ 4,404</u>

Fair Value of Financial Instruments

For certain of the Company's financial instruments, including accounts receivable, accounts payable, accrued expense, and deferred revenue, the carrying amounts approximate fair value due to their relatively short maturities.

Lease Liabilities and Operating Lease Right-of-Use Assets

The Company is a party to certain contractual arrangements for office space which meet the definition of leases under Accounting Standards Codification ("ASC") Topic 842 – Leases ("ASC 842"). In accordance with ASC 842, the Company has determined that such arrangements are operating leases and accordingly the Company has, as of January 1, 2019, recorded operating lease right-of-use assets and related lease liability for the present value of the lease payments over the lease terms using the Company's estimated weighted-average incremental borrowing rate of approximately 14.5%. The Company has utilized the practical expedient regarding lease and nonlease components and has combined such items into a single combined component. The Company has also utilized the practical expedient regarding leases of twelve months or less and has excluded such leases from its computation of lease liability and related right-of-use assets. The Company has also elected the optional transition package of practical expedients which include:

A package of practical expedient to not reassess:

- Whether a contract is or contains a lease
- Lease classification
- Initial direct costs

Goodwill

The Company annually, or more frequently if events or circumstances indicate a need, tests the carrying amount of goodwill for impairment. The Company performs its annual impairment test in the fourth quarter of each year. In December 2018, the Company adopted the provisions of ASU 2017-04, “Intangibles - Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment.” The provisions of ASU 2017-04 eliminate the requirement to calculate the implied fair value of goodwill to measure a goodwill impairment charge. Instead, entities will record an impairment charge based on the excess of a reporting unit’s carrying amount over its fair value. Entities that have reporting units with zero or negative carrying amounts, will no longer be required to perform a qualitative assessment assuming they pass the simplified impairment test. The Company continues to have only one reporting unit, Identity Management, which at December 31, 2019, had a negative carrying amount of approximately \$8,762,000. Based on the results of the Company’s impairment testing, the Company determined that its goodwill was not impaired as of December 31, 2019 and December 31, 2018.

Intangible and Long-Lived Assets

Intangible assets are carried at their cost less any accumulated amortization. Any costs incurred to renew or extend the life of an intangible or long-lived asset are reviewed for capitalization. The Company evaluates long-lived assets for impairment whenever events or changes in circumstances indicate their net book value may not be recoverable. When such factors and circumstances exist, the Company compares the projected undiscounted future cash flows associated with the related asset or group of assets over their estimated useful lives against their respective carrying amount. Impairment, if any, is based on the excess of the carrying amount over the fair value, based on market value when available, or discounted expected cash flows, of those assets and is recorded in the period in which the determination is made. As of December 31, 2019, and through the date of this Annual Report, the Company’s management believes there is no impairment of its long-lived assets. There can be no assurance, however, that market conditions will not change or demand for the Company’s products under development will continue. Either of these could result in future impairment of long-lived assets.

Derivative Liabilities

The Company accounts for its derivative instruments under the provisions of ASC 815, “*Derivatives and Hedging*”. Under the provisions of ASC 815, the Company identified embedded features within the Series C Preferred host contract that qualify as derivative instruments and require bifurcation.

The Company determined that the conversion option, redemption option and participating dividend feature contained in the Series C Preferred host instrument required bifurcation. The Company valued the bifurcated features at fair value. Such liabilities aggregated approximately \$833,000 at inception and are classified as current liabilities on the Company’s consolidated balance sheets under the caption “Derivative liabilities”. The Company will revalue these features at each balance sheet date and record any change in fair value in the determination of period net income or loss. Such amounts are recorded in the caption “Change in fair value of derivative liabilities” in the Company’s consolidated statements of operations. During the twelve months ended December 31, 2019, the Company recorded a decrease to these derivative liabilities using fair value methodologies of approximately \$696,000. As a result of this decrease, such liabilities aggregated approximately \$369,000 at December 31, 2019. During the twelve months ended December 31, 2018, the Company recorded an increase to these derivative liabilities using fair value methodologies of approximately \$232,000 which resulted in a December 31, 2018 aggregated balance of approximately \$1,065,000

Concentration of Credit Risk

Financial instruments which potentially subject the Company to concentrations of credit risk consist principally of cash and trade accounts receivable. The Company places its cash with high quality financial institutions and at times during the years ended December 31, 2019 and 2018, exceeded the FDIC insurance limits of \$250,000. Sales are typically made on credit and the Company generally does not require collateral. The Company performs ongoing credit evaluations of its customers' financial condition and maintains an allowance for doubtful accounts. The Company considers historical experience, the age of the accounts receivable balances, the credit quality of its customers, current economic conditions and other factors that may affect customers' ability to pay to determine the level of allowance required. Accounts receivable are presented net of an allowance for doubtful accounts of approximately \$7,000 and \$0 at December 31, 2019 and 2018, respectively.

For the year ended December 31, 2019, two customers accounted for approximately 37% or \$1,301,000 of total revenue and had trade receivables of approximately \$161,000 as of the end of the year. For the year ended December 31, 2018, one customer accounted for approximately 36% or \$1,573,000 of total revenue and had trade receivables of approximately \$0 as of the end of the year.

Stock-Based Compensation

At December 31, 2019, the Company had one stock-based compensation plan for employees and nonemployee directors, which authorizes the granting of various equity-based incentives including stock options and restricted stock.

The Company estimates the fair value of its stock options using a Black-Scholes option-pricing model, consistent with the provisions of ASC 718, "*Compensation – Stock Compensation*". The fair value of stock options granted is recognized to expense over the requisite service period. Stock-based compensation expense for all share-based payment awards is recognized using the straight-line single-option method. Stock-based compensation expense is reported in operating expense based upon the departments to which substantially all of the associated employees report and credited to additional paid-in-capital. Stock-based compensation expense related to equity options was approximately \$643,000 and \$1,272,000 for the years ended December 31, 2019 and 2018, respectively.

ASC 718 requires the use of a valuation model to calculate the fair value of stock-based awards. The Company has elected to use the Black-Scholes option-pricing model, which incorporates various assumptions including volatility, expected life, and interest rates. The Company is required to make various assumptions in the application of the Black-Scholes option-pricing model. The Company has determined that the best measure of expected volatility is based on the historical weekly volatility of the Company's Common Stock. Historical volatility factors utilized in the Company's Black-Scholes computations for options granted during the years ended December 31, 2019 and 2018 ranged from 64% to 57%. The Company has elected to estimate the expected life of an award based upon the SEC approved "simplified method" noted under the provisions of Staff Accounting Bulletin Topic 14. The expected term used by the Company during the years ended December 31, 2019 and 2018 was 5.17 years. The difference between the actual historical expected life and the simplified method was immaterial. The interest rate used is the risk-free interest rate and is based upon U.S. Treasury rates appropriate for the expected term. Interest rates used in the Company's Black-Scholes calculations for the years ended December 31, 2019 and 2018 averaged 2.58%. Dividend yield is zero as the Company does not expect to declare any dividends on the Company's common shares in the foreseeable future.

In addition to the key assumptions used in the Black-Scholes model, the estimated forfeiture rate at the time of valuation is a critical assumption. The Company has adopted the provisions of ASU 2016-09 and will continue to use an estimated annualized forfeiture rate of approximately 0% for corporate officers, 4.1% for members of the Board of Directors and 6.0% for all other employees. The Company reviews the expected forfeiture rate annually to determine if that percent is still reasonable based on historical experience.

Restricted stock units are recorded at the grant date fair value with corresponding compensation expense recorded ratably over the requisite service period.

Income Taxes

The Company accounts for income taxes in accordance with ASC 740, *Accounting for Income Taxes*, (ASC 740). Current income tax expense or benefit is the amount of income taxes expected to be payable or refundable for the current year. A deferred income tax asset or liability is computed for the expected future impact of differences between the financial reporting and tax bases of assets and liabilities and for the expected future tax benefit to be derived from tax credits and loss carryforwards. Deferred tax assets are reduced by a valuation allowance when, in the opinion of management, it is more likely than not that some portion or all of the deferred tax assets will not be realized.

ASC 740 requires a company to first determine whether it is more-likely-than-not (defined as a likelihood of more than fifty percent) that a tax position will be sustained based on its technical merits as of the reporting date, assuming that taxing authorities will examine the position and have full knowledge of all relevant information. A tax position that meets this more-likely-than-not threshold is then measured and recognized at the largest amount of benefit that is greater than fifty percent likely to be realized upon effective settlement with a taxing authority. The amount accrued for uncertain tax positions was \$0 at December 31, 2019 and 2018.

The Company's uncertain tax position relative to unrecognized tax benefits and any potential increase in these liabilities relates primarily to the allocations of revenue and costs among the Company's global operations and the impact of tax rulings made during the period affecting its tax positions. The Company's existing tax positions could result in liabilities for unrecognized tax benefits. The Company recognizes interest and/or penalties related to uncertain tax positions in income tax expense. The amount of interest and penalties accrued as of December 31, 2019 and 2018 was \$0.

Significant judgment is required in evaluating the Company's uncertain tax positions and determining the Company's provision for income taxes. No assurance can be given that the final tax outcome of these matters will not be different from that which is reflected in the Company's historical income tax provisions and accruals. The Company adjusts these items in light of changing facts and circumstances. To the extent that the final tax outcome of these matters is different than the amounts recorded, such differences will impact the provision for income taxes in the period in which such determination is made.

Foreign Currency Translation

The financial position and results of operations of the Company's foreign subsidiaries are measured using the foreign subsidiary's local currency as the functional currency. Revenue and expense of such subsidiaries have been translated into U.S. dollars at weighted-average exchange rates prevailing during the period. Assets and liabilities have been translated at the rates of exchange on the balance sheet date. The resulting translation gain and loss adjustments are recorded directly as a separate component of shareholders' equity, unless there is a sale or complete liquidation of the underlying foreign investments. The Company translates foreign currencies of its German, Canadian and Mexican subsidiaries. The cumulative translation adjustment, which is recorded in accumulated other comprehensive loss, decreased approximately \$1,000 for the year ended December 31, 2019, and increased approximately \$27,000 for the year ended December 31, 2018.

Comprehensive Loss

Comprehensive loss consists of net gains and losses affecting shareholders' deficit that, under generally accepted accounting principles, are excluded from net loss. For the Company, the only items are the cumulative translation adjustment and the additional minimum liability related to the Company's defined benefit pension plan, recognized pursuant to ASC 715-30, "*Compensation - Retirement Benefits - Defined Benefit Plans - Pension*".

Advertising Costs

The Company expenses advertising costs as incurred. The Company incurred approximately \$5,000 in advertising expense during the years ended December 31, 2019 and December 31, 2018.

Loss Per Share

Basic loss per common share is calculated by dividing net loss available to common shareholders for the period by the weighted-average number of common shares outstanding during the period. Diluted loss per common share is calculated by dividing net loss available to common shareholders for the period by the weighted-average number of common shares outstanding during the period, adjusted to include, if dilutive, potential dilutive shares consisting of convertible preferred stock, convertible lines of credit, stock options and warrants, calculated using the treasury stock and if-converted methods. For diluted loss per share calculation purposes, the net loss available to common shareholders is adjusted to add back any preferred stock dividends in the consolidated statements of operations for the respective periods.

(Amounts in thousands, except share and per share amounts)

	Year Ended December 31,	
	2019	2018
Numerator for basic and diluted loss per share:		
Net loss	\$ (11,581)	\$ (12,550)
Preferred dividends, deemed dividends and accretion	(5,670)	(3,913)
Net loss available to common shareholders	<u>\$ (17,251)</u>	<u>\$ (16,463)</u>
Denominator for basic and diluted loss per share — weighted-average shares outstanding	104,372,048	95,210,572
Basic and diluted loss per share:		
Net loss available to common shareholders	<u>\$ (0.17)</u>	<u>\$ (0.17)</u>

The following potential dilutive securities have been excluded from the computations of diluted weighted-average shares outstanding as their effect would have been antidilutive:

	Common Share Equivalents at December 31, 2019	Common Share Equivalents at December 31, 2018
Potential Dilutive Securities:		
Convertible redeemable preferred stock – Series A	32,580,000	32,580,000
Convertible redeemable preferred stock – Series B	46,029	46,029
Convertible redeemable preferred stock – Series C	10,000,000	10,000,000
Stock options	7,204,672	7,227,248
Warrants	1,733,856	1,813,856
Total Potential Dilutive Securities	<u>51,564,557</u>	<u>51,667,133</u>

Recently Issued Accounting Standards

From time to time, new accounting pronouncements are issued by the FASB or other standard setting bodies, which are adopted by us as of the specified effective date. Unless otherwise discussed, the Company's management believes the impact of recently issued standards not yet effective will not have a material impact on the Company's consolidated financial statements upon adoption.

FASB ASU No. 2016-13. In June 2016, the FASB issued Accounting Standard Update ("ASU No. 2016-13"), *Financial Instruments—Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*. ASU No. 2016-13 changes the impairment model for most financial assets and certain other instruments. For trade and other receivables, held-to-maturity debt securities, loans and other instruments, entities will be required to use a new forward-looking "expected loss" model that will replace today's "incurred loss" model and generally will result in the earlier recognition of allowances for losses. For available-for-sale debt securities with unrealized losses, entities will measure credit losses in a manner similar to current practice, except that the losses will be recognized as an allowance. This guidance is effective for fiscal years beginning after December 15, 2019 including interim periods within those fiscal years. The adoption of this standard will not have a material impact on the Company's consolidated financial statements.

FASB ASU No. 2018-13. In August 2018, the FASB issued ASU 2018-13, "*Fair Value Measurement (Topic 820) —Disclosure Framework —Changes to the Disclosure Requirements for Fair Value Measurement*" ("ASU 2018-13"). The amendments in this update improve the effectiveness of fair value measurement disclosures. ASU 2018-13 is effective for fiscal years ending after December 15, 2019. Early adoption is permitted. The adoption of this standard should be applied to all periods presented. The adoption of this standard will not have a material impact on the Company's consolidated financial statements.

FASB ASU No. 2018-14. In August 2018, the FASB issued ASU 2018-14, "*Compensation —Retirement Benefits —Defined Benefit Plans —General (Subtopic 715-20) —Disclosure Framework —Changes to the Disclosure Requirements for Defined Benefit Plans*" ("ASU 2018-14"). The amendments in this update remove defined benefit plan disclosures that are no longer considered cost-beneficial, clarify the specific requirements of disclosures, and add disclosure requirements identified as relevant. ASU 2018-14 is effective for fiscal years ending after December 15, 2020. Early adoption is permitted. The adoption of this standard should be applied to all periods presented. The adoption of this standard will not have a material impact on the Company's consolidated financial statements.

FASB ASU No. 2018-15. In August 2018, the FASB issued ASU 2018-15, "*Intangibles —Goodwill and Other —Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract*" ("ASU 2018-15"). The amendments in this update align the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software (and hosting arrangements that include an internal-use software license). ASU 2018-15 is effective for fiscal years ending after December 15, 2019. Early adoption is permitted. The adoption of this standard did not have a material impact on the Company's consolidated financial statements.

FASB ASU No. 2018-18. In November 2018, the FASB issued ASU No. 2018-18, "*Collaborative Arrangements (Topic 808): Clarifying the Interaction Between Topic 808 and Topic 606*". The ASU provides more comparability in the presentation of revenue for certain transactions between collaborative arrangement participants and only allows a company to present units of account in collaborative arrangements that are within the scope of the revenue recognition standard together with revenue accounted for under the revenue recognition standard. The parts of the collaborative arrangement that are not in the scope of the revenue recognition standard should be presented separately from revenue accounted for under the revenue recognition standard. The amendments in ASU No. 2018-18 are effective for fiscal years beginning after December 15, 2019, and interim periods within those fiscal years. The adoption of this standard will not have a material impact on the Company's consolidated financial statements.

FASB ASU No. 2019-12. In December 2019, the FASB issued ASU No. 2019-12, "*Income Taxes (Topic 740)*". The amendments in this update simplify the accounting for income taxes by removing certain exceptions to the general principles in Topic 740. The amendments also improve consistent application of and simplify GAAP for other areas of Topic 740 by clarifying and amending existing guidance. Early adoption of the amendments is permitted. For public business entities, the amendments in this update are effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2020. The adoption of this standard will not have a material impact on the Company's consolidated financial statements.

3. FAIR VALUE ACCOUNTING

The Company accounts for fair value measurements in accordance with ASC 820, “Fair Value Measurements and Disclosures”, which defines fair value, establishes a framework for measuring fair value in generally accepted accounting principles, and expands disclosures about fair value measurements.

ASC 820 establishes a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest priority to unobservable inputs (Level 3 measurements). The three levels of the fair value hierarchy under ASC 820 are described below:

- Level 1 Unadjusted quoted prices in active markets that are accessible at the measurement date for identical, unrestricted assets or liabilities.
- Level 2 Applies to assets or liabilities for which there are inputs other than quoted prices included within Level 1 that are observable for the asset or liability such as quoted prices for similar assets or liabilities in active markets; quoted prices for identical assets or liabilities in markets with insufficient volume or infrequent transactions (less active markets); or model-derived valuations in which significant inputs are observable or can be derived principally from, or corroborated by, observable market data.
- Level 3 Prices or valuation techniques that require inputs that are both significant to the fair value measurement and unobservable (supported by little or no market activity).

The following table sets forth the Company’s financial assets and liabilities measured at fair value by level within the fair value hierarchy. As required by ASC 820, assets and liabilities are classified in their entirety based on the lowest level of input that is significant to the fair value measurement.

(\$ in thousands)	Fair Value at December 31, 2019			
	Total	Level 1	Level 2	Level 3
Assets:				
Pension assets	\$ 1,713	\$ —	\$ —	\$ 1,713
Totals	\$ 1,713	\$ —	\$ —	\$ 1,713
Liabilities:				
Derivative liabilities	\$ 369	\$ —	\$ —	\$ 369
Totals	\$ 369	\$ —	\$ —	\$ 369

(\$ in thousands)	Fair Value at December 31, 2018			
	Total	Level 1	Level 2	Level 3
Assets:				
Pension assets	\$ 1,734	\$ —	\$ —	\$ 1,734
Totals	\$ 1,734	\$ —	\$ —	\$ 1,734
Liabilities:				
Derivative liabilities	\$ 1,065	\$ —	\$ —	\$ 1,065
Totals	\$ 1,065	\$ —	\$ —	\$ 1,065

The Company’s German pension plan is funded by insurance contract policies whereby the insurance company guarantees a fixed minimum return. The Company has determined that the pension assets are appropriately classified within Level 3 of the fair value hierarchy because they are valued using actuarial valuation methodologies which approximate cash surrender value that cannot be corroborated with observable market data. All plan assets are managed in a policyholder pool in Germany by outside investment managers. The investment manager is responsible for the investment strategy of the insurance premiums that Company submits and does not hold individual assets per participating employer. The German Federal Financial Supervisory oversees and supervises the insurance contracts.

As of December 31, 2019, the Company had embedded features contained in the Series C Preferred host instrument (issued in September 2018) that qualified for derivative liability treatment. The recorded fair market value of these features was approximately \$369,000 and \$1,065,000 at December 31, 2019 and 2018, respectively, and are classified as a current liability in the consolidated balance sheets as of December 31, 2019 and 2018. The fair value of the Company's derivative liabilities are classified within Level 3 of the fair value hierarchy because they are valued using pricing models that incorporate management assumptions that cannot be corroborated with observable market data. The Company uses the lattice framework, Monte-Carlo simulations and other fair value methodologies in the determination of the fair value of derivative liabilities.

As more fully described in Note 14 to these Consolidated Financial Statements, on September 10, 2018, the Company's Board of directors declared a Dividend Warrant for Holders of Series A Preferred. The Company evaluated this warrant issuance in conjunction with the Series A Preferred becoming junior to the Series C Preferred in liquidation preference and determined such warrants and changes in liquidation preference to be in effect a modification of the Series A Preferred. To determine the effect of this modification, the Company, using fair value methodologies, determined the value of the Series A Preferred both pre and post warrant issuance. The valuation indicated an increase in the fair value of the Series A Preferred post issuance of approximately \$92,000. The Company recorded this incremental increase as a deemed dividend.

Some of the aforementioned fair value methodologies are affected by the Company's stock price as well as assumptions regarding the expected stock price volatility over the term of the derivative liabilities in addition to the probability of future events. Significant assumptions used in the fair value methodologies during 2019 and 2018 are a risk-free rate of 2.47% to 1.57%, equity volatility of 75.0% to 57%, effective life of 4.69 years to 1.69 years, and a preferred stock dividend rate of 10.0%. Additionally, management has made certain estimates regarding the timing of potential change of control events.

The Company monitors the activity within each level and any changes with the underlying valuation techniques or inputs utilized to recognize if any transfers between levels are necessary. That determination is made, in part, by working with outside valuation experts for Level 3 instruments and monitoring market related data and other valuation inputs for Level 1 and Level 2 instruments.

The reconciliations of Level 3 pension assets measured at fair value in 2019 and 2018 are presented below:

(\$ in thousands)	December 31, 2019	December 31, 2018
Pension assets:		
Fair value at beginning of year	\$ 1,734	\$ 1,806
Return on plan assets	80	82
Company contributions and benefits paid, net	(68)	(70)
Effect of rate changes	(33)	(84)
Fair value at end of year	<u>\$ 1,713</u>	<u>\$ 1,734</u>

The reconciliations of Level 3 derivative liabilities measured at fair value in 2019 and 2018 are presented below:

(\$ in thousands)	December 31, 2019	December 31, 2018
Derivative liabilities		
Fair value at beginning of year	\$ 1,065	\$ -
Issuances from Series C Preferred Financing	-	833
Change in fair value included in earnings	(696)	232
Fair value at end of year	<u>\$ 369</u>	<u>\$ 1,065</u>

4. INTANGIBLE ASSETS AND GOODWILL

The carrying amounts of the Company's patent intangible assets were \$70,000 and \$82,000 as of December 31, 2019 and 2018, respectively, which includes accumulated amortization of \$589,000 and \$577,000 as of December 31, 2019 and 2018, respectively. Amortization expense for patent intangible assets was \$12,000 for the years ended December 31, 2019 and 2018. Patent intangible assets are being amortized on a straight-line basis over their remaining life of approximately 6.5 years. There was no impairment of the Company's intangible assets during the years ended December 31, 2019 and 2018.

The Company annually, or more frequently if events or circumstances indicate a need, tests the carrying amount of goodwill for impairment. The Company performs its annual impairment test in the fourth quarter of each year. In December 2019, the Company adopted the provisions of ASU 2017-04, "Intangibles - Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment". The provisions of ASU 2017-04 eliminate the requirement to calculate the implied fair value of goodwill to measure a goodwill impairment charge. Instead, entities will record an impairment charge based on the excess of a reporting unit's carrying amount over its fair value. Entities that have reporting units with zero or negative carrying amounts, will no longer be required to perform a qualitative assessment assuming they pass the simplified impairment test. The Company continues to have only one reporting unit, Identity Management which, at December 31, 2019, had a negative carrying amount of approximately \$8,762,000. Based on the results of the Company's impairment testing, the Company determined that its goodwill was not impaired during the years ended December 31, 2019 and 2018.

The estimated acquired intangible amortization expense for the next five fiscal years is as follows:

Fiscal Year Ended December 31,	Estimated Amortization Expense (\$ in thousands)
2020	\$ 12
2021	12
2022	12
2023	12
2024	12
Thereafter	10
Totals	\$ 70

5. RELATED PARTIES

Convertible Lines of Credit

At January 1, 2018, the Company had certain convertible Lines of Credit borrowing facilities with two members of the Company's Board of Directors. Before their termination, (described more fully below), these convertible Lines of Credit bore interest at 8% per annum and were convertible into that number of shares of the Company's common stock equal to the quotient obtained by dividing the outstanding balance by \$1.25. These convertible Lines of Credit had a maturity date of December 31, 2018.

The Company evaluated the Lines of Credit and determined that the instruments contained a contingent beneficial conversion feature, i.e. an embedded conversion right that enabled the holder to obtain the underlying Common Stock at a price below market value. The beneficial conversion feature was contingent, as the terms of the conversion did not permit the Company to compute the number of shares that the holder would receive if the contingent event occurred (i.e. future borrowings under the Line of Credit). The Company has considered the accounting for this contingent beneficial conversion feature using the guidance in ASC 470, Debt. The guidance in ASC 470 states that a contingent beneficial conversion feature in an instrument shall not be recognized in earnings until the contingency is resolved. The beneficial conversion features of borrowings under the Line of Credit were to be measured using the intrinsic value calculated at the date the contingency is resolved using the conversion price and trading value of the Company's Common Stock at the date the Lines of Credit were issued (commitment date).

For the years ended December 31, 2019 and 2018, the Company recorded approximately \$0 and \$30,000, respectively, in debt discount attributable to beneficial conversion feature and accreted approximately \$0 and \$162,000, respectively, of debt discount. Such expense is recorded as a component of interest expense in the Company's consolidated statements of operations.

On September 10, 2018, the Company entered into an agreement with the board members, pursuant to which they agreed to exchange approximately \$6.3 million and \$0.6 million, respectively, of outstanding debt (including accrued and unpaid interest) owed under the terms of their respective Lines of Credit for an aggregate of 6,896 shares of the Company's Series A Preferred. As a result of this exchange, all indebtedness, liabilities and other obligations arising under the Lines of Credit were terminated, cancelled and deemed satisfied in full. Because the holders of the Lines of Credit are members of the Company's Board of Directors and shareholders of the Company, they are considered related parties and the exchange transaction is considered a capital transaction and is recorded within the equity accounts of the Company.

Notes Payable

On February 12, 2020, the Company entered into a factoring agreement with a member of the Company's Board of Directors for \$350,000. Such amount is to be repaid with the proceeds from certain of the Company's trade accounts receivable approximating \$500,000 and are due no later than 21 days after February 12, 2020. As of May 15, 2020, despite collection of the Company's trade accounts receivable, \$315,000 of such amounts have not been repaid and the Company is seeking an extension from the Board member.

In April 2020, the Company received an aggregate amount of \$550,000 from two members of the Company's Board of Directors. Terms of repayment are currently being negotiated between the Company and Board Members.

Professional Services Agreement

During the year ended December 31, 2018, the Company entered into professional services agreement with a firm whose managing director is also a member of the Company's Board of Directors. During the year ended December 31, 2018, the Company recorded and paid one-half of the aggregate fee of \$50,000 with the remaining payment being made during the year ended December 31, 2019.

6. INVENTORY

Inventories of \$615,000 as of December 31, 2019 were comprised of work in process of \$608,000, representing direct labor costs on in-process projects and finished goods of \$7,000 net of reserves for obsolete and slow-moving items of \$3,000.

Inventories of \$29,000 as of December 31, 2018 were comprised of work in process of \$21,000 representing direct labor costs on in-process projects and finished goods of \$8,000 net of reserves for obsolete and slow-moving items of \$3,000.

Appropriate consideration is given to obsolescence, excessive levels, deterioration and other factors in evaluating net realizable value and required reserve levels.

7. PROPERTY AND EQUIPMENT

Property and equipment at December 31, 2019 and 2018, consisted of:

(\$ in thousands)	<u>2019</u>	<u>2018</u>
Equipment	\$ 996	\$ 967
Leasehold improvements	77	77
Furniture	257	255
	<u>1,330</u>	<u>1,299</u>
Less accumulated depreciation	<u>(1,114)</u>	<u>(1,055)</u>
	<u>\$ 216</u>	<u>\$ 244</u>

Total depreciation expense for the years ended December 31, 2019 and 2018 was approximately \$59,000 and \$39,000, respectively.

8. ACCRUED EXPENSE

Principal components of accrued expense consist of:

(\$ in thousands)	<u>December 31, 2019</u>	<u>December 31, 2018</u>
Compensated absences	\$ 385	\$ 352
Wages, payroll taxes and sales commissions	6	44
Customer deposits	18	30
Rent	—	14
Royalties	72	72
Pension and employee benefit plans	58	48
Accrued financing fees	500	100
Professional services	121	45
Income and sales taxes	50	79
Dividends	40	42
Other	62	62
	<u>\$ 1,312</u>	<u>\$ 888</u>

9. INCOME TAXES

The Company accounts for income taxes in accordance with ASC 740, *Accounting for Income Taxes, (ASC 740)*. Deferred income taxes are recognized for the tax consequences related to temporary differences between the carrying amount of assets and liabilities for financial reporting purposes and the amounts used for tax purposes at each year-end, based on enacted tax laws and statutory tax rates applicable to the periods in which the differences are expected to affect taxable income. A valuation allowance is established when necessary based on the weight of available evidence, if it is considered more likely than not that all or some portion of the deferred tax assets will not be realized. Income tax expense is the sum of current income tax plus the change in deferred tax assets and liabilities. The Company has established a valuation allowance against its deferred tax asset due to the uncertainty surrounding the realization of such asset.

The significant components of the income tax provision are as follows:

(\$ in thousands)	Year Ended December 31,	
	2019	2018
Current		
Federal	\$ —	\$ —
State	—	—
Foreign	10	11
Deferred		
Federal	—	—
State	—	—
Foreign	—	—
	<u>\$ 10</u>	<u>\$ 11</u>

The following is a schedule of the deferred tax assets and liabilities as of December 31, 2019 and 2018:

(\$ in thousands)	2019	2018
<i>Deferred tax assets:</i>		
Net operating loss carryforwards	\$ 21,981	\$ 19,881
Stock based compensation	1,678	2,318
Reserves and accrued expense	118	45
Gross deferred tax assets	23,777	22,244
Valuation allowance	(23,643)	(22,159)
Gross deferred tax assets after valuation allowance	134	85
Deferred tax liability - Intangible and fixed assets	(134)	(85)
Net deferred tax liabilities	<u>\$ —</u>	<u>\$ —</u>

A reconciliation of the provision for income taxes to the amount computed by applying the statutory income tax rates to loss before income taxes is as follows:

	<u>2019</u>	<u>2018</u>
Amounts computed at statutory rates	\$ (2,432)	\$ (2,636)
State income tax, net of federal benefit	(579)	(1,051)
Change in net operating loss carryforwards	879	(3,012)
Equity compensation	617	—
Non-deductible interest	(146)	36
Foreign tax rate differential	184	210
Other	3	3
Net change in valuation allowance on deferred tax assets	1,484	6,461
	<u>\$ 10</u>	<u>\$ 11</u>

The Company has established a valuation allowance against its deferred tax assets due to the uncertainty surrounding the realization of such assets.

At December 31, 2019, the Company had federal net operating loss carryforwards of approximately \$63,216,000, that begin to expire in 2023. The Company has federal net operating losses of approximately \$23,753,000 that arose after the 2017 tax year and will carryforward indefinitely, the utilization of which is limited to 80% of taxable income in any given year. The Company has net operating loss carryforwards of approximately for the state of California that will begin to expire in 2035.

The Internal Revenue Code (the “*Revenue Code*”) limits the availability of certain tax credits and net operating losses that arose prior to certain cumulative changes in a corporation’s ownership resulting in a change of control of the Company. The Company’s use of its net operating loss carryforwards and tax credit carryforwards will be significantly limited because the Company believes it underwent “ownership changes”, as defined under Section 382 of the Revenue Code, in several years, though the Company has not performed a study to determine the limitation. The Company continues to disclose the tax effect of the net operating loss carryforwards at their original amount in the table above as the actual limitation has not yet been quantified. The Company has also established a full valuation allowance for substantially all deferred tax assets due to uncertainties surrounding its ability to generate future taxable income to realize these assets. Since substantially all deferred tax assets are fully reserved, future changes in tax benefits will not impact the effective tax rate. Management periodically evaluates the recoverability of the deferred tax assets. If it is determined at some time in the future that it is more likely than not that deferred tax assets will be realized, the valuation allowance would be reduced accordingly at that time.

Tax returns for the years 2015 through 2019 are subject to examination by taxing authorities. The Company and its subsidiaries are subject to U.S. federal and state income tax, and in the normal course of business, its income tax returns are subject to examination by the relevant taxing authorities. As of December 31, 2019, the 2015 – 2019 tax years remain subject to examination in the U.S. federal tax state and foreign jurisdictions. However, to the extent allowed by law, the taxing authorities may have the right to examine the period from 2000 through 2019 where net operating losses and income tax credits were generated and carried forward and make adjustments to the amount of the net operating loss and income tax credit carryforward amount. The Company is not currently under examination by federal, state, or foreign jurisdictions.

10. LEASES

The Company is a party to certain contractual arrangements for office space which meet the definition of leases under ASC 842 – Leases. In accordance with ASC 842, the Company has determined that such arrangements are operating leases and accordingly the Company has, as of January 1, 2019, recorded operating lease right-of-use assets and related lease liability for the present value of the lease payments over the lease terms using the Company's estimated weighted-average incremental borrowing rate of approximately 14.5% as the discount rates implicit in the Company's leases cannot be readily determined. Such assets and liabilities aggregated approximately \$2,265,000 and \$2,280,000 as of January 1, 2019, respectively. The Company determined that it had no arrangements representing finance leases.

The Company's operating leasing arrangements are summarized below:

- The Company's corporate headquarters is located in San Diego, California, where it occupies 8,511 square feet of office space at an average cost of approximately \$28,000 per month. This facility's lease was entered into by the Company in July 2018. This lease commenced on November 1, 2018 and terminates on April 30, 2025;
- 1,508 square feet in Ottawa, Province of Ontario, Canada, at a cost of approximately \$3,000 per month until the expiration of the lease on March 31, 2021;
- 9,720 square feet in Portland, Oregon, at a cost of approximately \$23,000 per month until the expiration of the lease on February 28, 2023; and
- 183 square feet of office space in Mexico City, Mexico, at a cost of approximately \$2,000 per month until September 30, 2020.

The above leases contain no residual value guarantees provided by the Company and there are no options to either extend or terminate the leases. The Company is not a party to any subleasing arrangements.

For the twelve months ended December 31, 2019, the Company recorded approximately \$673,000 in lease expense using the straight-line method. For the twelve months ended December 31, 2018, prior to the adoption of ASC 842, the Company recorded approximately \$672,000 in operating lease expense. Under the provisions of ASC 842, lease expense is comprised of the total lease payments under the lease plus any initial direct costs incurred less any lease incentives received by the lessor amortized ratably using the straight-line method over the lease term. The weighted-average remaining lease term of the Company's operating leases as of December 31, 2019 is 4.52 years. Cash payments under operating leases aggregated approximately \$481,000 for the twelve months ended December 31, 2019 and are included in operating cash flows.

The Company's lease liability was computed using the present value of future lease payments. The Company has utilized the practical expedient regarding lease and non-lease components and combined such components into a single combined component in the determination of the lease liability. The Company has excluded the lease of its office space in Mexico City, Mexico in the determination of the lease liability as of January 1, 2019 as its term is less than 12 months.

At December 31, 2019, future minimum undiscounted lease payments are as follows:

(\$ in thousands)	
2020	671
2021	642
2022	652
2023	425
2024	387
Thereafter	130
Total	2,907
Short-term leases not included in lease liability	(22)
Present Value effect on future minimum undiscounted lease payments at December 31, 2019	(796)
Lease liability at December 31, 2019	\$ 2,089
Less current portion	(373)
Non-current lease liability at December 31, 2019	\$ 1,716

11. CONTINGENT LIABILITIES

Employment Agreements

The Company has employment agreements with its Chief Executive Officer and its Chief Technical Officer. The Company may terminate the agreements with or without cause. Subject to the conditions and other limitations set forth in each respective employment agreement, each executive will be entitled to the following severance benefits if the Company terminates the executive's employment without cause or in the event of an involuntary termination (as defined in the employment agreements) by the Company or by the executive:

Under the terms of the agreement, the Chief Executive Officer will be entitled to the following severance benefits if we terminate his employment without cause or in the event of an involuntary termination: (i) a lump sum cash payment equal to twenty-four months' base salary; (ii) continuation of fringe benefits and medical insurance for a period of three years; and (iii) immediate vesting of 50% of outstanding stock options and restricted stock awards. In the event that the Chief Executive Officer's employment is terminated within six months prior to or thirteen months following a change of control (as defined in the employment agreements), the Chief Executive Officer is entitled to the severance benefits described above, except that 100% of the Chief Executive Officer's outstanding stock options and restricted stock awards will immediately vest.

Under the terms of the employment agreement with our Chief Technical Officer, this executive will be entitled to the following severance benefits if we terminate his employment without cause or in the event of an involuntary termination: (i) a lump sum cash payment equal to six months of base salary; and (ii) continuation of their fringe benefits and medical insurance for a period of six months. In the event that his employment is terminated within six months prior to or thirteen months following a change of control (as defined in the employment agreements), he is entitled to the severance benefits described above, except that 100% of his outstanding stock options and restricted stock awards will immediately vest.

Effective September 15, 2017, the employment agreements for the Company's Chief Executive Officer and Chief Technical Officer were amended to extend the term of each executive officer's employment agreement until December 31, 2018, and on January 30, 2019, both agreements were amended again to further extend the term of each executive officer's employment agreement until December 31, 2019. Such employment agreements were not renewed and expired on December 31, 2019.

Litigation

There is no action, suit, proceeding, inquiry or investigation before or by any court, public board, government agency, self-regulatory organization or body pending or, to the knowledge of the executive officers of the Company or any of our subsidiaries, threatened against or affecting the Company, our Common Stock, any of our subsidiaries or of the Company's or our subsidiaries' officers or directors in their capacities as such, in which an adverse decision could have a material adverse effect.

12. MEZZANINE EQUITY

Series C Convertible Redeemable Preferred Stock

On September 10, 2018, the Company filed the Certificate of Designations, Preferences, and Rights of Series C Convertible Redeemable Preferred stock (the “*Series C COD*”) with the Secretary of State for the State of Delaware – Division of Corporations, designating 1,000 shares of the Company’s preferred stock, par value \$0.01 per share, as Series C Preferred, each share with a stated value of \$10,000 per share (the “*Stated Value*”). Shares of Series C Preferred accrue dividends cumulatively and are payable quarterly at a rate of 8% per annum if paid in cash, or 10% per annum if paid by the issuance of shares of Common Stock. Each share of Series C Preferred has a liquidation preference equal to the greater of (i) the Stated Value plus all accrued and unpaid dividends, and (ii) such amount per share as would have been payable had each share been converted into Common Stock immediately prior to the occurrence of a Liquidation Event or Deemed Liquidation Event. Each share of Series C Preferred is convertible into that number of shares of the Company’s Common Stock (“*Conversion Shares*”) equal to the Stated Value, divided by \$1.00, which conversion rate is subject to adjustment in accordance with the terms of the Series C COD. Holders of Series C Preferred may elect to convert shares of Series C Preferred into Conversion Shares at any time. Holders of the Series C Preferred may also require the Company to redeem all or any portion of such holder’s shares of Series C Preferred at any time from and after the third anniversary of the issuance date or in the event of the consummation of a Change of Control (as such term is defined in the Series C COD). Subject to the terms and conditions set forth in the Series C COD, in the event the volume-weighted average price of the Company’s Common Stock is at least \$3.00 per share (subject to adjustment in accordance with the terms of the Series C COD) for at least 20 consecutive trading days, the Company may convert all, but not less than all, issued and outstanding shares of Series C Preferred into Conversion Shares. In addition, in the event of a Change of Control, the Company will have the option to redeem all, but not less than all, issued and outstanding shares of Series C Preferred for 115% of the Liquidation Preference Amount per share. Holders of Series C Preferred will have the right to vote, on an as-converted basis, with the holders of the Company’s Common Stock on any matter presented to the Company’s stockholders for their action or consideration. Shares of Series C Preferred rank senior to the Company’s Common Stock and Series A Preferred, and junior to the Company’s Series B Preferred.

On September 10, 2018, the Company offered and sold a total of 890 shares of Series C Preferred at a purchase price of \$10,000 per share, and on September 21, 2018, the Company offered and sold an additional 110 shares of Series C Preferred at a purchase price of \$10,000 per share. The total gross proceeds to the Company from the Series C Financing were \$10,000,000. Issuance costs incurred in conjunction with the Series C Financing were approximately \$1,211,000. Such costs have been recorded as a discount on the Series C Preferred Stock and will be accreted to the point of earliest redemption which is the third anniversary of the Series C Financing or September 10, 2021 using the effective interest rate method. The accretion of these costs is recorded as a deemed dividend.

The Company had 1,000 shares of Series C Preferred outstanding as of September 30, 2018. The Company issued the holders of Series C Preferred 55,736 shares of Common Stock on September 30, 2018, as payment of dividends due on that date and on December 31, 2018, the Company issued the holders of Series C Preferred 298,896 shares of Common Stock as payment of dividends due on that date.

There were no issuances or conversions of Series C Preferred during the year ended December 31, 2019. The Company issued the holders of Series C Preferred an aggregate of 1,857,438 shares of Common Stock during the year ended December 31, 2019 as dividends. Such shares of Common Stock were paid as dividends on the following dates:

- 157,945 shares of Common Stock on March 31, 2019,
- 266,793 shares of Common Stock on June 30, 2019,
- 495,688 shares of Common Stock on September 30, 2019 and
- 937,012 shares of Common Stock on December 31, 2019.

Guidance for accounting for freestanding financial instruments that contain characteristics of both liabilities and equity are contained in ASC 480, *Distinguishing Liabilities From Equity* and Accounting Series Release 268 (“ASR 268”) *Redeemable Preferred Stocks*. The Company evaluated the provisions of the Series C Preferred and determined that the provisions of the Series C Preferred grant the holders of the Series C Preferred a redemption right whereby the holders of the Series C Preferred may, at any time after the third anniversary of the Series C Preferred issuance, require the Company to redeem in cash any or all of the holder’s outstanding Series C Preferred at an amount equal to the Liquidation Preference Amount (“*Liquidation Preference Amount*”). The Liquidation Preference Amount is defined as the greater of the stated value of the Series C Preferred plus any accrued unpaid interest or such amount per share as would have been payable had each such share been converted into Common Stock. In the event of a Change of Control, the holders of Series C Preferred shall have the right to require the Company to redeem in cash all or any portion of such holder’s shares at the Liquidation Preference Amount. The Company has concluded that because the redemption features of the Series C Preferred are outside of the control of the Company, the instrument is to be recorded as temporary or mezzanine equity in accordance with the provisions of ASR 268.

The Company noted that the Series C Preferred Stock instrument was a hybrid instrument that contains several embedded features. In November 2014, the FASB issued ASU 2014-16 to amend ASC 815, “*Derivatives and Hedging*”, (“*ASC 815*”) and require the use of the whole instrument approach (described below) to determine whether the nature of the host contract in a hybrid instrument issued in the form of a share is more akin to debt or to equity. ASU 2014-16 is effective for public business entities for fiscal years, and interim periods within those years, beginning after December 15, 2015.

The whole instrument approach requires an issuer or investor to consider the economic characteristics and risks of the entire hybrid instrument, including all of its stated and implied substantive terms and features. Under this approach, all stated and implied features, including the embedded feature being evaluated for bifurcation, must be considered. Each term and feature should be weighed based on the relevant facts and circumstances to determine the nature of the host contract. This approach results in a single, consistent determination of the nature of the host contract, which is then used to evaluate each embedded feature for bifurcation. That is, the host contract does not change as each feature is evaluated.

The revised guidance further clarifies that the existence or omission of any single feature, including an investor-held, fixed-price, noncontingent redemption option, does not determine the economic characteristics and risks of the host contract. Instead, an entity must base that determination on an evaluation of the entire hybrid instrument, including all substantive terms and features.

However, an individual term or feature may be weighed more heavily in the evaluation based on facts and circumstances. An evaluation of all relevant terms and features, including the circumstances surrounding the issuance or acquisition of the equity share, as well as the likelihood that an issuer or investor is expected to exercise any options within the host contract, to determine the nature of the host contract, requires judgement.

Using the whole instrument approach, the Company concluded that the host instrument is more akin to debt than equity as the majority of identified features contain more characteristics of debt.

The Company evaluated the identified embedded features of the Series C Preferred host instrument and determined that certain features meet the definition of and contained the characteristics of derivative financial instruments requiring bifurcation at fair value from the host instrument.

Accordingly, the Company has bifurcated from the Series C Preferred host instrument the conversion options, redemption option and participating dividend feature in accordance with the guidance in ASC 815. These bifurcated features aggregated approximately \$833,000 at issuance and have been recorded as a discount to the Series C Preferred. Such amount will be accreted to the point of earliest redemption which is the third anniversary of the Series C Financing or September 10, 2021 using the effective interest rate method. The accretion of these features is recorded as a deemed dividend.

For the twelve months ended December 31, 2019 and 2018, the Company recorded the accretion of the Series C discount of approximately \$728,000 and \$200,000, respectively, using the effective interest rate method.

The Company reflected the following in Mezzanine Equity for the Series C Preferred Stock as of December 31, 2019 and 2018:

(amounts in thousands, except share amounts)	Series C Convertible, Redeemable Preferred Shares	Amount
Issuance of Series C Preferred Stock	1,000	\$ 10,000
Discount - transaction costs	—	\$ (1,211)
Net Proceeds	—	\$ 8,789
Discount - bifurcated derivative	—	\$ (833)
Accretion of discount - deemed dividend	—	\$ 200
Total Series C Preferred Stock – December 31, 2018	1,000	\$ 8,156
Accretion of discount – deemed dividend for the twelve months ended December 31, 2019	—	\$ 728
Total Series C Preferred Stock – December 31, 2019	1,000	\$ 8,884

13. EQUITY

The Company's Certificate of Incorporation, as amended, authorizes the issuance of two classes of stock to be designated "Common Stock" and "Preferred Stock". The Preferred Stock may be divided into such number of series and with the rights, preferences, privileges and restrictions as the Board of Directors may determine.

Series A Convertible Preferred Stock

On September 15, 2017, the Company filed the Certificate of Designations of the Series A Preferred with the Delaware Secretary of State, designating 31,021 shares of the Company's preferred stock, par value \$0.01 per share, as Series A Preferred. Shares of Series A Preferred accrue dividends at a rate of 8% per annum if the Company chooses to pay accrued dividends in cash, and 10% per annum if the Company chooses to pay accrued dividends in shares of Common Stock. Each share of Series A Preferred has a liquidation preference of \$1,000 per share and is convertible, at the option of the holder, into that number of shares of the Company's Common Stock equal to the Liquidation Preference, divided by \$1.15 ("Conversion Shares"). Each holder of the Series A Preferred is entitled to vote on all matters, together with the holders of Common Stock, on an as converted basis.

Holders of Series A Preferred may elect to convert shares of Series A Preferred into Conversion Shares at any time. In the event the volume-weighted average price ("VWAP") of the Company's Common Stock is at least \$2.15 per share for at least 20 consecutive trading days, the Company may elect to convert one-half of the shares of Series A Preferred issued and outstanding, on a pro-rata basis, into Conversion Shares, or, if the VWAP of the Company's Common Stock is at least \$2.15 for 80 consecutive trading days, the Company may convert all issued and outstanding shares of Series A Preferred into Conversion Shares. In addition, in the event of a Change of Control, the Company will have the option to redeem all issued and outstanding shares of Series A Preferred for 115% of the Liquidation Preference per share.

On September 10, 2018, the Company filed an Amendment to the Certificate of Designations, Preferences and Rights of Series A Convertible Preferred Stock with the Delaware Division of Corporations to increase the number of shares of Series A Preferred authorized for issuance thereunder to 38,000 shares.

On September 10, 2018, the Company entered into exchange agreements with two members of the Company's Board of Directors, Messrs. Goldman and Crocker, pursuant to which Goldman and Crocker agreed to exchange approximately \$6.3 million and \$0.6 million, respectively, of outstanding debt (including accrued and unpaid interest) owed under the terms of their respective Lines of Credit for an aggregate of 6,896 shares of Series A Preferred. See Note 5. - Related Parties for a further description of the Lines of Credit.

On September 10, 2018 the Company's Board of Directors also declared a Special Dividend for Holders of the Series A Preferred, pursuant to which each Holder received a Dividend Warrant to purchase 39.87 shares of Common Stock for every share of Series A Preferred held, which resulted in the issuance of Dividend Warrants to the Holders as a group to purchase an aggregate of 1,493,856 shares of Common Stock. Each Dividend Warrant has an exercise price of \$0.01 per share, and is exercisable immediately upon issuance; *provided, however*, that a Dividend Warrant may only be exercised concurrently with the conversion of shares of Series A Preferred held by a Holder into shares of Common Stock. In addition, each Dividend Warrant held by a Holder shall expire on the earliest to occur of (i) the conversion of all Series A Preferred held by such Holder into Common Stock, (ii) the redemption by the Company of all outstanding shares of Series A Preferred held by such Holder, (iii) the Dividend Warrant no longer representing the right to purchase any shares of Common Stock, and (iv) the tenth anniversary of the date of issuance.

The Company evaluated this warrant issuance in conjunction with the Series A Preferred becoming junior to the Series C Preferred in liquidation preference and determined such warrants and changes in liquidation preference to be in effect a modification of the Series A Preferred. To determine the effect of this modification, the Company, using fair value methodologies, determined the value of the Series A Preferred both pre and post warrant issuance. The valuation indicated an increase in the fair value of the Series A Preferred post issuance of approximately \$92,000. The Company recorded this increase as a deemed dividend.

The Company had 37,467 shares of Series A Preferred outstanding as of December 31, 2019 and 2018, respectively. At December 31, 2019 and 2018, the Company had cumulative undeclared dividends of \$0. There were no conversions of Series A Preferred into Common Stock during the year ended December 31, 2019. During the year ended December 31, 2018, certain holders of Series A Preferred converted 450 shares of Series A Preferred into 391,304 shares of the Company's Common Stock. The Company issued the holders of Series A Preferred an aggregate of 6,959,523 shares of Common Stock during the year ended December 31, 2019 as payment of dividends due during the 2019 year and issued an aggregate of 3,074,008 shares of Common Stock during the year ended December 31, 2018 as payment of dividends due during the 2018 year.

Series B Convertible Redeemable Preferred Stock

The Company had 239,400 shares of Series B Convertible Preferred stock, par value \$0.01 per share ("*Series B Preferred*"), outstanding as of December 31, 2019 and 2018. At December 31, 2019 and 2018, the Company had cumulative undeclared dividends of approximately and \$8,000. There were no conversions of Series B Preferred into Common Stock during the year ended December 31, 2019 and 2018. The Company paid dividends of approximately \$51,000 to the holders of our Series B Preferred during the twelve months ended December 31, 2019 and December 31, 2018.

Common Stock

On February 8, 2018, the Company filed with the Secretary of the State of Delaware a Certificate of Amendment to its Certificate of Incorporation, as amended, to increase the authorized number of shares of its Common Stock to from 150,000,000 shares to 175,000,000 shares.

The following table summarizes outstanding Common Stock activity for the following periods:

	Common Stock
Shares outstanding at December 31, 2017	94,167,836
Shares issued pursuant to payment of stock dividend on Series A Preferred	3,074,008
Shares issued as payment of stock dividend on Series C Preferred	354,632
Shares issued pursuant to conversion of Series A Preferred	391,304
Shares issued pursuant to option exercises	235,852
Shares outstanding at December 31, 2018	<u>98,223,632</u>
Shares issued pursuant to payment of stock dividend on Series A Preferred	6,959,523
Shares issued as payment of stock dividend on Series C Preferred	1,857,438
Shares issued for cash	5,954,545
Shares issued pursuant to option exercises	351,334
Shares outstanding at December 31, 2019	<u>113,346,472</u>

Warrants

As of December 31, 2019, warrants to purchase 1,733,856 shares of Common Stock at prices ranging from \$0.01 to \$1.46 were outstanding. All warrants are exercisable as of December 31, 2019 and expire as of July 29, 2020, except for an aggregate of 1,643,856 warrants, which become exercisable only upon the attainment of specified events. Such warrants expire at various dates through September 2028. The intrinsic value of warrants outstanding at December 31, 2019 was \$0. The Company has excluded from this computation any intrinsic value of the 1,493,856 warrants issued to the Series A Preferred stockholders due to the conversion exercise contingency more fully described above.

During the year ended December 31, 2018, the Company issued an aggregate of 40,000 warrants to certain members of the Company's advisory board. The Company determined the grant date fair value of these warrants using the Black-Scholes option valuation model and recorded approximately \$9,000 in expense for the year ended December 31, 2018. The Company used the following assumptions in the application of the Black-Scholes option valuation model: an exercise price ranging between \$1.09 and \$1.17, a term of 2.0 years, a risk-free interest rate of 2.58%, a dividend yield of 0% and volatility of 59%. Such expense is recorded in the Company's consolidated statement of operations as a component of general and administrative expense. The Company also issued, during the year ended December 31, 2018, an aggregate of 50,000 warrants to a certain professional services provider firm. The Company determined the grant date fair value of these warrants using the Black-Scholes option valuation model and recorded approximately \$17,000 in expense for the year ended December 31, 2018. The Company used the following assumptions in the application of the Black-Scholes option valuation model: an exercise price of \$1.14, a term of 2.0 years, a risk-free interest rate of 2.58%, a dividend yield of 0% and volatility of 51%. Such expense is recorded in the Company's consolidated statement of operations as a component of general and administrative expense.

The following table summarizes warrant activity for the following periods:

	<u>Warrants</u>	<u>Weighted-Average Exercise Price</u>
Balance at December 31, 2017	230,000	\$ 0.91
Granted	1,583,856	\$ 0.08
Expired / Canceled	—	\$ —
Exercised	—	\$ —
Balance at December 31, 2018	1,813,856	\$ 0.19
Granted	—	
Expired / Canceled	(80,000)	\$ 1.13
Exercised	—	
Balance at December 31, 2019	1,733,856	\$ 0.14

There were no warrants issued or exercised during the twelve months ended December 31, 2019 and 80,000 warrants expired unexercised during the 2019 year.

14. STOCK-BASED COMPENSATION

Stock Options

As of December 31, 2019, the Company had one active stock-based compensation plan: the 1999 Stock Option Plan (the “1999 Plan”).

1999 Plan

The Company’s 1999 Stock Award Plan (the “1999 Plan”) was adopted by the Company’s Board of Directors on December 17, 1999. Under the terms of the 1999 Plan, the Company could, originally, issue up to 350,000 non-qualified or incentive stock options to purchase Common Stock of the Company. During the year ended December 31, 2014, the Company subsequently amended and restated the 1999 Plan, whereby it increased the share reserve for issuance to approximately 7.0 million shares of the Company’s Common Stock. Subsequently, in February 2018, the Company amended and restated the 1999 Plan, whereby it increased the share reserve for issuance by an additional 2.0 million shares. The 1999 Plan prohibits the grant of stock option or stock appreciation right awards with an exercise price less than fair market value of Common Stock on the date of grant. The 1999 Plan also generally prohibits the “re-pricing” of stock options or stock appreciation rights, although awards may be bought-out for a payment in cash or the Company’s stock. The 1999 Plan permits the grant of stock-based awards other than stock options, including the grant of “full value” awards such as restricted stock, stock units and performance shares. The 1999 Plan permits the qualification of awards under the plan (payable in either stock or cash) as “performance-based compensation” within the meaning of Section 162(m) of the Revenue Code. The number of options issued and outstanding and the number of options remaining available for future issuance are shown in the table below. The number of authorized shares available for issuance under the plan at December 31, 2019 was 401,919.

The Company estimates the fair value of its stock options using a Black-Scholes option-pricing model, consistent with the provisions of ASC 718, “Compensation – Stock Compensation”. The fair value of stock options granted is recognized to expense over the requisite service period. Stock-based compensation expense for all share-based payment awards is recognized using the straight-line single-option method. Stock-based compensation expense is reported in operating expense based upon the departments to which substantially all the associated employees report and credited to additional paid-in-capital. Stock-based compensation expense related to equity options was approximately \$643,000 and \$1,272,000 for the years ended December 31, 2019 and 2018, respectively.

ASC 718 requires the use of a valuation model to calculate the fair value of stock-based awards. The Company has elected to use the Black-Scholes option-pricing model, which incorporates various assumptions including volatility, expected life, and interest rates. The Company is required to make various assumptions in the application of the Black-Scholes option-pricing model. The Company has determined that the best measure of expected volatility is based on the historical weekly volatility of the Company's Common Stock. Historical volatility factors utilized in the Company's Black-Scholes computations for options granted during the years ended December 31, 2019 and 2018 ranged from 64% to 57%. The Company has elected to estimate the expected life of an award based upon the SEC approved "simplified method" noted under the provisions of Staff Accounting Bulletin Topic 14. The expected term used by the Company during the years ended December 31, 2019 and 2018 was 5.17 years. The difference between the actual historical expected life and the simplified method was immaterial. The interest rate used is the risk-free interest rate and is based upon U.S. Treasury rates appropriate for the expected term. Interest rates used in the Company's Black-Scholes calculations for the years ended December 31, 2019 and 2018 averaged 2.58%. Dividend yield is zero as the Company does not expect to declare any dividends on the Company's common shares in the foreseeable future.

In addition to the key assumptions used in the Black-Scholes model, the estimated forfeiture rate at the time of valuation is a critical assumption. The Company has adopted the provisions of ASU 2016-09 and will continue to use an estimated annualized forfeiture rate of approximately 0% for corporate officers, 4.1% for members of the Board of Directors and 6.0% for all other employees. The Company reviews the expected forfeiture rate annually to determine if that percent is still reasonable based on historical experience.

A summary of the activity under the Company's stock option plans is as follows:

	Options	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term (Years)
Balance at December 31, 2017	6,093,512	\$ 1.23	5.8
Granted	1,545,500	\$ 1.67	—
Expired/Cancelled	(175,912)	\$ 1.33	—
Exercised	(235,852)	\$ 0.70	—
Balance at December 31, 2018	7,227,248	\$ 1.4	5.8
Granted	750,000	\$ 0.89	--
Expired/Cancelled	(421,242)	\$ 1.52	--
Exercised	(351,334)	\$ 0.47	--
Balance at December 31, 2019	7,204,672	\$ 1.32	5.3

At December 31, 2019, a total of 7,204,672 options were outstanding, of which 6,004,187 were exercisable at a weighted average price of \$1.35 per share with a remaining weighted average contractual term of 4.6 years. The Company expects that, in addition to the 6,004,187 options that were exercisable as of December 31, 2019, another 1,200,485 will ultimately vest resulting in a combined total of 7,204,672. Those 7,204,672 shares have a weighted average exercise price of \$1.32 and an aggregate intrinsic value of approximately \$1,000 as of December 31, 2019. Stock-based compensation expense related to equity options was approximately \$643,000 and \$1,272,000 for the years ended December 31, 2019 and 2018, respectively.

The weighted-average grant-date fair value per share of options granted to employees during the years ended December 31, 2019 and 2018 was \$0.47 and \$0.94, respectively. At December 31, 2019, the total remaining unrecognized compensation cost related to unvested stock options amounted to approximately \$683,000, which will be amortized over the weighted-average remaining requisite service period of 1.7 years.

During the year ended December 31, 2019, there were 351,334 options exercised for cash resulting in the issuance of 351,334 shares of the Company's Common Stock and proceeds of approximately \$166,000. During the year ended December 31, 2018, there were 235,852 options exercised for cash resulting in the issuance of 235,852 shares of the Company's Common Stock and proceeds of approximately \$164,000.

The intrinsic value of options exercised during the years ended December 31, 2019 and 2018 was approximately \$222,000 and \$175,000, respectively. The intrinsic value of options exercisable at December 31, 2019 and 2018 was approximately \$0 and \$248,000, respectively. The intrinsic value of options that vested during 2019 was approximately \$0. The aggregate intrinsic value for all options outstanding as of December 31, 2019 and 2018 was approximately \$1,000 and \$248,000, respectively.

In January 2018, the Company issued an aggregate of 324,000 options to purchase shares of the Company's Common Stock to certain members of the Company's Board of Directors in return for their service on the Board from January 1, 2018 through December 31, 2018. Such options vest at the rate of 27,000 options per month on the last day of each month during the 2018 year. The options have an exercise price of \$1.75 per share and a term of 10 years. Pursuant to this issuance, the Company recorded compensation expense of approximately \$320,000 during the year ended December 31, 2018 based on the grant-date fair value of the options determined using the Black-Scholes option-valuation model.

Stock-based Compensation

Stock-based compensation related to equity options has been classified as follows in the accompanying consolidated statements of operations (in thousands):

	Year Ended December 31,	
	2019	2018
Cost of revenue	\$ 13	\$ 19
General and administrative	347	840
Sales and marketing	148	216
Research and development	135	197
Total	\$ 643	\$ 1,272

Common Stock Reserved for Future Issuance

The following table summarizes the Common Stock reserved for future issuance as of December 31, 2019:

	Common Stock
Convertible preferred stock – Series A, Series B and Series C	42,626,029
Stock options outstanding	7,204,672
Warrants outstanding	1,733,856
Authorized for future grant under stock option plans	401,919

15. EMPLOYEE BENEFIT PLAN

During 1995, the Company adopted a defined contribution 401(k) retirement plan (the "Plan"). All U.S. based employees aged 21 years and older are eligible to become participants after the completion of 60 day's employment. The Plan provides for annual contributions by the Company of 50% of employee contributions not to exceed 8% of employee compensation. Effective April 1, 2009, the Plan was amended to provide for Company contributions on a discretionary basis. Participants may contribute up to 100% of the annual contribution limitations determined by the Internal Revenue Service.

Employees are fully vested in their share of the Company's contributions after the completion of five years of service. In 2018, the Company authorized contributions of approximately \$166,000 for the 2018 plan year of which \$128,000 were paid prior to December 31, 2018. In 2019, the Company authorized contributions of approximately \$184,000 for the 2019 plan year of which \$138,000 were paid prior to December 31, 2019.

16. PENSION PLAN

One of the Company's dormant foreign subsidiaries maintains a defined benefit pension plan that provides benefits based on length of service and final average earnings. The following table sets forth the benefit obligation, fair value of plan assets, and the funded status of the Company's plan; amounts recognized in the Company's consolidated financial statements; and the assumptions used in determining the actuarial present value of the benefit obligations as of December 31:

(\$ in thousands)	2019	2018
Change in benefit obligation:		
Benefit obligation at beginning of year	\$ 3,610	\$ 3,830
Service cost	—	—
Interest cost	70	72
Actuarial (gain) loss	436	(34)
Effect of exchange rate changes	(67)	(174)
Effect of curtailment	—	—
Benefits paid	(80)	(84)
Benefit obligation at end of year	3,969	3,610

Change in plan assets:		
Fair value of plan assets at beginning of year	1,734	1,806
Actual return of plan assets	80	82
Company contributions	12	13
Benefits paid	(80)	(84)
Effect of exchange rate changes	(33)	(83)
Fair value of plan assets at end of year	1,713	1,734
Funded status	(2,256)	(1,876)
Unrecognized actuarial loss (gain)	1,778	1,542
Unrecognized prior service (benefit) cost	—	—
Additional minimum liability	(1,778)	(1,542)
Unrecognized transition (asset) liability	—	—
Net amount recognized	\$ (2,256)	\$ (1,876)

Components of net periodic benefit cost are as follows:

Service cost	\$ —	\$ —
Interest cost on projected benefit obligations	70	72
Expected return on plan assets	(53)	(56)
Amortization of prior service costs	—	—
Amortization of actuarial loss	92	102
Net periodic benefit costs	\$ 109	\$ 118

The weighted average assumptions used to determine net periodic benefit cost for the years ended December 31, were

Discount rate	1.3%	2.0%
Expected return on plan assets	3.2%	3.2%
Rate of pension increases	2.0%	2.0%
Rate of compensation increase	N/A	N/A

The following discloses information about the Company's defined benefit pension plan that had an accumulated benefit obligation in excess of plan assets as of December 31,

Projected benefit obligation	\$ 3,969	\$ 3,610
Accumulated benefit obligation	\$ 3,969	\$ 3,610
Fair value of plan assets	\$ 1,713	\$ 1,734

As of December 31, 2019, the following benefit payments are expected to be paid as follows (in thousands):

2020	\$	81
2021	\$	95
2022	\$	97
2023	\$	103
2024	\$	122
2025 — 2029	\$	687

The Company made contributions to the plan of approximately \$12,000 during the year ended December 31, 2019, and \$13,000 during the year ended December 31, 2018. The company anticipates making contributions at similar levels during the next fiscal year.

In accordance with the Company's adoption of ASU 2017-07, the components of net periodic pension expense is shown in the Company's Consolidated Statement of Operations for the years ended December 31, 2019 and 2018 under "Other components of net periodic pension expense".

The measurement date used to determine the benefit information of the plan was January 1, 2020.

17. ACCUMULATED OTHER COMPREHENSIVE LOSS

Accumulated other comprehensive loss is the combination of the additional minimum liability related to the Company's defined benefit pension plan, recognized pursuant to ASC 715-30, "*Compensation - Retirement Benefits - Defined Benefit Plans – Pension*" and the accumulated gains or losses from foreign currency translation adjustments. The Company translates foreign currencies of its German, Canadian and Mexican subsidiaries into U.S. dollars using the period end exchange rate. Revenue and expense were translated using the weighted-average exchange rates for the reporting period. All items are shown net of tax.

As of December 31, 2019 and 2018, the components of accumulated other comprehensive loss were as follows:

(\$ in thousands)	<u>2019</u>	<u>2018</u>
Additional minimum pension liability	\$ (1,456)	\$ (1,144)
Foreign currency translation adjustment	(285)	(284)
Ending balance	<u>\$ (1,741)</u>	<u>\$ (1,428)</u>

18. SUBSEQUENT EVENTS

CARES Act

On March 27, 2020, President Trump signed the CARES Act which, among other things, includes provisions relating to refundable payroll tax credits, deferment of employer side social security payments, net operating loss carryback periods, alternative minimum tax credit refunds, modifications to the net interest deduction limitations, increased limitations on qualified charitable contributions and technical corrections to tax depreciation methods for qualified improvement property.

The Company continues to examine the impact that the CARES Act may have on our business. Currently the Company is unable to determine the impact that the CARES Act will have on our financial condition, results of operation or liquidity.

Financing and liquidity developments

On February 12, 2020, the Company entered into a factoring agreement with a member of the Company's Board of Directors for \$350,000. Such amount was to be repaid with the proceeds from certain of the Company's trade accounts receivable approximating \$500,000 and was due no later than 21 days after February 12, 2020. As of May 15, 2020, despite collection of the Company's trade accounts receivable, \$315,000 of such amounts have not been repaid and the Company is seeking an extension from the Board member.

In April 2020, the Company received an aggregate amount of \$550,000 from two members of the Company's Board of Directors. Terms of repayment are currently being negotiated between the Company and Board Members.

On February 20, 2020, the Company entered into a securities purchase agreement (the "*Triton Purchase Agreement*") with Triton Funds LP, (a Delaware limited partnership ("*Triton*" or the "*Investor*"), which Triton Purchase Agreement provides the Company the right to sell to Triton, and Triton is obligated to purchase, up to \$2.0 million worth of shares of the Company's Common Stock under the Triton Purchase Agreement (the "*Offering*"). Pursuant to the terms and conditions set forth in the Triton Purchase Agreement, the purchase price of the Common Stock will be based on the number of shares of Common Stock equal to the amount in U.S. Dollars that the Company intends to sell to the Investor to be set forth in each written notice sent to the Investor by the Company (the "*Purchase Notice*") and delivered to the Investor (the "*Purchase Notice Amount*"), divided by the lowest daily volume weighted average price of the Company's Common stock listed on the OTC Markets during the five business days prior to closing (the "*Purchased Shares*"). The Closing of the purchase of the Purchased Shares as set forth in the Purchase Notice will occur no later than three business days following receipt of the Purchased Shares by the Investor.

The Offering was made pursuant to an effective registration statement on Form S-3, as previously filed with the SEC on July 10, 2018, and a related prospectus supplement filed on February 21, 2020. The Offering will terminate upon the earlier date of either (i) that date which the Investor has purchased an aggregate of \$2.0 million in Purchased Shares pursuant to the Purchase Agreement; or (i) March 31, 2020. The Company intends to use the proceeds from the Offering for general working capital purposes.

On April 29, 2020, the Company closed on the offer and sale to Triton of 6.0 million shares of Common Stock resulting in gross proceeds to the Company of \$765,000, or a per share purchase price of \$0.13 per share. The offering follows the offer and sale to Triton of 4.0 million shares of Common Stock for \$0.16 per share, which offering closed on March 10, 2020, resulting in gross proceeds to the Company of \$640,000.

On April 28, 2020 (the "*Execution Date*"), the "Company" entered into a purchase agreement, dated as of the Execution Date (the "*Purchase Agreement*"), and a registration rights agreement, dated as of the Execution Date (the "*Registration Rights Agreement*"), with Lincoln Park Capital Fund, LLC ("*Lincoln Park*"), pursuant to which Lincoln Park has committed to purchase up to \$10,250,000 of the Company's Common Stock.

Under the terms and subject to the conditions of the Purchase Agreement, including stockholder approval of an amendment to the Company's Certificate of Incorporation to increase the number of shares of the Company's capital stock to 350 million shares, the Company has the right, but not the obligation, to sell to Lincoln Park, and Lincoln Park is obligated to purchase up to \$10,250,000 worth of shares of Common Stock. Such sales of Common Stock by the Company, if any, will be subject to certain limitations, and may occur from time to time, at the Company's sole discretion, over the 24-month period commencing on the date that a registration statement covering the resale of shares of Common Stock that have been and may be issued under the Purchase Agreement, which the Company agreed to file with the Securities and Exchange Commission (the "*SEC*") pursuant to the Registration Rights Agreement, is declared effective by the SEC and a final prospectus in connection therewith is filed and the other conditions set forth in the Purchase Agreement are satisfied, all of which are outside the control of Lincoln Park (such date on which all of such conditions are satisfied, the "*Commencement Date*"). The Company has 30 business days to file the registration statement from the Execution Date.

Under the Purchase Agreement, on any business day over the term of the Purchase Agreement, the Company has the right, in its sole discretion, to present Lincoln Park with a purchase notice (each, a "*Purchase Notice*") directing Lincoln Park to purchase up to 125,000 shares of Common Stock per business day, which increases to up to 425,000 shares in the event the price of the Company's Common Stock is not below \$0.55 per share (the "*Regular Purchase*") (subject to adjustment for any reorganization, recapitalization, non-cash dividend, stock split, reverse stock split or other similar transaction as provided in the Purchase Agreement). In each case, Lincoln Park's maximum commitment in any single Regular Purchase may not exceed \$500,000. The Purchase Agreement provides for a purchase price per Purchase Share (the "*Purchase Price*") equal to the lesser of:

- the lowest sale price of the Company's Common Stock on the purchase date; and
- the average of the three lowest closing sale prices for the Company's Common Stock during the fifteen consecutive business days ending on the business day immediately preceding the purchase date of such shares.

In addition, on any date on which the Company submits a Purchase Notice to Lincoln Park, the Company also has the right, in its sole discretion, to present Lincoln Park with an accelerated purchase notice (each, an "*Accelerated Purchase Notice*") directing Lincoln Park to purchase an amount of stock (the "*Accelerated Purchase*") equal to up to the lesser of (i) three times the number of shares of Common Stock purchased pursuant to such Regular Purchase; and (ii) 30% of the aggregate shares of the Company's Common Stock traded during all or, if certain trading volume or market price thresholds specified in the Purchase Agreement are crossed on the applicable Accelerated Purchase Date, the portion of the normal trading hours on the applicable Accelerated Purchase Date prior to such time that any one of such thresholds is crossed (such period of time on the applicable Accelerated Purchase Date, the "*Accelerated Purchase Measurement Period*"), provided that Lincoln Park will not be required to buy shares of Common Stock pursuant to an Accelerated Purchase Notice that was received by Lincoln Park on any business day on which the last closing trade price of the Company's Common Stock on the OTC Markets (or alternative national exchange in accordance with the Purchase Agreement) is below \$0.25 per share. The purchase price per share of Common Stock for each such Accelerated Purchase will be equal to the lesser of:

- 95% of the volume weighted average price of the Company's Common Stock during the applicable Accelerated Purchase Measurement Period on the applicable Accelerated Purchase Date; and
- the closing sale price of the Company's Common Stock on the applicable Accelerated Purchase Date.

The Company may also direct Lincoln Park on any business day on which an Accelerated Purchase has been completed and all of the shares to be purchased thereunder have been properly delivered to Lincoln Park in accordance with the Purchase Agreement, to purchase an amount of stock (the "*Additional Accelerated Purchase*") equal to up to the lesser of (i) three times the number of shares purchased pursuant to such Regular Purchase; and (ii) 30% of the aggregate number of shares of the Company's Common Stock traded during a certain portion of the normal trading hours on the applicable Additional Accelerated Purchase date as determined in accordance with the Purchase Agreement (such period of time on the applicable Additional Accelerated Purchase date, the "*Additional Accelerated Purchase Measurement Period*"), provided that the closing price of the Company's Common Stock on the business day immediately preceding such business day is not below \$0.25 (subject to adjustment for any reorganization, recapitalization, non-cash dividend, stock split, reverse stock split or other similar transaction as provided in the Purchase Agreement). Additional Accelerated Purchases will be equal to the lower of:

- 95% of the volume weighted average price of the Company's Common Stock during the applicable Additional Accelerated Purchase Measurement Period on the applicable Additional Accelerated Purchase date; and
- the closing sale price of the Company's Common Stock on the applicable Additional Accelerated Purchase date.

The aggregate number of shares that the Company can sell to Lincoln Park under the Purchase Agreement may in no case exceed that number which, together with Lincoln Park's then current holdings of Common Stock, exceed 4.99% of the Common Stock outstanding immediately prior to the delivery of the Purchase Notice.

Lincoln Park has no right to require the Company to sell any shares of Common Stock to Lincoln Park, but Lincoln Park is obligated to make purchases as the Company directs, subject to certain conditions. There are no upper limits on the price per share that Lincoln Park must pay for shares of Common Stock.

The Company has agreed with Lincoln Park that it will not enter into any "variable rate" transactions with any third party for a period defined in the Purchase Agreement.

The Company issued to Lincoln Park 2,500,000 shares of Common Stock as commitment shares in consideration for entering into the Purchase Agreement on the Execution Date.

The Purchase Agreement and the Registration Rights Agreement contain customary representations, warranties, agreements and conditions to completing future sale transactions, indemnification rights and obligations of the parties. The Company has the right to terminate the Purchase Agreement at any time, at no cost or penalty, subject to the survival of certain provisions set forth in the Purchase Agreement. During any "event of default" under the Purchase Agreement, all of which are outside of Lincoln Park's control, Lincoln Park does not have the right to terminate the Purchase Agreement; however, the Company may not initiate any regular or other purchase of shares by Lincoln Park, until such event of default is cured. In addition, in the event of bankruptcy proceedings by or against the Company, the Purchase Agreement will automatically terminate.

Actual sales of shares of Common Stock to Lincoln Park under the Purchase Agreement will depend on a variety of factors to be determined by the Company from time to time, including, among others, market conditions, the trading price of the Common Stock and determinations by the Company as to the appropriate sources of funding for the Company and its operations. Lincoln Park has no right to require any sales by the Company but is obligated to make purchases from the Company as it directs in accordance with the Purchase Agreement. Lincoln Park has covenanted not to cause or engage in any manner whatsoever, any direct or indirect short selling or hedging of the Company's shares.

In connection with the execution of the Purchase Agreement, the Company sold, and Lincoln Park purchased, 1.0 million shares of Common Stock for a purchase price of \$100,000 ("*Original Purchase*").

On May 4, 2020, the Company entered into a loan agreement (“PPP Loan”) with Comerica Bank (“Comerica”) under the Paycheck Protection Program (the “PPP”), which is part of the CARES Act administered by the United States Small Business Administration (“SBA”). As part of the application for these funds, the Company in good faith, has certified that the current economic uncertainty made the loan request necessary to support the ongoing operations of the Company. This certification further requires the Company to take into account our current business activity and our ability to access other sources of liquidity sufficient to support ongoing operations in a manner that is not significantly detrimental to the business. Under this program, the Company received proceeds of approximately \$1,571,000, from the PPP Loan. In accordance with the requirements of the PPP, the Company intends to use proceeds from the PPP Loan primarily for payroll costs, rent and utilities. The PPP Loan has a 1.00% interest rate per annum, matures on May 4, 2022 and is subject to the terms and conditions applicable to loans administered by the SBA under the PPP. Under the terms of PPP, all or certain amounts of the PPP Loan may be forgiven if they are used for qualifying expenses as described in the CARES Act, which the Company continues to evaluate.

Organizational Developments

On February 26, 2020, the Company announced the appointment of Kristin Taylor as President and Chief Executive Officer of the Company, effective March 2, 2020. Ms. Taylor replaced S. James Miller, Jr. who resigned as Chief Executive Officer of the Company effective March 2, 2020 but will remain as Executive Chair of the Board of Directors.

The Company and Ms. Taylor entered into an employment agreement effective April 20, 2020. A copy of the employment contract that sets forth Ms. Taylor’s base compensation, equity compensation and termination provisions was filed with the SEC on April 15, 2020 on Form 8-K.

On April 1, 2020, John Cronin resigned from his position as a member of the Board of Directors of the Company. Mr. Cronin indicated that his resignation from the Board of Directors was not the result of any disagreements with respect to the Company’s operations, policies, or practices. Mr. Cronin will continue his work with the Company on intellectual property matters, including intellectual property monetization.

The Company announced the appointment of Jonathan D. Morris as Senior Vice President and Chief Financial Officer effective May 1, 2020. A copy of the press release announcing Mr. Morris’ appointment was filed with the SEC on May 6, 2020 on Form 8-K.

In April 2020, the Company issued 506,250 shares of its Common Stock to certain terminated employees as part of such employees’ severance in exchange for 1,012,500 outstanding options held by such employees. Such shares of stock vested immediately.

COVID-19

In March 2020, the World Health Organization declared COVID-19 a global pandemic. This contagious disease outbreak, which has continued to spread, has adversely affected workforces, customers, economies, and financial markets globally. It has also disrupted the normal operations of many businesses. This outbreak could decrease spending, adversely affect demand for the Company’s products, and harm the Company’s business and results of operations. It is not possible for the Company to predict the duration or magnitude of the adverse results of the outbreak and its effects on the Company’s business or results of operations, financial condition, or liquidity, at this time.

8,200,000 Shares

Common Stock



PROSPECTUS

We have not authorized any dealer, salesperson or other person to give any information or to make any representations not contained in this prospectus. You must not rely on any unauthorized information. This prospectus is not an offer to sell these securities in any jurisdiction where an offer or sale is not permitted.

, 2020

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 13. Other Expenses of Issuance and Distribution.

The following table indicates the expenses to be incurred in connection with the offering described in this registration statement, other than underwriting discounts and commissions, all of which will be paid by us. All amounts are estimated except the Securities and Exchange Commission registration fee.

	<u>Amount</u>
SEC Registration Fee	\$
Legal Fees and Expenses	
Accounting Fees and Expenses	
Transfer Agent and Registrar fees and expenses	
Miscellaneous Expenses	
Total expenses	<u>\$</u>

Item 14. Indemnification of Directors and Officers.

Our Certificate of Incorporation, as amended (“*Charter*”) and bylaws contain provisions relating to the limitation of liability and indemnification of directors and officers. Our Charter provides that a director will not be personally liable to us or our stockholders for monetary damages for breach of fiduciary duty as a director, except for liability:

- for any breach of the director’s duty of loyalty to us or our stockholders;
- for acts or omissions not in good faith or that involve intentional misconduct or a knowing violation of law;
- under Section 174 of the Delaware General Corporation Law (the “*DGCL*”); or
- for any transaction from which the director derived any improper personal benefit.

Our Charter also provides that if the DGCL is amended to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of our directors will be eliminated or limited to the fullest extent permitted by the DGCL.

Our bylaws provide that we will indemnify our directors and officers to the fullest extent not prohibited by the DGCL; *provided, however*, that we may limit the extent of such indemnification by individual contracts with our directors and executive officers; and provided, further, that we are not required to indemnify any director or executive officer in connection with any proceeding (or part thereof) initiated by such person or any proceeding by such person against us or our directors, officers, employees or other agents unless:

- such indemnification is expressly required to be made by law;
- the proceeding was authorized by the Board of Directors; or
- such indemnification is provided by us, in our sole discretion, pursuant to the powers vested in us under the DGCL.

Our bylaws provide that we shall advance, prior to the final disposition of any proceeding, promptly following request therefor, all expenses by any director or executive officer in connection with any such proceeding upon receipt of any undertaking by or on behalf of such person to repay said amounts if it should be determined ultimately that such person is not entitled to be indemnified under Article 8 of our bylaws or otherwise. Notwithstanding the foregoing, unless otherwise determined, no advance shall be made by us if a determination is reasonably and promptly made by the Board of Directors by a majority vote of a quorum of directors who were not parties to the proceeding, or if such a quorum is not obtainable, or even if obtainable, a quorum of disinterested directors so directs, by independent legal counsel in a written opinion, that the facts known to the decision-making party at the time such determination is made demonstrate clearly and convincingly that such person acted in bad faith or in a manner that such person did not believe to be in or not opposed to our best interests.

Our bylaws also authorize us to purchase insurance on behalf of any person required or permitted to be indemnified pursuant to Article 8 of our bylaws.

Section 145(a) of the DGCL authorizes a corporation to indemnify any person who was or is a party, or is threatened to be made a party, to a threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of the corporation), by reason of the fact that the person is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by the person in connection with such action, suit or proceeding, if the person acted in good faith and in a manner the person reasonably believed to be in, or not opposed to, the best interests of the corporation and, with respect to any criminal action or proceeding, had no reasonable cause to believe the person's conduct was unlawful.

Section 145(b) of the DGCL provides in relevant part that a corporation may indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action or suit by or in the right of the corporation to procure a judgment in its favor by reason of the fact that the person is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against expenses (including attorneys' fees) actually and reasonably incurred by the person in connection with the defense or settlement of such action or suit if the person acted in good faith and in a manner the person reasonably believed to be in or not opposed to the best interests of the corporation and except that no indemnification shall be made in respect of any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that the Court of Chancery or the court in which such action or suit was brought shall determine upon application that, despite the adjudication of liability but in view of all the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which the Court of Chancery or such other court shall deem proper.

The DGCL also provides that indemnification under Section 145(d) can only be made upon a determination that indemnification of the present or former director, officer or employee or agent is proper in the circumstances because such person has met the applicable standard of conduct set forth in Section 145(a) and (b).

Section 145(g) of the DGCL also empowers a corporation to purchase and maintain insurance on behalf of any person who is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against any liability asserted against such person and incurred by such person in any such capacity, or arising out of such person's status as such, whether or not the corporation would have the power to indemnify such person against such liability under Section 145 of the DGCL.

Section 102(b)(7) of the DGCL permits a corporation to provide for eliminating or limiting the personal liability of one of its directors for any monetary damages related to a breach of fiduciary duty as a director, as long as the corporation does not eliminate or limit the liability of a director for acts or omissions which (1) which breached the director's duty of loyalty to the corporation or its stockholders, (2) which were not in good faith or which involve intentional misconduct or knowing violation of law, (3) under Section 174 of the DGCL; or (4) from which the director derived an improper personal benefit.

We have obtained directors' and officers' insurance to cover our directors and officers for certain liabilities.

Item 15. Recent Sales of Unregistered Securities

Set forth below is information regarding all securities sold by us within the last three years which were not registered under the Securities Act. Also included is the consideration received by us for such securities and information relating to the section of the Securities Act, or rule of the SEC, under which exemption from registration was claimed.

On September 18, 2017, we entered into Exchange Agreements with holders of all outstanding shares of Series E Preferred, all outstanding shares of Series F Preferred and all outstanding shares of Series G Preferred, pursuant to which we cancelled their respective shares of preferred stock in exchange for the same number of shares of Series A Preferred. As a result, we issued to the holders an aggregate of 20,021 shares of Series A Preferred.

In September 2018, we sold and issued an aggregate of 1,000 shares of our Series C Preferred at a price of \$10,000 per share to certain accredited investors in private placement transactions, resulting in gross proceeds of approximately \$10.0 million. In addition, we agreed to file a registration statement to register the shares of Common Stock issuable upon the conversion of the shares of Series C Preferred as well as those shares of Common Stock issuable as payment of accrued dividends on shares of Series C Preferred purchased by the accredited investors.

On September 10, 2018, we entered into Exchange Agreements with Neal Goldman and Charles Crocker, pursuant to which Messrs. Goldman and Crocker exchanged approximately \$6.3 million and \$0.6 million, respectively, of outstanding debt (including accrued and unpaid interest) owed under the terms of their respective lines of credit for the issuance of an aggregate of 6,896 shares of Series A Preferred.

On September 10, 2018, we granted warrants to purchase an aggregate of 1,493,856 shares of Common Stock with an exercise price of \$0.01 per share to all holders of our Series A Preferred as a special dividend. Holders of our Series A Preferred received warrants to purchase 39.87 shares of Common Stock for every share of Series A Preferred held. Each warrant was exercisable immediately upon issuance; *provided, however*, that the warrants may only be exercised concurrently with the conversion of shares of Series A Preferred held by the holders into shares of Common Stock. In addition, each warrant expires on the earliest to occur of (i) the conversion of all Series A Preferred held by the holders into Common Stock, (ii) our redemption of all outstanding shares of Series A Preferred held by the holders, (iii) the warrant no longer representing the right to purchase any shares of Common Stock, and (iv) the tenth anniversary of the date of issuance.

We believe that each of the offers, sales and issuances of securities described in Item 15 were exempt from registration under the Securities Act pursuant to Regulation D under the Securities Act or pursuant to Section 4(a)(2) of the Securities Act regarding transactions not involving a public offering. The recipients of securities in each of these transactions represented their intention to acquire the securities for investment only and not with a view to or for sale in connection with any distribution thereof and appropriate legends were affixed to the stock certificates and instruments issued in such transactions. All recipients had adequate access, through their relationships with us, to information about us.

Item 16. Exhibits and Financial Statement Schedules

(a) *Exhibits.* The following exhibits included in the Exhibit Index are incorporated by reference to this registration statement.

(b) *Financial Statements.* See page F-1 for an index of the financial statements included in the Registration Statement.

Exhibit Index

Exhibit No.	Description
2.1	Agreement and Plan of Merger, dated October 27, 2005 (incorporated by reference to Annex A to the Company's Definitive Proxy Statement on Schedule 14A, filed November 15, 2005).
3.1	Certificate of Incorporation (incorporated by reference to Annex B to the Company's Definitive Proxy Statement on Schedule 14A, filed November 15, 2005).
3.2	Certificate of Amendment to Certificate of Incorporation (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K, filed October 14, 2011).
3.3	Amended and Restated Bylaws (incorporated by reference to Exhibit 3.2 to the Company's Current Report on Form 8-K, filed February 16, 2017).
3.4	Certificate of Designations, Preferences and Rights of the Series E Convertible Preferred Stock (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K, filed February 2, 2015).
3.5	Certificate of Designations, Preferences and Rights of the Series F Convertible Preferred Stock (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K, filed September 9, 2016).
3.6	Certificate of Designations, Preferences and Rights of the Series G Convertible Preferred Stock (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K, filed December 30, 2016).
3.7	Amendment No. 1 to the Certificate of Designations, Preferences and Rights of the Series E Convertible Preferred Stock (incorporated by reference to Exhibit 3.2 to the Company's Current Report on Form 8-K, filed December 30, 2016).
3.8	Certificate of Designations, Preferences and Rights of the Series A Convertible Preferred Stock (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K, filed September 19, 2017).
3.9	Certificate of Elimination of the Series E Convertible Preferred Stock, Series F Convertible Preferred Stock and Series G Convertible Preferred Stock (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K, filed October 19, 2017).
3.10	Certificate of Amendment to Certificate of Incorporation (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K, filed February 13, 2018).
3.11	Certificate of Designations, Preferences, and Rights of Series C Convertible Preferred Stock (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K, filed September 13, 2018).
3.12	Amendment No. 1 to the Certificate of Designations, Preferences, and Rights of Series A Convertible Preferred Stock (incorporated by reference to Exhibit 3.2 to the Company's Current Report on Form 8-K, filed September 13, 2018).
4.1	Form of Amendment to Warrant, dated March 21, 2012, (incorporated by reference to Exhibit 4.16 to the Company's Annual Report on Form 10-K, filed April 4, 2012).
4.2	Form of Warrant, dated September 10, 2018 (incorporated by reference to Exhibit 3.3 to the Company's Current Report on Form 8-K, filed September 13, 2018).
5.1*	Opinion of Disclosure Law Group, a Professional Corporation
10.1	Employment Agreement, dated September 27, 2005, between the Company and S. James Miller (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K, filed September 30, 2005).
10.2	Form of Indemnification Agreement entered into by the Company with its directors and executive officers (incorporated by reference to Exhibit 10.4 to the Company's Registration Statement on Form SB-2 (No. 333-93131), filed December 20, 1999, as amended).
10.3	Amended and Restated 1999 Stock Plan Award (incorporated by reference to Appendix B of the Company's Definitive Proxy Statement on Schedule 14A, filed November 21, 2007).

10.4	Form of Stock Option Agreement (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K, filed July 14, 2005).
10.5	2001 Equity Incentive Plan (incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-QSB, filed November 14, 2001).
10.6	Securities Purchase Agreement, dated September 25, 2007, by and between the Company and certain accredited investors (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K, filed September 26, 2007).
10.7	Office Space Lease between I.W. Systems Canada Company and GE Canada Real Estate Equity, dated July 25, 2008 (incorporated by reference to Exhibit 10.39 to the Company's Annual Report on Form 10-K, filed February 24, 2010).
10.8	Form of Securities Purchase Agreement, dated August 29, 2008 by and between the Company and certain accredited investors (incorporated by reference to Exhibit 10.40 to the Company's Annual Report on Form 10-K, filed February 24, 2010).
10.9	Change of Control and Severance Benefits Agreement, dated September 27, 2008, between Company and Charles Aubuchon (incorporated by reference to Exhibit 10.41 to the Company's Annual Report on Form 10-K, filed February 24, 2010).
10.10	Change of Control and Severance Benefits Agreement, dated September 27, 2008, between Company and David Harding (incorporated by reference to Exhibit 10.42 to the Company's Annual Report on Form 10-K, filed February 24, 2010).
10.11	First Amendment to Employment Agreement, dated September 27, 2008, between the Company and S. James Miller (incorporated by reference to Exhibit 10.43 to the Company's Annual Report on Form 10-K, filed February 24, 2010).
10.12	Form of Convertible Note dated November 14, 2008 (incorporated by reference to Exhibit 10.45 to the Company's Annual Report on Form 10-K, filed February 24, 2010).
10.13	Second Amendment to Employment Agreement, dated April 6, 2009, between the Company and S. James Miller (incorporated by reference to Exhibit 10.50 to the Company's Annual Report on Form 10-K, filed February 24, 2010).
10.14	Office Space Lease between the Company and Allen W. Wooddell, dated July 25, 2008 (incorporated by reference to Exhibit 10.54 to the Company's Annual Report on Form 10-K, filed February 24, 2010).
10.15	Third Amendment to Employment Agreement, dated December 10, 2009, between the Company and S. James Miller (incorporated by reference to Exhibit 10.60 to the Company's Annual Report on Form 10-K, filed February 24, 2010).
10.16	Securities Purchase Agreement, dated December 12, 2011, by and between the Company and certain accredited investors (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K, filed December 21, 2011).
10.17	Note Exchange Agreement, dated December 12, 2011, by and between the Company and certain accredited investors (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K, filed December 21, 2011).
10.18	Fourth Amendment to Employment Agreement, dated March 10, 2011, between the Company and S. James Miller, (incorporated by reference to Exhibit 10.40 to the Company's Annual Report on Form 10-K, filed January 17, 2012).
10.19	Fifth Amendment to Employment Agreement, dated January 31, 2012, between the Company and S. James Miller, Jr., (incorporated by reference to Exhibit 10.44 to the Company's Annual Report on Form 10-K, filed April 4, 2012).
10.20	Employment Agreement, dated January 1, 2013, between the Company and Wayne Wetherell (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K, filed March 7, 2013).
10.21	Employment Agreement, dated January 1, 2013, between the Company and David Harding (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K, filed March 7, 2013).
10.22	Convertible Promissory Note dated March 27, 2013 issued by the Company to Neal Goldman (incorporated by reference to Exhibit 10.41 to the Company's Annual Report on Form 10-K, filed April 1, 2013).

10.23	Amendment to Convertible Promissory Note, dated March 12, 2014 (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K, filed March 13, 2014).
10.24	Note Exchange Agreement, dated January 29, 2015 (incorporated by reference to the Company's Current Report on Form 8-K, filed February 2, 2015).
10.25	Sixth Amendment to Employment Agreement, by and between S. James Miller and the Company, dated November 1, 2013 (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K, filed November 7, 2013).
10.26	Seventh Amendment to Employment Agreement, by and between S. James Miller, Jr. and the Company, dated January 9, 2015 (incorporated by reference to the Company's Current Report on Form 8-K, filed January 15, 2015).
10.27	Second Amendment to Employment Agreement, by and between Wayne Wetherell and the Company, dated January 9, 2015 (incorporated by reference to the Company's Current Report on Form 8-K, filed January 15, 2015).
10.28	Second Amendment to Employment Agreement, by and between David E. Harding and the Company, dated January 9, 2015 (incorporated by reference to the Company's Current Report on Form 8-K, filed January 15, 2015).
10.29	Amendment No. 3 to Convertible Promissory Note, dated December 8, 2014 (incorporated by reference to the Company's Current Report on Form 8-K, filed December 10, 2014).
10.30	Third Amendment to Employment Agreement, by and between Wayne Wetherell and the Company, dated December 14, 2015 (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K, filed December 21, 2015).
10.31	Third Amendment to Employment Agreement, by and between David E. Harding and the Company, dated December 14, 2015 (incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K, filed December 21, 2015).
10.32	Eighth Amendment to Employment Agreement, by and between S. James Miller and the Company, dated December 14, 2015 (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K, filed December 21, 2015).
10.33	Amendment No. 4 to Convertible Promissory Note, dated March 8, 2016 (incorporated by reference to the Company's Current Report on Form 8-K, filed March 10, 2017).
10.34	Convertible Promissory Note, dated March 9, 2016 (incorporated by reference to the Company's Current Report on Form 8-K, filed March 10, 2017).
10.35	Form of Securities Purchase Agreement, dated September 7, 2016 (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K, filed September 9, 2016).
10.36	Amendment No. 5 to Convertible Promissory Note, dated January 23, 2017 (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 10-K, filed January 26, 2017).
10.37	Form of Subscription Agreement for Series G Convertible Preferred Stock (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K, filed December 30, 2016).
10.38	Form of Exchange Agreement (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K, filed December 30, 2016).
10.39	Ninth Amendment to Employment Agreement, by and between James Miller, Jr. and the Company, dated October 20, 2016 (incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K, filed December 30, 2016).
10.40	Fourth Amendment to Employment Agreement, by and between Wayne Wetherell and the Company, dated October 20, 2016 (incorporated by reference to Exhibit 10.4 to the Company's Current Report on Form 8-K, filed December 30, 2016).
10.41	Fourth Amendment to Employment Agreement, by and between David E. Harding and the Company, dated October 20, 2016 (incorporated by reference to Exhibit 10.5 to the Company's Current Report on Form 8-K, dated December 30, 2016).
10.42	Amendment No. 2 to Convertible Promissory Note, dated May 10, 2017 (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q, filed May 12, 2017).
10.43	Amendment No. 6 to Convertible Promissory Note, dated May 10, 2017 (incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q, filed May 12, 2017).

[Table of Contents](#)

10.44	Form of Subscription Agreement for Series A Convertible Preferred Stock (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K, filed September 19, 2017).
10.45	Form of Exchange Agreement (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K, filed September 19, 2017).
10.46	Fifth Amendment to Employment Agreement, by and between David E. Harding and the Company, dated February 7, 2018 (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K, dated February 13, 2018).
10.47	Tenth Amendment to Employment Agreement, by and between James Miller, Jr. and the Company, dated February 8, 2018 (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K, dated February 13, 2018).
10.48	Form of Securities Purchase Agreement for Series C Convertible Preferred Stock (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K, filed September 13, 2018).
10.49	Form of Registration Rights Agreement (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K, filed September 13, 2018).
10.50	Placement Agency Agreement, by and between the Company and Northland Capital Markets (incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K, filed September 13, 2018).
10.51	Form of Exchange Agreement (incorporated by reference to Exhibit 10.4 to the Company's Current Report on Form 8-K, filed September 13, 2018).
10.52	Eleventh Amendment to Employment Agreement, by and between James Miller, Jr. and the Company, dated January 31, 2019 (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K, dated February 1, 2019).
10.53	Sixth Amendment to Employment Agreement, by and between David Harding and the Company, dated January 31, 2019 (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K, dated February 1, 2019).
10.54	Securities Purchase Agreement by and between the Company and Triton, dated February 20, 2020 (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K, dated February 27, 2020).
10.54	Purchase Agreement, by and between ImageWare Systems, Inc. and Lincoln Park Capital Fund, LLC, dated April 28, 2020 (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K, dated April 30, 2020).
10.55	Registration Rights Agreement, by and between ImageWare Systems, Inc. and Lincoln Park Capital Fund, LLC, dated April 28, 2020 (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K, dated April 30, 2020).
10.56	Note Payable Agreement by and between ImageWare Systems, Inc. and COMERICA BANK, dated April 30, 2020 (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K, dated May 11, 2020).
10.55	Purchase Agreement, by and between ImageWare Systems, Inc. and Lincoln Park Capital Fund, LLC, dated April 28, 2020 (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K, dated April 30, 2020).
10.56	Registration Rights Agreement, by and between ImageWare Systems, Inc. and Lincoln Park Capital Fund, LLC, dated April 28, 2020 (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K, dated April 30, 2020).
10.57	Note Payable Agreement by and between ImageWare Systems, Inc. and COMERICA BANK, dated April 30, 2020 (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K, dated May 11, 2020).
21.1	List of Subsidiaries (incorporated by reference to Exhibit 21.1 to the Company's Annual Report on Form 10-K filed February 24, 2010).
23.1	Consent of Disclosure Law Group, a Professional Corporation (included in Exhibit 5.1)
23.2	Consent of Independent Registered Public Accounting Firm – Mayer Hoffman McCann P.C., filed herewith .
24	Power of Attorney (located on signature page)

* To be filed by amendment.

Item 17. Undertakings

The undersigned registrant hereby undertakes to provide to the underwriters at the closing specified in the underwriting agreement certificates in such denominations and registered in such names as required by the underwriters to permit prompt delivery to each purchaser.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers, and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

(a) The undersigned registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

- (i) To include any prospectus required by Section 10(a)(3) of the Securities Act;
- (ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement;
- (iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

Provided, however, that Paragraphs (a)(1)(i), (a)(1)(ii) and (a)(1)(iii) of this section do not apply if the registration statement is on Form S-1 and the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the Registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(4) That, for the purpose of determining liability under the Securities Act to any purchaser:

- (i) Each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A, shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness. Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use.

(b) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to section 13(a) or section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(c) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the provisions referenced in Item 14 of this Registration Statement, or otherwise, the Registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer, or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered hereunder, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question of whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-1 and has duly caused this registration statement or amendment thereto to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of San Diego, State of California, on the 15th day of June, 2020.

ImageWare Systems, Inc.

Date: June 15, 2020

By: /s/ Kristin Taylor
Kristin Taylor
Chief Executive Officer
(Principal Executive Officer)

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Kristin Taylor as his or her true and lawful attorney-in-fact and agent, with full power of substitution and resubstitution, for him and in his or her name, place, and stead, in any and all capacities, to (i) act on, sign and file with the Securities and Exchange Commission any and all amendments (including post-effective amendments) to this registration statement together with all schedules and exhibits thereto and any subsequent registration statement filed pursuant to Rule 462(b) under the Securities Act of 1933, as amended, together with all schedules and exhibits thereto, (ii) act on, sign and file such certificates, instruments, agreements and other documents as may be necessary or appropriate in connection therewith, (iii) act on and file any supplement to any prospectus included in this registration statement or any such amendment or any subsequent registration statement filed pursuant to Rule 462(b) under the Securities Act of 1933, as amended, and (iv) take any and all actions which may be necessary or appropriate to be done, as fully for all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent, or his or her substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

Date: June 15, 2020

/s/ Kristin Taylor
Kristin Taylor
Chief Executive Officer
(Principal Executive Officer)

Date: June 15, 2020

/s/ Johnathan Morris
Jonathan Morris
Chief Financial Officer
(Principal Financial and Accounting Officer)

Date: June 15, 2020

/s/ S. James Miller, Jr.
S. James Miller, Jr.
Chairman of the Board

Date: June 15, 2020

/s/ David Carey
David Carey
Director

Date: June 15, 2020

/s/ Neal Goldman
Neal Goldman
Director

Date: June 15, 2020

/s/ Steve Hamm
Steve Hamm
Director

Date: June 15, 2020

/s/ Dana Kammersgard
Dana Kammersgard
Director

Date: June 15, 2020

/s/ David Loesch
David Loesch
Director

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the inclusion in this Registration Statement on Form S-1 and the related Prospectus, of our reports dated May 15, 2020, with respect to the consolidated financial statements of ImageWare Systems, Inc. (“Company”) as of December 31, 2019 and 2018 and for the two years then ended (which report includes explanatory paragraphs related to the change in the method of accounting for leases and the existence of substantial doubt about the Company’s ability to continue as a going concern) and the effectiveness of ImageWare Systems, Inc.’s internal control over financial reporting as of December 31, 2019. We also consent to the reference to our Firm under the heading “Experts” in the Prospectus, which is part of this Registration Statement.

/s/ Mayer Hoffman McCann P.C.

San Diego, California
June 15, 2020
