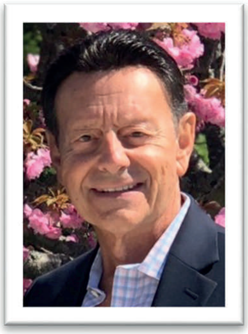
2019 ANNUAL REPORT



BIO-key International

Message from
The Chairman & CEO
Michael W. DePasquale

To our Stockholders,

BIO-key navigated a challenging and disappointing year from a revenue and cash flow standpoint in 2019, while laying the foundation for the transformation of our company to play a leadership role in biometric multifactor authentication and large scale identity access management programs that are emerging on an international basis, particularly in Africa.

Our accomplishments in 2019 paved the way for the substantial progress we have made so far in 2020 and great optimism for our business going forward:

2019 and Year-to-Date Highlights:

- BIO-key Initiated a Channel Alliance Program to expand our reach and access to a broader base of larger-scale business opportunities. Through this effort, we added the Technology Transfer Institute of Africa as a channel partner for identity access management opportunities across the continent.
- To support opportunities identified in Africa, we formed our 'BIO-key Africa' subsidiary and recruited respected IT executives Steve Uwazie and Tunde Jeje to lead these efforts.
- Through our African partners and subsidiary, in early 2020 BIO-key secured two large-scale identity access management projects with an aggregate potential value of approximately $75 million over the next 24 months. Though implementations have been delayed by the COVID-19 pandemic, we expect to secure initial project advances that will enable us to commence work on these projects in the third quarter.
- We continued to expand deployment of BIO-key Solutions to secure access to Election Data, adding several new Florida counties, bringing the total to eight, adding the entire state of Oregon, and engaging in active dialogues with several additional states and jurisdictions.
- BIO-key extended its penetration of global law enforcement agencies and the military, adding deployments with police forces in Singapore, Dubai, and South America, and significantly expanding deployment of our solutions to a highly respected Foreign Defense Ministry.
- We continued to expand our penetration of financial institutions, with several regional banks and other financial firms selecting our biometric authentication software-as-a-service solutions to comply with data protection and security requirements.

In 2019, we absorbed the near-term revenue impact of our transition from a software license sales model to a subscription or Software-as-a-Service (SaaS) model, where customers pay a lower fee to access our software on an annual basis. Despite the short-term negative impact on revenue, successful execution of the subscription model will create enduring customer relationships and predictable, recurring revenue streams over the long- term.

In addition to refocusing our strategy and efforts to pursue larger scale opportunities in 2019, we made difficult decisions regarding the write-down of software licenses which resulted in a significant one-time charge. We also exited our low-margin consumer lock business, reduced related personnel, overhead and inventory burdens while pursuing out-licensing opportunities for the technology we developed.

We continued to invest in enhancing our suite of solutions to meet the evolving needs of our customers. Through these initiatives, we identified an acquisition candidate to provide an ideal complement to our biometric capabilities. Earlier this month we executed a definitive agreement to acquire PistolStar, creator of PortalGuard®, a highly regarded enterprise multifactor authentication (MFA) and single sign-on (SSO) platform with millions of global users. PortalGuard delivers a flexible, uniform cloud or workstation MFA logon experience to secure enterprise users and cloud applications, which combined with BIO-key solutions, creates a very compelling and broadly applicable solution.

Outlook

Despite the COVID-19 shutdown in early 2020, we believe that we are in the strongest position for growth in company history. We expect to commence work on our large African contracts in the coming months which contemplate upfront deposits prior to commencing work. Given the scale and expected duration, these projects position BIO-key for substantial revenue growth in 2020 and to pursue other large-scale opportunities in Africa and on a global basis. We will provide more visibility into the timing and expected impact of our Africa business as final planning is completed and the projects begin to ramp.

Growth Initiatives

Our Channel Alliance Program launched in 2019 is attracting a growing base of Managed Service Providers, Security Integrators, and Value-Added Resellers – expanding our global sales and marketing reach, not only in Africa, but also globally.

Biometrics have gained notable support across Africa as an ideal, cost effective solution for large scale identity for governments, public programs, telecommunications, financial services, and other high-value processes, which are vulnerable to fraud or security breaches. Initiatives are gaining traction in both the public and private sectors, particularly in Nigeria, due in part to $433 million of support from World Bank to fund a biometric national ID registration program.

We are optimistic about growth opportunities to provide authentication and access management solutions for election security and government related engagements. We are building on our successes in Florida and Oregon which use BIO-key biometric solutions to provide strong authentication and access management for employee and volunteer access to critical voting system data. Our goal is to expand our base of deployments into other states as we progress toward the 2020 presidential election.

We are seeing rapid growth of remote work as enterprises respond to the COVID-19 pandemic. To pursue this opportunity, BIO-key moved quickly to launch our 'Remote Worker' sales and marketing campaign to communicate how our biometric software solutions and finger scanners can solve unique challenges driven by the sudden transition to working from home. BIO-key provides cost-effective, user-friendly solutions for increased security and authentication challenges created when workers are outside the protection of enterprise systems and direct oversight. The addition of PortalGuard to our suite of solutions will expand our ability to support all of the access control methods utilized by customers with remote workers.

Having navigated the challenges of the past several quarters, we believe BIO-key is on the right track to harness the full commercial potential of our technology, expertise and global sales and marketing reach. At the same time, we are seeing clear signs that government and enterprise markets are placing greater emphasis and resources on solving fundamental problems of security and authentication as well as network and cloud access. We look to build on these opportunities going forward, while commencing work on two large transformative projects.

We thank our investors and our team for their confidence and support in getting us to this exciting point – and look forward to reporting to you on our progress in 2020.

Sincerely,

Michael DePasquale
Chairman & CEO
April 30, 2019

BIO-key™

Forward Looking Statements

All statements in this Annual Report other than statements of historical facts are forward-looking statements which contain our current expectations of our future results. For additional information regarding forward forward-looking statements, please see the section captioned "Private Securities Litigation Reform Act" on page 1 of the Form 10-K included herein.

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
FORM 10-K/A

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(D) OF THE SECURITIES EXCHANGE ACT OF 1934**

FOR THE FISCAL YEAR ENDED DECEMBER 31, 2019

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(D) OF THE SECURITIES EXCHANGE ACT OF 1934**

FOR THE TRANSITION PERIOD FROM ___ TO ___

COMMISSION FILE NUMBER: 1-13463

BIO-KEY INTERNATIONAL, INC.
(Exact name of registrant as specified in its charter)

DELAWARE	**41-1741861**
(State or other jurisdiction of incorporation or organization)	(IRS Employer Identification Number)

3349 HIGHWAY 138, BUILDING A, SUITE E, WALL, NJ 07719
(Address of principal executive offices) (Zip Code)
(732) 359-1100
Registrant's telephone number, including area code.

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of exchange on which registered
Common Stock, $0.0001 par value per share	BKYI	Nasdaq Capital Market

Securities registered pursuant to Section 12(g) of the Act: **None**

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☐ No ☒

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ☐ No ☒

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, 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 ☐	Accelerated filer ☐
Non-accelerated filer ☐	Smaller reporting company ☒

Emerging growth company ☐

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. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

As of June 28, 2019 (the last business day of the registrant's most recently completed second fiscal quarter), the aggregate market value of the registrant's common stock held by non-affiliates was approximately $8.2 million based upon the closing price for shares of the registrant's common stock of $1.23 as reported by the Nasdaq Stock Market on that date.

As of May 12, 2020, the registrant had 21,212,297 shares of common stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE:

Certain sections of the registrant's Proxy Statement for its 2020 Annual Meeting of Stockholders, to be filed with the Securities and Exchange Commission, are incorporated herein by reference in Part III of this Form 10-K.

EXPLANATORY NOTE

BIO-key International, Inc. (the "Company") is filing this Amendment No. 1 on Form 10-K/A (this "Amendment No. 1") to amend its Annual Report on Form 10-K for the year ended December 31, 2019, originally filed with the Securities and Exchange Commission (the "SEC") on May 14, 2020 (the "Original Form 10-K"), solely to disclose that the Company filed the Original Form 10-K after the March 30, 2020 deadline applicable to the Company for the filing of a Form 10-K in reliance on the 45-day extension provided by an order issued by the U.S. Securities and Exchange Commission (the "SEC") under Section 36 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), dated March 4, 2020 (Release No. 34-88318), as modified and superseded by SEC order issued on March 25, 2020 (Release No. 34-88465) (collectively, the "Order").

On March 19, 2020, the Company filed a Current Report on Form 8-K to indicate its intention to rely on the Order for such extension. Consistent with the Company's statements made in the Form 8-K, the Company was unable to file the Original Form 10-K until May 14, 2020, and therefore relied on the Order due to circumstances related to COVID-19. In particular, the remote work environment caused by the COVID-19 pandemic resulted in disruptions in the Company's ability to complete its remaining accounting and review processes for the year ended December 31, 2019. Professional staff of the Company's independent public accounting firm were unable to perform certain auditing procedures on the Company's assets that are located in China related to their audit of the Company's financial statements for the year ended December 31, 2019. As a result, the Company was unable to compile and review certain information required in order to permit the Company to file its Annual Report on Form 10-K for its year ended December 31, 2019 by the prescribed date without unreasonable effort or expense due to circumstances related to COVID-19.

In accordance with Rules 12b-15 and 13a-14 under the Exchange Act, the Company has also amended Part IV, Item 15 to include currently dated certifications pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 from the Company's principal executive officer and principal financial officer. Because no financial statements have been included in this Amendment No. 1 and this Amendment No. 1 does not contain or amend any disclosure with respect to Items 307 and 308 of Regulation S-K, paragraphs 3, 4 and 5 of the certifications have been omitted. Similarly, because no financial statements have been included in this Amendment No. 1, certifications pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 have been omitted.

Except as described above, this Amendment No. 1 does not amend, modify or update the information in, or exhibits to, the Original Form 10-K, and we have not updated disclosures included therein to reflect any subsequent events. This Amendment No. 1 should be read in conjunction with the Original Form 10-K and with our other filings made with the SEC subsequent to the filing of the Original Form 10-K.

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PRIVATE SECURITIES LITIGATION REFORM ACT

All statements other than statements of historical facts contained in this Annual Report on Form 10-K, including statements regarding our future financial position, business strategy and plans and objectives of management for future operations, are forward-looking statements. The words “anticipate,” “believe,” “should,” “estimate,” “will,” “may,” “future,” “plan,” “intend” and “expect” and similar expressions generally identify forward-looking statements. Although we believe our plans, intentions, assumptions and expectations reflected in the forward-looking statements are reasonable, we cannot be sure they will be achieved. Additionally, the duration and severity of the current coronavirus COVID-19 pandemic and its effect on our business operations, sales cycles, personnel, and the geographic markets in which we operate, and numerous other matters of national, regional and global scale, including those of a political, economic, business and competitive nature could cause our actual results to be materially different than those expressed in our forward looking statements. We caution that it is very difficult to predict the impact of known factors, it is impossible for us to anticipate all factors that could affect our actual results, and that actual results may differ materially and adversely from the forward-looking statements contained herein due to a number of factors, including but not limited to those factors set forth under the caption “Risk Factors” in Item 1A of this Annual Report and other filings with the Securities and Exchange Commission. These factors are not intended to represent a complete list of the general or specific factors that may affect us. It should be recognized that other factors, including general economic factors and business strategies, may be significant, presently or in the future. Except as required by law, we undertake no obligation to update any forward-looking statement, whether as a result of new information, future events or otherwise.

PART I

ITEM 1. BUSINESS

BIO-key International, Inc., a Delaware corporation (the "Company," "BIO-key," "we," or "us), was founded in 1993 to develop and market advanced fingerprint biometric technology and related security software solutions. First incorporated as BBG Engineering, the company was renamed SAC Technologies in 1994 and renamed BIO-key International, Inc. in 2002.

We develop and market advanced fingerprint biometric identification and identity verification technologies, as well as related identity management and credentialing hardware and software solutions. We were pioneers in developing automated, finger identification technology that supplements or compliments other methods of identification and verification, such as personal inspection identification, passwords, tokens, smart cards, ID cards, PKI, credit card, passports, driver's licenses, OTP or other form of possession or knowledge-based credentialing. Additionally, advanced BIO-key® technology has been, and is, used to improve both the accuracy and speed of competing finger-based biometrics.

We have developed what we believe is the most discriminating and effective commercially available finger-based biometric technology. Our primary market focus includes enterprise security, mobile payments and credentialing, healthcare records, and data security, among other things. Our secondary focus includes government markets, large scale identity projects such as voter's registration, driver's license, national ID programs, and SIM card registration.

We market and sell through distributors and directly to end users via Amazon, our SideSwipe®, EcoID® and SideTouch® finger readers which can be used on any laptop, tablet or other device which contains a USB port.

We continue to develop advancements in our capabilities, as well as explore potential strategic relationships, including business combinations and acquisitions, which could help us leverage our capability to deliver our solutions. To drive revenue we rely upon our inside and outside sales teams, and continue to develop relationships with distributors, resellers, integrators, value added resellers ("VAR's"), and technology partners. We're building a growing network of partners with substantial experience in selling technology solutions to government and corporate customers in their respective markets.

In 2020, we announced that we had secured two of the largest contracts in the Company's history, with our partner Technology Transfer Institute ("TTI"). The contracts, valued at a combined $75M, are for large-scale identification projects in Africa and Nigeria. These historic opportunities are expected to showcase the Company's ability to support large scale projects utilizing our core biometric authentication software engine, WEB-key®.

Impact of COVID-19

In March 2020, the World Health Organization declared the outbreak of COVID-19 as a global pandemic, and, in the following weeks, many U.S. states and localities issued lockdown orders impacting our operations. Since then, the COVID-19 situation within the U.S. has rapidly escalated. The recent COVID-19 outbreak has caused us to migrate to a remote business model for our sales, marketing, administrative and executive teams. Research and development and production are adjusting to the new landscape to maintain production as best as possible considering the conditions and regulations. We continue to monitor the situation closely and it is possible that we will implement further measures. Since we qualify as an essential business in New Jersey because we serve the healthcare industry, we have been able to access inventory to fulfill orders and ship products as required. The pandemic has extended sales cycles and delayed deployments in most markets in which we operate, particularly in Africa which remains subject to shut-down and shelter at home orders. We continue to conduct business daily and are actively closing transactions throughout the current climate, with no changes to personnel.

Overview

BIO-key is a leader in finger-based biometric identification and personal identity verification, as well as authentication-transaction security. Stand-alone, or in partnerships with OEMs, integrators, and solution providers, we provide biometric security solutions to private and public sector customers. We help customers reduce risk by providing the ability to control access to online assets. Our solutions positively identify individuals before granting access to corporate resources, subscribed services, cloud services and other applications.

We also develop and distribute hardware components that are used in conjunction with our software and sell third-party hardware components with our software in various configurations required by our customers. Our products are interoperable with all major fingerprint reader and hardware manufacturers, enabling application developers, VAR's, and channel partners to integrate our fingerprint biometrics into their applications, while dramatically reducing maintenance, upgrade and life-cycle costs. Our core technology supports interoperability on over 40 different commercially available fingerprint readers and is interoperable across Windows, Linux, and the Android mobile operating systems. This interoperability is unique in the industry, is a key differentiator for our products in the biometric market and, in our opinion, makes our technology more viable than competing technologies and expands the size of the overall market for our products.

2018 saw the emergence of a few trends as customers in financial services and manufacturing began reaching out to us to add a layer of biometric sign-in to their security infrastructure. Use cases included securing the online activity of roving users and shared workstations. Manufacturers turned to us to incorporate workflow efficiencies such as replacing eSignature processes with biometric tracking and reducing the use of long sophisticated passwords with biometric sign-in.

Late 2018, Lockheed Martin, a global government contractor, purchased SidePass and EcoID to secure employee access to the device and to leverage the biometric authentication capabilities of Windows Hello – Windows Hello for Business.

Along with organizations that sought out our solutions to address compliance requirements for multifactor authentication, emerged a new area of opportunity as state board of election organizations were funded to address key security concerns and biometric sign-in became a preferred solution.

In the second half of 2019, we modified our software licensing program to a software as a service (SaaS) model. By migrating to a SaaS billing model, we open the door for more organizations to use our technology by lowering the cost of entry. Although we expect to sacrifice some short-term revenue, the SaaS model is expected to generate more revenue than our former "perpetual billing method" which provided for an upfront payment for all licenses.

We approached CES 2019 as a critical proving ground for our TouchLock line of products. After expanding the product line and marketing the products on Shopify and Amazon, we targeted CES 2019 as a crossroad to either continue to market TouchLock, or to discontinue the products to focus on the core business. Upon returning from the event, our the executive team and our Board of Directors decided to exit the US consumer lock business.

In 2019, we entered into a sales incentive agreement with TTI to pursue market opportunities in the continent of Africa and compete for large-scale ID products in Africa and the surrounding region. The World Bank announced that it has dedicated $443M in funds to support government ID, voter ID, SIM Card registration programs throughout Africa and the surrounding countries. TTI has already secured $75M in contracts as of April, 2020. The COVID-19 pandemic has delayed the timing of the rollout of the programs. We are continuing to monitor the effects of the pandemic and expect that we may experience further delays.

In 2019, we won two significant international government law enforcement projects, one in Dubai and one in Singapore. Both organizations are using ID Director for Windows along with BIO-key fingerprint scanners to secure internal access to files and applications.

With the upcoming election, and security being a concern, during 2019 we emerged as the preferred biometric authentication solution for certain election offices in the Southeastern United states. Within the past twelve (12) months, we have completed projects with eight (8) county election offices to secure internal access to the voter registration databases and additional state and county offices are evaluating our solutions. We anticipate the trend may continue to grow both in number of offices supported and in geographic coverage.

Banking remains a primary focus as we added several banks and credit unions to our financial services footprint. During the first quarter of 2019, we published and distributed a case study highlighting First National Bank of Long Island. Banks are finding ID Director for Windows and BIO-key scanners offer secure cost-effective multifactor authentication, protecting internal access to customer data.

The U.S. Senate became a BIO-key customer when they ordered our fingerprint scanners to secure access to laptops, computers, and tablets. Several offices within the White House have deployed our scanners as a way to secure the device and protect critical files and applications.

Products

Finger-based Biometric Identification and Personal Identity Verification

Our biometric identification technology improves both the accuracy and speed of authenticating or identifying individuals, by extracting unique landmarks and other characteristics from a fingerprint and comparing it to the landmarks from previously enrolled fingerprints to determine a match. The technology is built to be scalable and to handle databases containing millions of fingerprints. We achieve the highest levels of discrimination without requiring any other identifying data (multi-factor) such as a user ID, smart ID cards, or tokens, although our technology can be used in conjunction with such additional factors. Users of our technology have the option of on device or cloud authentication. This flexible authentication option in conjunction with our interoperable capabilities, is another key differentiator of our biometric identification solutions.

We support industry standards, such as SAML, FIDO, BioAPI, and have received National Institute of Standards and Technology independent laboratory certification of our ability to support Homeland Security Presidential Directive #12 (HSPD-12) and ANSI/INCITS-378 templates, as well as validation of our fingerprint match speed and accuracy in large database environments.

Our fingerprint identification algorithm, Vector Segment Technology (VST™), and WEB-key biometric service manager are the core intellectual property behind our full suite of biometric products that include:

- ID Director™— is a suite of solutions for integration with CA Technologies / Broadcom's Single Sign-on solution, Oracle's Fusion Middleware SSO, IBM Tivoli Access Manager as well as ISAM and other solutions, utilizing the power and security of WEB-key. This solution provides a simple to implement, custom authentication scheme for companies looking to enhance authentication. ID Director is designed to add a level of security and convenience to the transaction level of any application. Versions of ID Director include:

  - ID Director for Windows provides enterprise customers the ability to implement and operate a biometric-centric multi-factor authentication (MFA) solutions with their Microsoft Active Directory and Azure Cloud platforms.

  - ID Director for SAML allows for simplified integration with many applications and identity and access management (IAM) platforms, without coding, including CA Technologies / Broadcom's Single Sign-on, Oracle's IDCS, IBM Tivoli Access Manager ESSO as well as Salesforce, SAP, and other SAML-enabled solutions, leveraging the power and security of WEB-key into a growing set of end user authentication scenarios. This solution provides a simple-to-implement, secure biometric authentication solution for companies looking to enhance authentication across many applications.

  - ID Director for EPIC adds BIO-key authentication to EPIC EHR environments, simplifying strong authentication for access, as well as meeting electronic prescribing regulations for authentication.

- Vector Segment Technology SDK (VST)—Our biometric software development kit ("SDK") provides developers with the ability to incorporate our biometric capabilities into their respective product offerings or infrastructure. VST is available as a low level SDK for incorporation into any application architecture to increase security while not sacrificing convenience. VST runs on Windows and Linux as well as within WEB-key on iOS and Android systems.

- Intelligent Image Indexing®—Our biometric identification solution offers both large-scale one-to-many and one-to-one user identification. This solution enables customers to perform false alias and fast entry checks, including preventing fraudulent access to systems and privileges. Intelligent image indexing scales identification capabilities from thousands to millions of users. The solution runs on commercially available hardware making it scalable for any size system.

- Biometric Service Provider—We provide support for the BioAPI (a standards-based solution meeting worldwide needs) for a compliant interface to applications using biometrics for verification and identification. We enhance the traditional use of BioAPI by adding 64-bit support and other advanced features, supporting identification calls and also providing a single user interface for multiple fingerprint readers.

We also offer a full line of easy to use finger scanners for both enterprise and consumer markets. Our SideSwipe, SideTouch and EcoID scanners are plug and play compatible with Microsoft Windows and our Q-180 Touch reader is a Micro USB compatible fingerprint reader for Android devices. The readers are currently sold in the Microsoft stores, as well as through their on-line channel, on Amazon, and through our website.

In 2015, Microsoft announced native support for biometrics in the Windows 8.1 and Windows 10 Operating platforms as well as Office 2016. With Microsoft Hello, any user can replace their PIN or password to access their device without any special software downloads by using our finger scanners, SideSwipe, SideTouch and EcoID, which are plug and play (PnP) compatible with the Microsoft platforms. We have been the preferred partner, in particular at the Microsoft "Ignite your Business" Windows 10 and Office 2016 launch events.

In 2018, we continued to invest and grow our relationship with Microsoft. The 2018 Ignite your Business event included Microsoft hosting an exclusive BIO-key demonstration kiosk within their event showcase.

In 2018, we also introduced OmniPass Consumer, a secure biometric-enabled application to manage multiple passwords for online apps, services or accounts.

Authentication Transaction Security

Our authentication-transaction security technology, WEB-key®, provides the ability to conduct identification and identity verification transactions in potentially unsecure environments, including the World Wide Web or in off-site cloud environments.

WEB-key® makes cloud-based biometric user-authentication viable and eliminates technology constraints on online service providers, who are otherwise dependent on handset provider hardware and software platform decisions. It extends all features and functionalities of the VST algorithm to customers looking to add an enhanced level of security to their thin client and client/server applications. Both Windows and Linux operating systems currently support WEB-key®. Clients are available on Windows and Android operating systems.

Intellectual Property Rights

We develop and own significant intellectual property and believe that our intellectual property is fundamental to our biometric operation:

Patents

We own patented technologies and trade secrets developed or acquired by us.

In May 2005, the U.S. Patent & Trademark Office issued patent 6,895,104 for our Vector Segment fingerprint technology (VST), our core biometric analysis and identification technology. With the payment of all maintenance fees, this patent will expire on March 4, 2023.

On October 3, 2006, we announced that our patent for a biometric authentication security framework had been granted by the U.S. Patent & Trademark Office. The patent No. 7,117,356 was issued to us for a biometric authentication security framework that enhances commercial and civil biometric use. Our authentication security framework protects privacy and security of cloud or network-based authentications while also facilitates ease of use of biometric systems. The technology that this patent is based on is the foundation for the authentication security incorporated in our WEB-key product line. WEB-key is a mature enterprise authentication solution that functions in a wide variety of application environments. The solution supports a variety of implementation alternatives including card technologies for "two-factor" authentication and also supports "single-factor" authentication. Partners and customers implementing our WEB-key software to provide convenient and secure user identity include a number of institutions including the Allscripts Healthcare Solutions, Computer Associates Site Minder, Oracle Access Manager and many other enterprise and solutions-based systems. With the payment of all maintenance fees, this patent will expire on May 20, 2023.

On December 26, 2006, we were issued US patent No. 7,155,040 covering our unique image processing technology, which is critical for enhancing information used in the extraction of biometric minutiae. The issued patent protects a critical part of an innovative four-phase image enhancement process developed by us. With the payment of all maintenance fees, this patent will expire on January 29, 2025.

On April 15, 2008, we were issued US patent No. 7,359,553 covering our image enhancement and data extraction core algorithm components. The solution protected under this patent provides the capability to quickly and accurately transform a fingerprint image into a computer image that can be analyzed to determine the critical data elements. With the payment of all maintenance fees, this patent will expire on January 3, 2025.

On August 19, 2008, we were issued US patent No. 7,415,605 for our "Biometric Identification Network Security" method. The solution protected under this patent provides a defense against hackers and system attacks, while leveraging the industry standard Trusted Platform Module (TPM) specification for encryption key management. With the payment of all maintenance fees, this patent will expire on May 20, 2023.

On November 18, 2008, we were issued US patent No. 7,454,624 for our "Match Template Protection within a Biometric Security System" method. The solution protected under this patent limits the scope of enrollment templates usage and also eliminates the need for revocation or encryption processes, which can be expensive and time consuming. With the payment of all maintenance fees, this patent will expire on May 17, 2025.

On March 10, 2009, we were issued US patent No. 7,502,938 for our "Trusted Biometric Device" which covers a simple, yet secure method of protecting a user's biometric information. It covers the transmission of information from the point the information is collected at the biometric reader until the data reaches the computer or device that is authenticating the user's identity. With the payment of all maintenance fees, this patent will expire on October 25, 2025.

On May 26, 2009, we were issued US patent No. 7,539,331 for our "Image Identification System" method for improving the performance and reliability of image analysis within an image identification system. With the payment of all maintenance fees, this patent will expire on March 22, 2022.

On November 8, 2011, we were issued US Patent No. 8,055,027 for our "Generation of Directional Information in the Context of Image Processing" method for image enhancement and processing. With the payment of all maintenance fees, this patent will expire on October 10, 2027.

On July 3, 2012, we were issued US Patent No. 8,214,652 for our "Biometric Identification Network Security", an expanded method of network and related network authentication security systems utilizing hardware-based support for encryption and key management for authentication purposes. With the payment of all maintenance fees, this patent will expire on April 24, 2024.

On May 3, 2017, we were issued US Patent No. 9,646,146 for our "Utilization of Biometric Data", a method enables existing small area sensors to capture substantially more fingerprint surface area, leading to a higher degree of accuracy when performing a match. With the payment of all maintenance fees, this patent will expire on March 6, 2035.

On June 19, 2018 we were issued U.S. Patent No. 10,002,244 for our "Utilization of Biometric Data" to allow continuous, passive user authentication on a mobile device.

On July 27, 2018 we were issued U.S. Patent No. 10,025,831 for "Adaptive Short Lists and Acceleration of Biometric Database Search", a method to quickly and iteratively search a database of biometric data.

We have also been granted parallel patents to the US Patent portfolio to certain of our patents in many foreign countries offering protection of our intellectual property rights around the world.

Licensed Technology

In the fourth quarter of 2015, we entered into a license agreement with affiliates of CGG. The license agreement provides for the grant to our subsidiary, BIO-key Hong Kong Limited ("BIO-key Hong Kong"), of a perpetual, irrevocable, exclusive, worldwide, fully-paid license to all software and documentation regarding the software code, toolkit, electronic libraries and related technology currently known as or offered under the FingerQ name, together with perpetual license under all related patents held by the licensors and any other intellectual property rights owned by the licensors related to the forgoing software. This portfolio includes 16 patents focused on, among other things, mobile payment systems and mobile payment methods based on biometric authentication as well finger print authentication systems and a finger print authentication method based on near field communication ("NFC"). The license agreement grants us the exclusive right to reproduce, create derivative works and distribute copies of the FingerQ software and documentation, create new FingerQ related products, and grant sublicenses of the licensed technology to end users. In addition, in the event the licensors make any derivatives or improvement in the FingerQ software or make any product or service that may compete with or which includes functionality similar to the FingerQ technology, they are required to license such derivative, improvement, product or service to us on the terms set forth in the license agreement at no additional charge. The license arrangement also allows us to create new, innovative solutions to address the growing demand for secure mobile transactions. However, since we have not been able to generate the expected revenue from this agreement, we have written off the balance of the FingerQ resalable software license rights.

Trademarks

We have registered our trademarks "BIO-key", "True User Identification", "Intelligent Image Indexing", "WEB-key", "SideSwipe, "EcoID" and "The Biometric of Things" (application pending) with the U.S. Patent & Trademark Office, as well as many foreign countries, protecting our companies name and key technology offering names.

Copyrights and trade secrets

We take measures to ensure copyright and license protection for our software releases prior to distribution. When possible, the software is licensed in an attempt to ensure that only licensed and activated software functions to its full potential. We also take measures to protect the confidentiality of our trade secrets.

Markets

Identity Management, User Authentication, Privilege Entitlement and Access Control

Our products simplify the authentication process for enterprise users and consumers, while raising security to the highest levels of assurance. This allows our customers to meet new, stronger authentication requirements and security best practices across many industries, while delivering a superior end-user experience. Customers use our products to reduce risk of theft, fraud, loss, account takeover attacks, and unauthorized account sharing by limiting access to valuable assets, privileges, data, services, networks and places to only authorized individuals. Our products provide stronger identity binding and a superior user experience versus traditional credentialing systems, which utilize a physical or knowledge-based electronic credential to authenticate the holder, but fail to authenticate the actual user in addition to the token. Nearly every enterprise and public sector has seen a shift in the requirement for stronger authentication, and both NIST and industry thought leaders such as Microsoft have encouraged entities to enhance their security posture by implementing stronger 2-factor (2FA) or multi-factor authentication (MFA). Our products help organizations to meet their strong authentication goals, with a sign in process that end users prefer. In our opinion, the market for advanced user authentication, including fingerprint biometrics, extends to nearly every industry segment. We believe the market opportunity for our products is massive, global and growing.

Historically, our largest market has been access control within highly regulated industries like government and healthcare. However, we are witnessing a change in the landscape as organizations within all industries and of all sizes are embracing biometric technology as a security and workflow solution. Championed by the millions of users that have been successfully introduced to biometrics by companies such as Apple and Samsung, today's users have witnessed the security and convenience benefits of biometric technology.

Upon introducing a series of compact fingerprint readers, we saw an immediate increase in inquiries from both large commercial companies seeking an alternative to passwords, and from consumers recognizing that they could use SideSwipe or EcoID to replace their Windows password.

In October 2015, we established BIO-key Hong Kong for purposes of establishing relationships and conducting business is the Asia Pacific Region. Through our Hong Kong subsidiary, we support the growing demand for secure identification and authentication in the region.

We believe there is potential for significant market growth in the following key areas:

- Corporate network access control, corporate campuses, computer networks, and applications.
- Large scale identification projects, especially in Africa and the surrounding regions.
- Government funded initiatives, including with the state board of elections.
- International law enforcement use case applications as prospects see us as a global leader in the biometric technology space as witnessed by our agreement with the Israeli Defense Force, and the Singapore and Dubai Police departments.
- Consumer mobile credentialing, including mobile payments, credit and payment card programs, data and application access, and commercial loyalty programs.
- Demand for BIO-key hardware products from Windows 10 users and Fortune 500 companies.
- Government services and highly regulated industries including, Medicare, Medicaid, Social Security, Drivers Licenses, Campus and School ID, Passports/Visas.
- Continued growth in the Asia Pacific region.
- New remote authentication challenges – which our solutions are ideally suited to address.

- New opportunity to market our remote security solutions, spurred on because of the COVID-19 outbreak.

Business Model

Our business model for 2020 and beyond is focused on the following key areas:

Market Drivers	The current climate of broad enterprise adoption of MFA to replace passwords, an ongoing upgrade cycle of Microsoft Windows 10, and accompanying moves to Windows Hello for Business, all present broad opportunities for our products to leverage our unique differentiators and exploit the gaps left in existing technology approach. There are gaps in the existing IAM solution space that provide the opportunity for us to demonstrate the unique business value of our solutions. One of those gaps is the challenge of authenticating users that "rove" among workstations. A second gap is preventing unauthorized account sharing. These gaps represent soft entry points to gain market share by highlighting known shortcomings of the status quo IAM approach.
OEM Customers	We will continue to prioritize securing agreements with OEM customers. The history of success supporting NCR, Omnicell, and LexisNexis provides an established footprint that we intend to build upon. As OEM customers embed our solutions within their products, the customer benefits from the enhanced security and workflow. OEM customers ordering patterns are more predictable and OEM customers generally require lower service and support resourcing. In 2019, we continued to meet with potential partners, constantly seeking that ideal synergistic partner relationship.
Highly Regulated Industries	Government ID projects and Healthcare organizations, including hospitals, clinics, and small private practices present a strong opportunity for BIO-key. In healthcare, we anticipate that patient identification will emerge as a highly regulated requirement for all healthcare organizations and we are developing our software to accommodate this need. Additionally, the financial services footprint of banking and credit union customers has grown substantially.
Partner Model	In 2019, we took major steps to upgrade our partner program. We hired dedicated resources and announced the launch of a new incentive laden Channel Alliance Partner program (CAP). The new CAP program provides VAR's, Integrators, and Resellers with pricing and promotional incentives. The result to date has been the addition of 20+ new partners and we are committed to growing this program aggressively in 2020.
Microsoft Partnership	We remain a Microsoft Partner and our line of compact fingerprint scanners have been tested and qualified by Microsoft to support Windows Hello and Windows Hello for Business. We continue to attend Microsoft's premier IT event, Ignite your Business, which has become a source for generating leads.
Hardware	Hardware products generated 40% of the Company's revenue in 2019. EcoID has emerged as our most popular scanner for enterprise deployments. For customers that require the highest level of security, PIV-Pro is a FIPS complaint fingerprint scanner, suitable for highly regulated industries and organizations that want a best-in-class solution.

Research and Development

Our biometric platform is mature, stable, and widely-deployed and we concentrate our research and development efforts on enhancing the functionality, reliability and integration of our current products as well as developing new and innovative products and solutions for providing broader access to the BIO-key user experience, such as ID Director for Windows and ID Director for SAML. Although we believe that our identification technology is one of the most advanced and discriminating fingerprint technologies available today, the markets in which we compete are characterized by rapid technological change and evolving standards. In order to maintain our position in the market, we will need to continue to upgrade and refine our existing technologies as new standards become relevant to our customers and markets.

We have also licensed mobile platform software from CGG which we have integrated with our core WEB-key offerings and introduced to the Asian markets in 2016. During the years ended December 31, 2019 and 2018, we spent $1,331,667 and $1,415,401, respectively, on research and development.

Moving forward, much of our R&D focus will remain on updating and advancing our core software products including WEB-key and VST. These products are critical to support the anticipated growth in large-scale ID projects.

Competition

In addition to companies that provide existing commonplace methods of restricting access to facilities and logical access points such as pass cards, PIN numbers, passwords, locks and keys, there are numerous companies involved in the development, manufacturing and marketing of fingerprint biometrics products to commercial, government, law enforcement and prison markets. These companies include, but are not limited to, 3M (Cogent), NEC, and MorphoTrak.

The majority of sales for automated fingerprint identification products in the market to date have been deployed for government agencies, healthcare facilities, and law enforcement applications. The consumer and commercial markets represent areas of significant growth potential for biometrics, led by the use of mobile devices.

The epidemic of security and data breaches reported over the past few years is one of the driving factors for identifying new methods of protecting valuable data. After attempting to create a more sophisticated password or more efficient token or PIN, it has become apparent that each of these methods are easily compromised, and the downside risks are significant.

We have also seen “keys” disrupt the market, led by Yubico’s YubiKey a USB key that stores and protects the user’s passwords. Keys do not offer the security benefits of biometric technology as they can be easily lost or stolen and replacement costs / managing the product becomes a growing expense.

With respect to competing biometrics technologies, each has its strengths and weaknesses and none has emerged as a market leader:

- *Fingerprint identification* is generally viewed as very accurate, inexpensive and non-intrusive and is the dominant biometric in use today and will be for the foreseeable future;
- *Palm Vein scanning* is expensive, technique-sensitive, and offers mobility challenges;
- *Iris scanning* is viewed as accurate, but the hardware is significantly more expensive; and
- *Facial recognition* can have accuracy limitations and is typically highly dependent on ambient lighting conditions, angle of view, and other factors.

Government Regulations

We are not currently subject to direct regulation by any government agency, other than regulations generally applicable to businesses or related to specific project requirements. In the event of any international sales, we would be subject to various domestic and foreign laws regulating such exports and export activities.

Environmental Regulations

As of the date of this report, we have not incurred any material expenses relating to our compliance with federal, state, or local environmental laws and do not expect to incur any material expenses in the foreseeable future.

Employees, Contractors, and Consultants

As of May 11, 2020, we employed fifteen individuals on a full-time basis as follows: (i) six in engineering, customer support, research and development; (ii) three in finance and administration; and (iii) six in sales and marketing. We also use the services of three consultants (part-time) who provide engineering and technical services. Additionally, our Hong Kong subsidiary employs two individuals on a full-time basis as follows: (i) one in research and development, and (ii) one in finance and administration. We also use the services of two factory contractors (full-time) in China.

ITEM 1A. RISK FACTORS

Set forth below are the risks that we believe are material to our investors. This section contains forward-looking statements. You should refer to the explanation of the qualifications and limitations on forward-looking statements appearing just before the section captioned “Business” in Item 1. above.

BUSINESS AND FINANCIAL RISKS

Based on our lack of sufficient revenue since inception and recurring losses from operations, our independent registered public accounting firm has included an explanatory paragraph in their opinion as to the substantial doubt about our ability to continue as a going concern.

Due to, among other factors, our history of losses and limited revenue, our independent registered public accounting firm has included an explanatory paragraph in their opinion for the year ended December 31, 2019 as to the substantial doubt about our ability to continue as a going concern. Our financial statements have been prepared in accordance with accounting principles generally accepted in the United States, which contemplate that we will continue to operate as a going concern. Our financial statements do not contain any adjustments that might result if we are unable to continue as a going concern.

Since our formation, we have historically not generated significant revenue and have sustained substantial operating losses.

As of December 31, 2019, we had an accumulated deficit of approximately $90 million. In order to increase revenue, we have developed a direct sales force and anticipate the need to retain additional sales, marketing and technical support personnel and may need to incur substantial expenses. We cannot assure you that we will be able to secure these necessary resources, that a significant market for our technologies will develop, or that we will be able to achieve our targeted revenue. If we are unable to achieve revenue or raise capital sufficient to cover our ongoing operating expenses, we will be required to scale back operations, including marketing and research initiatives, or in the extreme case, discontinue operations.

Our biometric technology has yet to gain widespread market acceptance and we do not know how large of a market will develop for our technology.

Biometric technology has received only limited market acceptance, particularly in the private sector. Our technology represents a novel security solution and we have not yet generated significant sales. Although recent security concerns relating to identification of individuals and appearance of biometric readers on popular consumer products, including the Apple iPhone, have increased interest in biometrics generally, it remains an undeveloped, evolving market. Biometric based solutions compete with more traditional security methods including keys, cards, personal identification numbers and security personnel. Acceptance of biometrics as an alternative to such traditional methods depends upon a number of factors including:

- national or international events which may affect the need for or interest in biometric solutions;
- the performance and reliability of biometric solutions;
- marketing efforts and publicity regarding these solutions;
- public perception regarding privacy concerns;
- costs involved in adopting and integrating biometric solutions;
- proposed or enacted legislation related to privacy of information; and
- competition from non-biometric technologies that provide more affordable, but less robust, authentication (such as tokens and smart cards).

For these reasons, we are uncertain whether our biometric technology will gain widespread acceptance in any commercial markets or that demand will be sufficient to create a market large enough to produce significant revenue or earnings. Our future success depends, in part, upon business customers adopting biometrics generally, and our solution specifically.

Biometric technology is a new approach to Internet security, which must be accepted in order for our WEB-key solution to generate significant revenue.

Our WEB-key authentication initiative represents a new approach to Internet security, which has been adopted on a limited basis by companies that distribute goods, content or software applications over the Internet. The implementation of our WEB-key solution requires the distribution and use of a finger scanning device and integration of database and server side software. Although we believe our solutions provide a higher level of security for information transmitted over the Internet than existing traditional methods, unless business and consumer markets embrace the use of a scanning device and believe the benefits of increased accuracy outweigh implementation costs, our solution will not gain market acceptance.

The market for our solutions is still developing and if the biometrics industry adopts standards or a platform different from our standards or platform, our competitive position would be negatively affected.

The market for identity solutions is still developing. The evolution of this market may result in the development of different technologies and industry standards that are not compatible with our current solutions, products or technologies. Several organizations set standards for biometrics to be used in identification and documentation. Although we believe that our biometric technologies comply with existing standards, these standards may change and any standards adopted could prove disadvantageous to or incompatible with our business model and current or future solutions, products and services.

Our software products may contain defects which will make it more difficult for us to establish and maintain customers.

Although we have completed the development of our core biometric technology, it has only been used by a limited number of business customers. Despite extensive testing during development, our software may contain undetected design faults and software errors, or "bugs" that are discovered only after it has been installed and used by a greater number of customers. Any such defect or error in new or existing software or applications could cause delays in delivering our technology or require design modifications. These could adversely affect our competitive position and cause us to lose potential customers or opportunities. Since our technologies are intended to be utilized to secure physical and electronic access, the effect of any such bugs or delays will likely have a detrimental impact on us. In addition, given that biometric technology generally, and our biometric technology specifically, has yet to gain widespread acceptance in the market, any delays would likely have a more detrimental impact on our business than if we were a more established company.

In order to generate revenue from our biometric products, we are dependent upon independent original equipment manufacturers, system integrators and application developers, which we do not control. As a result, it may be more difficult to generate sales.

We market our technology through licensing arrangements with:

- Original equipment manufacturers (OEMs), system integrators and application developers which develop and market products and applications which can then be sold to end users; and

- Companies which distribute goods, services or software applications over the Internet.

As a technology licensing company, our success will depend upon the ability of these manufacturers and developers to effectively integrate our technology into products and services which they market and sell. We have no control over these licensees and cannot assure you that they have the financial, marketing or technical resources to successfully develop and distribute products or applications acceptable to end users or generate any meaningful revenue for us. These third parties may also offer the products of our competitors to end users. While we have commenced a significant sales and marketing effort, we have only begun to develop a significant distribution channel and may not have the resources or ability to sustain these efforts or generate any meaningful sales.

We face intense competition and may not have the financial and human resources necessary to keep up with rapid technological changes, which may result in our technology becoming obsolete.

The Internet, facility access control, and information security markets are subject to rapid technological change and intense competition. We compete with both established biometric companies and a significant number of startup enterprises as well as providers of more traditional methods of access control. Most of our competitors have substantially greater financial and marketing resources than we do and may independently develop superior technologies, which may result in our technology becoming less competitive or obsolete. We may not be able to keep pace with this change. If we are unable to develop new applications or enhance our existing technology in a timely manner in response to technological changes, we will be unable to compete in our chosen markets. In addition, if one or more other biometric technologies such as voice, face, iris, hand geometry or blood vessel recognition are widely adopted, it would significantly reduce the potential market for our fingerprint identification technology.

We introduced our products in Asian markets in 2016 and expect material revenues from Africa beginning in 2020. Our financial performance will be subject to risks associated with changes in the value of the U.S. dollar versus local currencies.

Our primary exposure to movements in foreign currency exchange rates relates to non-U.S. dollar-denominated sales and operating expenses worldwide. Weakening of foreign currencies relative to the U.S. dollar will adversely affect the U.S. dollar value of our foreign currency-denominated sales and earnings, if any, and could lead to us raising international pricing, potentially reducing the demand for our products. In addition, margins on sales of our products in foreign countries and on sales of products that include components obtained from foreign suppliers could be materially adversely affected by foreign currency exchange rate fluctuations.

Although we have made significant sales of our products throughout Asia and Africa, we have not been able to consistently enforce our contract rights and collect all receivables which has resulted in material write-offs.

In June 2015, we made a license sale in Africa for approximately $2.1 million, of which approximately $1.7 million remains unpaid. In December 2018, we made a license sale in Asia for approximately $1.1 million, of which approximately $0.5 million remains unpaid. These amounts have been written off in full which has negatively impacted our financial position and results of operation.

Our ability to enforce our international contracts is contingent on our relationships with foreign resellers, and their financial viability. Although we are making efforts to better enforce our contract rights, there can be no assurance that we will be able to fully collect all receivables originating in Asia and Africa or that will not have to write-off future receivable which may be material in amount. Any such write-offs will negatively impact our financial position and results of operation.

We depend on key employees and members of our management team, including our Chairman of the Board and Chief Executive Officer and our Chief Technology Officer, in order to achieve our goals. We cannot assure you that we will be able to retain or attract such persons.

Our employment contracts with Michael W. DePasquale, our Chairman of the Board and Chief Executive Officer, and Mira LaCous, our Chief Technology Officer, expire annually, and renew automatically for successive one year periods unless notice of non-renewal is provided by the Company. Although the contracts do not prevent them from resigning, they do contain confidentiality and non-compete clauses, which are intended to prevent them from working for a competitor within one year after leaving our Company. Our success depends on our ability to attract, train and retain employees with expertise in developing, marketing and selling software solutions. In order to successfully market our technology, we will need to retain additional engineering, technical support and marketing personnel. The market for such persons remains highly competitive and our limited financial resources will make it more difficult for us to recruit and retain qualified persons.

We cannot assure you that the intellectual property protection for our core technology provides a sustainable competitive advantage or barrier to entry against our competitors.

Our success and ability to compete is dependent in part upon proprietary rights to our technology. We rely primarily on a combination of patent, copyright and trademark laws, trade secrets and technical measures to protect our propriety rights. We have filed a patent application relating to both the optic technology and biometrics solution components of our technology wherein several claims have been allowed. The U.S. Patent and Trademark Office has issued us a series of patents for our Vector Segment fingerprint technology (VST), and our other core biometric analysis and identification technologies. However, we cannot assure you that we will be able to adequately protect our technology or other intellectual property from misappropriation in the U.S. and abroad. Any patent issued to us could be challenged, invalidated or circumvented or rights granted thereunder may not provide a competitive advantage to us. Furthermore, patent applications that we file may not result in issuance of a patent or, if a patent is issued, the patent may not be issued in a form that is advantageous to us. Despite our efforts to protect our intellectual property rights, others may independently develop similar products, duplicate our products or design around our patents and other rights. In addition, it is difficult to monitor compliance with, and enforce, our intellectual property rights on a worldwide basis in a cost-effective manner. In jurisdictions where foreign laws provide less intellectual property protection than afforded in the U.S. and abroad, our technology or other intellectual property may be compromised, and our business would be materially adversely affected. If any of our proprietary rights are misappropriated or we are forced to defend our intellectual property rights, we will have to incur substantial costs. Such litigation could result in substantial costs and diversion of our resources, including diverting the time and effort of our senior management, and could disrupt our business, as well as have a material adverse effect on our business, prospects, financial condition and results of operations. We can provide no assurance that we will have the financial resources to oppose any actual or threatened infringement by any third party. Furthermore, any patent or copyrights that we may be granted may be held by a court to infringe on the intellectual property rights of others and subject us to the payment of damage awards.

We may be subject to claims with respect to the infringement of intellectual property rights of others, which could result in substantial costs and diversion of our financial and management resources.

Third parties may claim that we are infringing on their intellectual property rights. We may violate the rights of others without our knowledge. We may expose ourselves to additional liability if we agree to indemnify our customers against third party infringement claims. While we know of no basis for any claims of this type, the existence of and ownership of intellectual property can be difficult to verify and we have not made an exhaustive search of all patent filings. Additionally, most patent applications are kept confidential for twelve to eighteen months, or longer, and we would not be aware of potentially conflicting claims that they make. We may become subject to legal proceedings and claims from time to time relating to the intellectual property of others in the ordinary course of our business. If we are found to have violated the intellectual property rights of others, we may be enjoined from using such intellectual property, and we may incur licensing fees or be forced to develop alternative technology or obtain other licenses. In addition, we may incur substantial expenses in defending against these third party infringement claims and be diverted from devoting time to our business and operational issues, regardless of the merits of any such claim.

In addition, in the event that we recruit employees from other technology companies, including certain potential competitors, and these employees are engaged in the development of portions of products which are similar to the development in which they were involved at their former employers, we may become subject to claims that such employees have improperly used or disclosed trade secrets or other proprietary information. If any such claims were to arise in the future, litigation or other dispute resolution procedures might be necessary to retain our ability to offer our current and future services, which could result in substantial costs and diversion of our financial and management resources. Successful infringement or licensing claims against us may result in substantial monetary damages, which may materially disrupt the conduct of our business and have a material adverse effect on our reputation, business, financial condition and results of operations. Even if intellectual property claims brought against us are without merit, they could result in costly and time consuming litigation, and may divert our management and key personnel from operating our business.

If we are unable to effectively protect our intellectual property rights on a worldwide basis, we may not be successful in the international expansion of our business.

Access to worldwide markets depends in part on the strength of our intellectual property portfolio. There can be no assurance that, as our business expands into new areas, we will be able to independently develop the technology, software or know-how necessary to conduct our business or that we can do so without infringing the intellectual property rights of others. To the extent that we have to rely on licensed technology from others, there can be no assurance that we will be able to obtain licenses at all or on terms we consider reasonable. The lack of a necessary license could expose us to claims for damages and/or injunction from third parties, as well as claims for indemnification by our customers in instances where we have a contractual or other legal obligation to indemnify them against damages resulting from infringement claims. With regard to our own intellectual property, we actively enforce and protect our rights. However, there can be no assurance that our efforts will be adequate to prevent the misappropriation or improper use of our protected technology in international markets.

We face inherent product liability or other liability risks that could result in large claims against us.

We have inherent risk of exposure to product liability and other liability claims resulting from the use of our products, especially to the extent customers may depend on our products in public safety situations that may involve physical harm or even death to individuals, as well as exposure to potential loss or damage to property. Despite quality control systems and inspection, there remains an ever-present risk of an accident resulting from a faulty manufacture or maintenance of products, or an act of an agent outside of our or our supplier’s control. Even if our products perform properly, we may become subject to claims and costly litigation due to the catastrophic nature of the potential injury and loss. A product liability claim, or other legal claims based on theories including personal injury or wrongful death, made against us could adversely affect operations and financial condition. Although we may have insurance to cover product liability claims, the amount of coverage may not be sufficient.

We expect that we will need to obtain additional financing to execute our business plan over the long-term, which may not be available. If we are unable to raise additional capital or generate significant revenue, we may not be able to continue operations.

We have historically financed our operations through access to the capital markets by issuing secured and convertible debt securities, convertible preferred stock, common stock, and through factoring receivables. We currently require approximately $525,000 per month to conduct our operations, a monthly amount that we have been unable to consistently achieve through revenue generation. During 2019, we generated approximately $2,268,000 of revenue, which is below our average monthly requirements. If we are unable to generate sufficient revenue to cover operating expenses and fund our business plan, we will need to obtain additional third-party financing to (i) conduct the sales, marketing and technical support necessary to execute our plan to substantially grow operations, increase revenue and serve a significant customer base; and (ii) provide working capital. We may, therefore, need to obtain additional financing through the issuance of debt or equity securities. We cannot assure you that we will be able to secure any such additional financing on terms acceptable to us or at all. If we cannot obtain such financing, we will not be able to execute our business plan, will be required to reduce operating expenses, and in the extreme case, discontinue operations.

We may not achieve sustainable profitability with respect to the biometric component of our business if we are unable to maintain, improve our offerings.

We believe that our future business prospects depend in part on our ability to maintain and improve our current services and to develop new ones on a timely basis. Our services will have to achieve market acceptance, maintain technological competitiveness, and meet an expanding range of customer requirements. As a result of the complexities inherent in our service offerings, major new wireless data services and service enhancements require long development and testing periods. We may experience difficulties that could delay or prevent the successful development, introduction or marketing of new services and service enhancements. Additionally, our new services and service enhancements may not achieve market acceptance. If we cannot effectively develop and improve services, we may not be able to recover our fixed costs or otherwise become profitable.

If we fail to adequately manage our resources, it could have a severe negative impact on our financial results or stock price.

We could be subject to fluctuations in technology spending by existing and potential customers. Accordingly, we will have to actively manage expenses in a rapidly changing economic environment. This could require reducing costs during economic downturns and selectively growing in periods of economic expansion. If we do not properly manage our resources in response to these conditions, our results of operations could be negatively impacted.

The recent outbreak of COVID-19 has and may continue to have a negative impact on our business, sales, results of operations and financial condition.

The global outbreak of COVID-19 has led to severe disruptions in general economic activities, particularly retail operations and travel, as businesses and federal, state, and local governments take increasingly broad actions to mitigate this public health crisis. Individually and collectively, the consequences of the COVID-19 outbreak could have a material adverse effect on our business, sales, results of operations and financial condition. Although our employees have been accustomed to working remotely prior to the COVID-19 pandemic, the uncertainty has extended sales cycles, extended payment terms, impacted access to inventory overseas, and delayed the start of planned deployments, particularly in the continent of Africa which remains subject to shut-down and shelter at home orders.

Additionally, our liquidity could be negatively impacted if these conditions continue for a significant period of time and we may be required to pursue additional sources of financing to obtain working capital, maintain appropriate inventory levels, and meet our financial obligations. Currently capital and credit markets have been disrupted by the crisis and our ability to obtain any required financing is not guaranteed and largely dependent upon evolving market conditions and other factors. Depending on the continued impact of the crisis, further actions may be required.

The extent to which the COVID-19 outbreak ultimately impacts our business, sales, results of operations and financial condition will depend on future developments, which are highly uncertain and cannot be predicted, including, but not limited to, the duration and spread of the outbreak, its severity, the actions to contain the virus or treat its impact, and how quickly and to what extent normal economic and operating conditions can resume. Even after the COVID-19 outbreak has subsided, we may continue to experience significant impacts to our business as a result of its global economic impact, including any economic downturn or recession that has occurred or may occur in the future.

We have taken measures to minimize the health risks of COVID-19 to our employees, as their safety and well-being are a top priority. Despite these efforts, there is a risk that one or more of our employees, including members of senior management, could contract COVID-19. Our U.S. employees are working remotely when possible, and we may experience reduced productivity due to the remote work environment. The extent to which COVID-19 impacts our business, sales and results of operations will depend on future developments, which are highly uncertain and cannot be predicted.

War, terrorism, other acts of violence or natural or manmade disasters such as a global pandemic may affect the markets in which the Company operates, the Company's customers, the Company's delivery of products and customer service, and could have a material adverse impact on our business, results of operations, or financial condition.

Our business may be adversely affected by instability, disruption or destruction in a geographic region in which we operate, regardless of cause, including war, terrorism, riot, civil insurrection or social unrest, and natural or manmade disasters, including famine, food, fire, earthquake, storm or pandemic events and spread of COVID-19, described above.

Such events may cause customers to suspend their decisions on using our products and services, make it difficult or impossible to access some of our inventory, and give rise to sudden significant changes in regional and global economic conditions and cycles that could interfere with purchases of goods or services. These events also pose significant risks to the our personnel and to physical facilities which could materially adversely affect our financial results.

Our business could be negatively impacted by security threats, including cybersecurity threats, ransomware, and other disruptions.

As a technology company, we face various security threats, including cybersecurity threats to gain unauthorized access to sensitive information. Although we utilize various procedures and controls to monitor these threats and mitigate our exposure to such threats, there can be no assurance that these procedures and controls will be sufficient in preventing security threats from materializing. If any of these events were to materialize, they could lead to losses of sensitive information, critical infrastructure, personnel or capabilities, essential to our operations and could have a material adverse effect on our reputation, financial position, results of operations, or cash flows.

Cybersecurity attacks in particular are evolving and include but are not limited to, malicious software, attempts to gain unauthorized access to data, and other electronic security breaches that could lead to disruptions in critical systems, unauthorized release of confidential or otherwise protected information and corruption of data. Although we have implemented systems and procedures that are designed to protect customer, employee, vendor and Company information, prevent data loss and other security breaches, and otherwise identify, assess, and analyze cybersecurity risks, these measures may not be effective. Development and maintenance of these systems is costly and requires ongoing monitoring and updating as technologies change and efforts to overcome security measures increase and become more sophisticated. We face an evolving threat landscape in which cybercriminals, among others, employ a complex array of techniques designed to access personal data and other information, including, for example, the use of fraudulent or stolen access credentials, malware, ransomware, phishing, denial of service and other types of attacks. While, to the best of our knowledge, we have not experienced any material misappropriation, loss or other unauthorized disclosure of confidential or personally identifiable information as a result of a security breach or cyber attack that could materially increase financial risk to the Company or our customers, such a security breach or cyber attack could adversely affect our business and operations, including by damaging our reputation and our relationships with our customers, employees and investors, exposing us to litigation, fines, penalties or remediation costs.

RISKS RELATED TO OUR COMMON STOCK

We have issued a substantial number of securities that are convertible into shares of our common stock which could result in substantial dilution to the ownership interests of our existing shareholders.

As of the date of this report, approximately 9,300,000 shares of our common stock were reserved for issuance upon exercise or conversion of outstanding stock options, warrants, and convertible notes. The exercise or conversion of these securities will result in a significant increase in the number of outstanding shares and substantially dilute the ownership interests of our existing stockholders.

The availability of a substantial number of shares of our common stock for public sale may cause the price of our common stock to decline.

Our most recent registration statement, which was declared effective in September 2019, covered the public resale of 2,040,000 shares of our common stock underlying a convertible note and 2,000,000 shares underlying warrants which we issued in a July 2019 private offering. In the first quarter of 2020, we amended the convertible note to reduce the conversion price to $0.65 per share which increased the number of shares issuable upon conversion of the note. As of the date of this report, approximately 5,000,000 shares have been converted under the note In addition, on May 6, 2020, we issued a convertible note and warrants convertible and exercisable, respectively, into approximately 3,900,000 shares of common stock. We have agreed to register the public resale of these shares which represent approximately 19% of our outstanding shares. The availability of these shares for sale to the public, whether or not sales have occurred or are occurring, and the sale of such shares in the public markets could have an adverse effect on the market price of our common stock. Such an adverse effect on the market price would make it more difficult for us to raise additional financing through the sale of equity or equity-related securities in the future at a time and price that we deem reasonable or appropriate.

An active trading market for our common stock may not be sustained.

Although our common stock is listed on the Nasdaq Capital Market, an active trading market for our shares may not be developed and if developed, sustained. If an active market for our common stock is not developed or sustained, it may be difficult for you to sell your shares without depressing the market price for the shares or sell your shares at all. Any inactive trading market for our common stock may also impair our ability to raise capital to continue to fund our operations by selling shares and may impair our ability to acquire other companies or technologies by using our shares as consideration.

If we fail to comply with the continued minimum closing bid requirements of the Nasdaq or other requirements for continued listing, our Common Stock may be delisted and the price of our Common Stock and our ability to access the capital markets could be negatively impacted.

Our common stock is listed for trading on Nasdaq. We must satisfy Nasdaq's continued listing requirements, including, among other things, a minimum closing bid price requirement of $1.00 per share for 30 consecutive business days. A delisting of our common stock from Nasdaq could materially reduce the liquidity of our common stock and result in a corresponding material reduction in the price of our Common Stock. In addition, delisting could harm our ability to raise capital through alternative financing sources on terms acceptable to us, or at all, and may result in the potential loss of confidence by investors, employees and fewer business development opportunities.

In September 2019, we received a letter from the Nasdaq stating that our share price had not satisfied the continued listing requirement to maintain a minimum bid price of $1.00 per share, as set forth in Nasdaq Listing Rule 5550(a)(2). We were not able to regain compliance during the 180-day period following the letter, and have provided a written notice to the Nasdaq stating that it is our intention to regain compliance during the second 180-day period. On April 20, 2020, the Company received notice from the

Listing Qualifications Department of The Nasdaq Capital Market that the grace period to regain compliance with the continued listing standard set forth in Rule 5550(a)(2) of the Nasdaq Listing Rules (the "Minimum Bid Price Requirement") has been extended due to the global market impact caused by COVID-19. More specifically, Nasdaq has stated that the compliance periods for any company previously notified about non-compliance with the Minimum Bid Price Requirement will be suspended effective April 16, 2020, until June 30, 2020. On July 1, 2020, companies will receive the balance of any pending compliance period in effect on April 16, 2020 to come back into compliance with the applicable Minimum Bid Price Requirement. As a result of this extension, we now has until December 4, 2020, to regain compliance with the Minimum Bid Price Requirement.

We expect to raise additional funds in the future through issuances of securities and such additional funding may be dilutive to stockholders or impose operational restrictions.

We expect that we will need to raise additional capital in the future to help fund our operations through sales of shares of our common stock or securities convertible into shares of our common stock, as well as issuances of debt. Such additional financing may be dilutive to our stockholders, and debt financing, if available, and may involve restrictive covenants which may limit our operating flexibility. If additional capital is raised through the issuance of shares of our common stock or securities convertible into shares of our common stock, the percentage ownership of existing stockholders will be reduced. These stockholders may experience additional dilution in net book value per share and any additional equity securities may have rights, preferences and privileges senior to those of the holders of our common stock.

Because we do not expect to pay dividends for the foreseeable future, investors seeking cash dividends should not purchase our shares of common stock.

We have never declared or paid any cash dividends on our common stock, and we do not anticipate paying any cash dividends on our common stock in the foreseeable future. Our payment of any future dividends will be at the discretion of our board of directors after taking into account various factors, including but not limited to our financial condition, operating results, cash needs, growth plans and the terms of any credit agreements that we may be a party to at the time. Accordingly, investors seeking cash dividends should not purchase shares of our common stock.

Our share ownership is concentrated which will limit your ability to influence corporate matters.

Our directors, officers and principal stockholders, beneficially own approximately 36% of our common stock and will continue to have significant influence over the outcome of all matters submitted to the stockholders for approval, including the election of our directors and approval of significant corporate transactions. This concentration of ownership will limit your ability to influence corporate matters, and as a result, actions may be taken that you may not view as beneficial.

Provisions of our certificate of incorporation, bylaws and Delaware law may make a contested takeover of our Company more difficult.

Certain provisions of our certificate of incorporation, bylaws and the General Corporation Law of the State of Delaware ("DGCL") could deter a change in our management or render more difficult an attempt to obtain control of us, even if such a proposal is favored by a majority of our stockholders. For example, we are subject to the provisions of the DGCL that prohibit a public Delaware corporation from engaging in a broad range of business combinations with a person who, together with affiliates and associates, owns 15% or more of the corporation's outstanding voting shares (an "interested stockholder") for three years after the person became an interested stockholder, unless the business combination is approved in a prescribed manner. Our certificate of incorporation also includes undesignated preferred stock, which may enable our board of directors to discourage an attempt to obtain control of us by means of a tender offer, proxy contest, merger or otherwise. Finally, our bylaws include an advance notice procedure for stockholders to nominate directors or submit proposals at a stockholders meeting. Delaware law and our charter may, therefore, inhibit a takeover.

The trading price of our common stock may be volatile.

The trading price of our shares has from time to time fluctuated widely and in the future may be subject to similar fluctuations. The trading price may be affected by a number of factors including the risk factors set forth in this prospectus as well as our operating results, financial condition, announcements of innovations or new products by us or our competitors, general conditions in the biometrics and access control industries, and other events or factors. We cannot assure you that any of the broker-dealers that currently make a market in our common stock will continue to serve as market makers or have the financial capability to stabilize or support our common stock. A reduction in the number of market makers or the financial capability of any of these market makers could also result in a decrease in the trading volume of and price of our shares. In recent years broad stock market indices, in general, and the securities of technology companies, in particular, have experienced substantial price fluctuations. Such broad market fluctuations may adversely affect the future-trading price of our common stock.

ITEM 2. DESCRIPTION OF PROPERTY

We do not own any real estate. We conduct operations from leased premises in Eagan, Minnesota (5,544 square feet), and Wall, New Jersey (4,517 square feet), as well as in several home-office locations across the country. Internationally, we conduct operations from leased premises in Tsuen Wan, Hong Kong (1,098 square feet), and Jiangmen, China (3,267 square feet).

ITEM 3. LEGAL PROCEEDINGS

From time to time, we may be involved in litigation relating to claims arising out of our operations in the normal course of business. As of the date of this report, we are not a party to any pending lawsuit.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Our common stock currently trades on the Nasdaq Capital Market under the symbol "BKYI".

Holders

As of May 11, 2020, the number of stockholders of record of our common stock was 55.

Dividends

We have not paid any cash dividends on our common stock to date, and have no intention of paying any cash dividends on our common stock in the foreseeable future. The declaration and payment of dividends on our common stock is also subject to the discretion of our Board of Directors and certain limitations imposed under the DGCL. The timing, amount and form of dividends, if any, will depend on, among other things, our results of operations, financial condition, cash requirements and other factors deemed relevant by our Board of Directors.

Securities Authorized for Issuance under Equity Compensation Plans

The information concerning our equity compensation plans is incorporated by reference from information contained under the section "Equity Compensation Plans" in our Proxy Statement for the 2020 Annual Meeting of Stockholders.

Unregistered Sales of Equity Securities

There were no unregistered sales of the Company's equity securities during 2019 that were not previously disclosed in a Quarterly Report on Form 10-Q or in a Current Report on Form 8-K.

Rule 10B-18 Transactions

None.

ITEM 6. SELECTED FINANCIAL DATA

Not Applicable.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

This Management's Discussion And Analysis Of Financial Condition And Results Of Operations, and other parts of this Report contain forward-looking statements that involve risks and uncertainties. All forward-looking statements included in this Report are based on information available to us on the date hereof, and we assume no obligation to update any such forward-looking statements. Our actual results could differ materially from those anticipated in these forward-looking statements as a result of a number of factors, including those set forth in the section captioned "**RISK FACTORS**" in Item 1A and elsewhere in this Report. The following should be read in conjunction with our audited financial statements included elsewhere herein.

The following Management's Discussion and Analysis of Financial Condition and Results of Operations ("MD&A") is intended to help you understand the Company. The MD&A is provided as a supplement to and should be read in conjunction with our financial statements and the accompanying notes.

OVERVIEW

We develop and market advanced fingerprint biometric identification and identity verification technologies, as well as related identity management and credentialing fingerprint biometric hardware and software solutions. We were pioneers in developing automated, finger identification technology that supplements or compliments other methods of identification and verification, such as personal inspection identification, passwords, tokens, smart cards, ID cards, PKI, credit card, passports, driver's licenses, OTP or other forms of possession or knowledge-based credentialing. Advanced BIO-key technology has been and is used to improve both the accuracy and speed of competing finger-based biometrics. Our solutions are used by customers in every sector of our economy including government, financial services, education, manufacturing, retail, and call centers.

We provide the ability to positively identify and authenticate individuals before granting access to valuable corporate resources, web portals or applications in seconds. Powered by our patented Vector Segment Technology (VST), WEB-key and BSP development kits are fingerprint biometric solutions that provide interoperability with dozens of reader manufacturers, enabling application developers and integrators to integrate fingerprint biometrics into their applications.

Our biometric identification technology improves both the accuracy and speed of screening individuals, for identification purposes or for personal identity verification, by extracting unique data from a fingerprint and comparing it to existing similar fingerprint data. The technology has been built to be scalable and to handle databases containing millions of fingerprints. We achieve the highest levels of discrimination without requiring any other identifying data (multi-factor) such as a user ID, smart cards, or tokens, although our technology can be used in conjunction with such additional factors. Users of our technology have the option of on device or cloud authentication. This flexible authentication option in conjunction with our interoperable capabilities, is another key differentiator of our biometric identification solutions.

Our WEB-key solution is a client server suite that can be integrated into virtually any application, whether web based or desktop application based on Windows. The WEB-key solution is a security solution that protects the biometric data in processing, transmission and storage. WEB-key provides a turn-key solution for biometric as well as multi-factor authentication across an enterprise, government system or any user population.

We also develop and distribute hardware components that are used in conjunction with our software, and sell third-party hardware components with our software in various configurations required by our customers. Our products are interoperable with major fingerprint reader and hardware manufacturers, supporting Windows, Linux, Mac OS X, and Android operating systems enabling application developers, value added resellers, and channel partners to integrate our fingerprint biometrics into their applications, while dramatically reducing maintenance, upgrade and life-cycle costs. This interoperability is unique in the industry, and a key differentiator for our products in the biometric market. In our opinion, these features makes our technology more viable than competing technologies and expands the size of the overall market for our products.

In partnerships with OEMs, VARs, integrators, and solution providers, we market and sell biometric hardware and software solutions to SMBs, the Fortune 500 and government agencies.

We support industry standards, including PIV, FIPS, ANSI, ISO, SAML, and BioAPI among others. We have received National Institute of Standards and Technology (NIST) independent laboratory testing and certification of our ability to support Homeland Security Presidential Directive #12 (HSPD-12) and ANSI/INCITS-378 templates, as well as validation of our fingerprint match speed and accuracy in large database environments.

We have developed what we believe is the most discriminating and effective commercially available finger-based biometric technology. Our primary focus is in marketing and selling this technology to customers seeking to secure access to networks, applications and data on-premises or remotely. Our primary market focus includes, government, financial services, education, healthcare, manufacturing, retail, and call centers.

PRODUCTS

We also offer a full line of easy to use finger scanners for both enterprise and consumer markets. Our SideSwipe, SideTouch and EcoID scanners are plug and play compatible with Microsoft Windows and our Q-180 Touch reader is a Micro USB compatible fingerprint reader for Android devices. The readers are currently sold in the Microsoft stores, as well as through their on-line channel, on Amazon, and through our website. In 2018, we introduced OmniPass Consumer, a secure biometric-enabled application to manage multiple passwords for online apps, services, or accounts.

In 2015, Microsoft announced native support for biometrics in the Windows 8.1 and Windows 10 Operating platforms as well as Office 2016. With Microsoft Hello, any user can replace their PIN or password to access their device without any special software downloads by using our finger scanners, SideSwipe, SideTouch and EcoID, which are plug and play compatible with the Microsoft platforms. We have been the preferred partner, in particular at the Microsoft "Ignite your Business" Windows 10 and Office 2016 launch events..

Finally, our ID Director for Windows and ID Director for SAML offer biometric authentication to SAML enables apps such as Office 365, GoToMeeting, Zoom, SalesForce, Google G-Suite, and many others.

STRATEGIC OUTLOOK

Historically, our largest market has been access control within highly regulated industries such as government, financial services, and healthcare. During 2019 we became the go-to biometric authentication provider for board of election offices as eight offices deployed our hardware and software to secure internal access to the voter registration database. We will seek to extend this footprint in 2020 and beyond.

Working with our partner TTI, we expect to begin deploying several large-scale identity and access projects in the second quarter of 2020. We are in the process of establishing an African subsidiary, to work closely with TTI who was awarded contracts of $45M and $30M. Under the first contract, we will provide biometric authentication to support the infrastructure of a new e-commerce project developed with the expectation to generate more than one million jobs in Nigeria. The second contract provides for BIO-key hardware and software to be used by a leading African telecommunications company to secure internal access to customer data. Based on information available today, Africa and the surrounding regions are receiving government funding to expand the use of biometric authentication solutions to help establish trustworthy government programs and reduce fraud. As described above, the COVID-19 pandemic has and may continue to delay the rollout of these programs.

We plan to have a more significant role in the Identity and Access Management (IAM) market which continues to expand. We plan to offer customers a suite of authentication options that complement our biometric solutions. The more well-rounded offerings of authentication options will allow customers to customize their approach to authentication all under one umbrella.

As devices with onboard fingerprint sensors continue to deploy to consumers, we expect that third-party application developers will demand the ability to authenticate users of their respective applications (apps) with the onboard fingerprint biometric. We further believe that authentication will occur on the device itself for potentially low-value, and therefore low-risk, use-transactions and that user authentication for high-value transactions will migrate to the application provider's authentication server, typically located within their supporting technology infrastructure, or cloud. We have developed our technology to enable, on-device authentication as well as network or cloud-based authentication and believe we may be the only technology vendor capable of providing this flexibility and capability. Our core technology works on major commercially available fingerprint readers, across Windows and Linux, Mac OS X and Android operating systems. This interoperability, coupled with the ability to authenticate users via the device or cloud, is unique in the industry, provides a key differentiator for us, and in our opinion, makes our technology more viable than competing technologies and expands the size of the overall market for our products.

We believe there is potential for significant market growth in the following key areas:

- Corporate network access control, corporate campuses, computer networks, and applications.
- Large scale identification projects, especially in Africa and the surrounding regions.
- Government funded initiatives, including with the state board of elections.
- International law enforcement use case applications as prospects see us as a global leader in the biometric technology space as witnessed by our agreement with the Israeli Defense Force, and the Singapore and Dubai Police departments.
- Consumer mobile credentialing, including mobile payments, credit and payment card programs, data and application access, and commercial loyalty programs.
- Demand for BIO-key hardware products from Windows 10 users and Fortune 500 companies.
- Government services and highly regulated industries including, Medicare, Medicaid, Social Security, Drivers Licenses, Campus and School ID, Passports/Visas.
- Continued growth in the Asia Pacific region.
- New remote authentication challenges – which our solutions are ideally suited to address.
- New opportunity to market our remote security solutions, spurred on because of the COVID-19 outbreak.

In the near-term, we expect to grow our business within government services and highly-regulated industries in which we have historically had a strong presence. We believe that continued heightened security and privacy requirements in these industries will generate increased demand for security solutions, including biometrics. In addition, we expect that the integration of our technology into Windows 10, will accelerate the demand for our computer network log-on solutions and fingerprint readers.

Our two primary sales strategies call for expanded marketing efforts into the IAM market along with a dedicated pursuit of large-scale identification projects across the globe.

We also plan on expanding our new Channel Alliance Program which now has more than twenty participants and started to generate modest initial revenues.

RECENT DEVELOPMENTS

As discussed under "Item 1A. Risk Factors" above, an outbreak of a novel strain of the coronavirus, COVID-19, has been recognized as a pandemic by the World Health Organization. This outbreak has severely restricted the level of economic activity around the world. In response to this coronavirus outbreak the governments of many countries, states, cities and other geographic regions have taken preventative or protective actions, including imposing restrictions on travel and business operations and requiring individuals to limit or forego their time outside of their homes. Given the uncertainty regarding the spread of this coronavirus, the related financial impact cannot be reasonably estimated at this time.

The complications caused by COVID-19 has forced organizations to quickly adapt to a work from home remote business model. This increases the risk of unauthorized users, phishing attacks, and hackers whom are eager to take advantage of the challenges of securing remote workers. We believe that biometrics should play a key role in remote user authentication.

RESULTS OF OPERATIONS

Consolidated Results of Operations

Two Year % trend

	Years ended December 31,	
	2019	**2018**
Revenues		
Services	40%	25%
License fees	20%	43%
Hardware	40%	32%
	100%	100%
Costs and other expenses		
Cost of services	12%	11%
Cost of license fees	41%	76%
Cost of hardware	56%	16%
	109%	103%
Gross Profit (Loss)	-9%	-3%
Operating expenses		
Selling, general and administrative	222%	132%
Research, development and engineering	58%	35%
Total operating expenses before impairment	280%	167%
Impairment of resalable software license rights	307%	-
Operating loss	-596%	-170%
Other income (expense)		
Total other income (expense)	-47%	0%
Net loss	-643%	-170%

Revenues and Costs and other expenses

	2019	2018	2019 - 2018 $ Chg	2019 - 2018 % Chg
Revenues				
Services	$ 925,245	$ 1,012,576	$ (87,331)	-9%
License fees	442,649	1,739,897	(1,297,248)	-75%
Hardware	899,634	1,292,069	(392,435)	-30%
Total Revenue	$ 2,267,528	$ 4,044,542	$ (1,777,014)	-44%
Costs and other expenses				
Services	$ 272,318	$ 443,210	$ (170,892)	-39%
License fees	916,112	3,072,356	(2,156,244)	-70%
Hardware	1,272,815	648,624	624,191	96%
Total Costs and other expenses	$ 2,461,245	$ 4,164,190	$ (1,702,945)	-41%

Revenues

Revenue decreased $1,777,014 or 44% to $2,267,528 in 2019 as compared to $4,044,542 in 2018 due to the factors stated below.

For the years ended December 31, 2019 and 2018, service revenues included approximately $904,000 and $895,000, respectively, of recurring maintenance and support revenue, and approximately $21,000 and $118,000, respectively, of non-recurring custom services revenue. Recurring service revenue increased 1% from 2018 to 2019 as we moved from a perpetual license to subscription based licensing. As our customer base continues to grow, we expect the recurring revenue to increase in future periods. Non-recurring custom services decreased 82% in 2019 as a result of a completed special software requirement from an existing customer in the first quarter of 2018.

For the years ended December 31, 2019 and 2018, license revenue decreased 75% to $442,649. The decrease was primarily due to one large international order received in the fourth quarter of 2018 in amount of approximately $1,111,000 without a comparable transaction in the fourth quarter of 2019.

Hardware sales decreased by approximately $392,000, or 30%, to $899,634 in 2019 as a result of fewer large customer deployments, and primarily reduced lock sales. Fingerprint reader sales decreased approximately $158,000, or 16%, while the biometric locks decreased approximately $235,000, or 84% from 2018.

Costs of goods sold

For the year ended December 31, 2019, cost of service decreased approximately 39% to $272,318, due to a completed special software requirement from an existing customer in the first quarter of 2018.

License costs for the year ended December 31, 2019 decreased approximately 70% to $916,112. The decrease was attributable primarily to the amortization and actual deployments of the software rights in the approximate amount of $884,000 in 2019 compared to $2,658,000 in 2018.

Hardware costs for the year ended December 31, 2019 increased approximately 96% to $1,272,815. The increase was attributable primarily to the write down of lock inventory and parts as a result of the discontinuance of lock sales in the US, offset by a decrease in factory costs due to reduced lock sales.

Selling, general and administrative

2019	2018	2019 - 2018 $ Chg	2019 - 2018 % Chg
$ 5,036,820	$ 5,333,906	$ (297,086)	-6%

Selling, general and administrative costs for year ended December 31, 2019 were $5,036,820 representing a 6% decrease from over 2018. Decreases in costs included non-cash share-based compensation expenses, decreased bad debt expense, marketing personnel and related costs, and travel. These amounts were offset by increases in factoring fees, legal and accounting fees related to capital raising transactions, and insurance costs.

Research, development and engineering

2019	2018	2019 - 2018 $ Chg	2019 - 2018 % Chg
$ 1,331,667	$ 1,415,401	$ (83,734)	-6%

For the year ended December 31, 2019, research, development and engineering costs were $1,331,667 representing a 6% decrease over 2018, as a result of decreased personnel, non-cash share-based compensation expenses, and costs related to our Hong Kong subsidiary. These amounts were offset by increased recruiting costs.

Impairment

	2019	2018	2019 - 2018 $ Chg	2019 - 2018 % Chg
Impairment of resalable software license rights	$ (6,957,516)	-	$ (6,957,516)	n/a

Impairment of assets relates to the write-down of the FingerQ resalable software license rights to zero in the fourth quarter of 2019.

Other income (expense)

	2019	2018	2019 - 2018 $ Chg	2019 - 2018 % Chg
Interest income	154	80	74	93%
Interest expense	(1,069,134)	-	(1,069,134)	n/a
	$ (1,068,980)	$ 80	$ (1,069,060)	

Interest expense for the 2019 period related to the interest expense on convertible debt financings and amortization of the debt discount and debt issuance costs incurred as a result of the convertible debt financings.

LIQUIDITY AND CAPITAL RESOURCES

Operating activities overview

Net cash used for operations during the year ended December 31, 2019 was approximately $1,850,000. Items of note included:

- Net positive cash flows related to accounts receivable, prepayments, inventory, accounts payables, accruals and deferred revenue of approximately $2,222,000.

- Net positive cash flows related to adjustments for non-cash expenses for impairment, depreciation, amortization, bad debt expense, and share-based compensation of approximately $10,609,000.

- Negative cash flows related to changes in contract costs and factoring of approximately $105,000, due to working capital management.

Investing activities overview

Approximately $543,000 was used for investing activities during the year ended December 31, 2019 related to the purchase of a non-marketable bond for approximately $513,000 and capital expenditures of $30,000.

Financing activities overview

Approximately $2,149,000 was provided by financing activities during the year ended December 31, 2019 from the issuance and repayment of debt, including convertible notes, less fees.

CAPITAL RESOURCES

Since our inception, our capital needs have been principally met through proceeds from the sale of equity and debt securities. We expect capital expenditures to be less than $100,000 during the next twelve months.

The following sets forth our primary sources of capital during the previous two years:

We entered into an accounts receivable factoring arrangement with a financial institution (the "Factor") which has since been extended through October 31, 2020. Pursuant to the terms of the arrangement, from time to time, we sell to the Factor a minimum of $150,000 of certain of our accounts receivable balances per quarter on a non-recourse basis for credit approved accounts. The Factor remits 35% of the foreign and 75% of the domestic accounts receivable balance to us (the "Advance Amount"), with the remaining balance, less fees, forwarded to us once the Factor collects the full accounts receivable balance from the customer. In addition, from time to time, we receive over advances from the Factor. Factoring fees range from 2.75% to 15% of the face value of the invoice factored, and is determined by the number of days required for collection of the invoice. We expect to continue to use this factoring arrangement periodically to assist with our general working capital requirements due to contractual requirements.

On August 24, 2018, we completed a public offering of units consisting of 1,380,000 shares of common stock and warrants to purchase 1,035,000 shares of common stock for an aggregate gross proceed of $2,070,000, or $1.50 per unit.

On April 4, 2019, we issued a $550,000 secured convertible debenture to an institutional investor with a maturity date of November 15, 2019 which was convertible into common stock at a conversion price of $1.50 per share. The debenture was redeemable at any time by payment of a premium to the principal balance starting at 5% and increasing to 20%. The debenture was issued at a 7% original issue discount. On July 10, 2019, this debenture was redeemed and repaid in full in connection with the financing described below.

On June 14, 2019, we issued a $157,000 principal amount convertible note to an institutional investor with a maturity date of November 14, 2019 which was convertible into common stock at a conversion price of $1.50 per share. The note was redeemable at any time by payment of a premium to the principal balance starting at 10% and increasing to 30%. On July 10, 2019, this note was redeemed and repaid in full in connection with the financing described below.

On July 10, 2019, we issued a $3,060,000 principal amount senior secured convertible note (the "Original Note") to an institutional investor. At closing, $2,550,000 was funded. The Note is secured by a lien on substantially all of our assets and properties and was convertible into shares of our common stock at a fixed conversion price of $1.50 per share. Pursuant to amendments in the first and second quarter of 2020, we amended the Original Note to increase the principal amount to $3,789,000 as a result of interest and penalties, accelerated the maturity date to June 13, 2020, and reduced the conversion price to $0.65 per share (the "Amended Note"). As a result of conversions of amounts due under the Amended Note into shares of the Company's common stock, the current outstanding principal amount of the Amended Note is $539,000.

On January 13, 2020, we issued a $157,000 principal amount convertible note to an institutional investor with a maturity date of June 13, 2020 which was convertible into common stock at a conversion price of $1.50 per share. The note is redeemable at any time by payment of a premium to the principal balance starting at 10% and increasing to 30%.

On February 13, 2020, we issued a $126,000 principal amount convertible note to an institutional investor with a maturity date of July 13, 2020 which was convertible into common stock at a conversion price of $1.15 per share. The note is redeemable at any time by payment of a premium to the principal balance starting at 10% and increasing to 30%.

On April 20, 2020, we entered into a Paycheck Protection Program Term Note (the "SVB Note") with Silicon Valley Bank ("SVB") pursuant to the Paycheck Protection Program (the "Program") of the recently enacted Coronavirus Aid, Relief, and Economic Security Act ("CARES Act") administered by the U.S. Small Business Administration. We received total proceeds of $340,000 which will be used in accordance with the requirements of the CARES Act. We will apply to SVB for forgiveness of amounts due on the SVB Note to the extent they are used for eligible payroll costs, rent obligations, and covered utility payments incurred during the eight weeks following disbursement under the SVB Note. Until the six-month anniversary of the date of the SVB Note (the "Deferral Expiration Date"), neither principal nor interest is due and payable. On the Deferral Expiration Date, the outstanding principal of the SVB Note that is not forgiven will convert to an amortizing term loan at an interest rate of 1% per annum requiring equal monthly payments of principal and interest through November 20, 2022.

On May 6, 2020, we issued a $2,415,000 principal amount senior secured convertible note (the "Note"). The principal amount is due and payable in five equal monthly installments of $268,333 beginning seven months after the funding date with the remaining balance due in on the twelfth month after the date of funding. The Note is convertible at a fixed convertible price of $1.16.

LIQUIDITY OUTLOOK

At December 31, 2019, our total cash and cash equivalents were approximately $79,000, as compared to approximately $324,000 at December 31, 2018.

As discussed above, we have historically financed our operations through access to the capital markets by issuing secured and convertible debt securities, convertible preferred stock, common stock, and through factoring receivables. We currently require approximately $525,000 per month to conduct our operations, a monthly amount that we have been unable to consistently achieve through revenue generation. During 2019, we generated approximately $2,268,000 of revenue, which is below our average monthly requirements.

If we are unable to generate sufficient revenue to fund current operations or meet our goals, we will need to obtain additional third-party financing to (i) conduct the sales, marketing and technical support necessary to execute our plan to substantially grow operations, increase revenue and serve a significant customer base; and (ii) provide working capital. We may, therefore, need to obtain additional financing through the issuance of debt or equity securities.

Due to several factors, including our history of losses and limited revenue, our independent auditors have included an explanatory paragraph in their opinion related to our annual financial statements as to the substantial doubt about our ability to continue as a going concern. Our long-term viability and growth will depend upon the successful commercialization of our technologies and our ability to obtain adequate financing. To the extent that we require such additional financing, no assurance can be given that any form of additional financing will be available on terms acceptable to us, that adequate financing will be obtained to meet our needs, or that such financing would not be dilutive to existing stockholders. If available financing is insufficient or unavailable or we fail to continue to generate sufficient revenue, we may be required to further reduce operating expenses, delay the expansion of operations, be unable to pursue merger or acquisition candidates, or in the extreme case, not continue as a going concern.

OFF-BALANCE SHEET ARRANGEMENTS

We do not have any off-balance sheet arrangements that have, or are in the opinion of management reasonably likely to have, a current or future effect on our financial condition or results of operations.

CRITICAL ACCOUNTING POLICIES

Our financial statements are prepared in accordance with accounting principles generally accepted in the United States. The preparation of these financial statements requires that we 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 financial statements and the reported amounts of revenue and expenses during the reporting periods. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances. We evaluate our estimates and assumptions on an ongoing basis. Our actual results may differ significantly from these estimates under different assumptions or conditions. With the exception of the adoption of ASC 842 for Leases and ASC 606 for Revenue Recognition, there have been no material changes to these estimates for the periods presented in this Annual Report on Form 10-K.

We believe that of our significant accounting policies, which are described in Note A of the notes to our consolidated financial statements included in this Annual Report on Form 10-K, the following accounting policies involve a greater degree of judgment and complexity. Accordingly, these are the policies we believe are the most critical to aid in fully understanding and evaluating our financial condition and results of operations.

1. Revenue Recognition

The Company adopted ASC 606 on January 1, 2018 using the modified retrospective method for all contracts not completed as of the date of adoption. In accordance with ASC 606, revenue is recognized when a customer obtains control of promised services. The amount of revenue recognized reflects the consideration to which the Company expects to be entitled to receive in exchange for these services. To achieve this core principle, the Company applies the following five steps:

- Identify the contract with a customer
- Identify the performance obligations in the contract
- Determine the transaction price

- Allocate the transaction price to performance obligations in the contract
- Recognize revenue when or as the Company satisfies a performance obligation

All of our performance obligations, and associated revenue, are generally transferred to customers at a point in time, with the exception of support and maintenance, and professional services, which are generally transferred to the customer over time.

Software licenses
Software license revenue consist of fees for perpetual software licenses for one or more of our biometric fingerprint solutions. Revenue is recognized at a point in time once the software is available to the customer for download. Software license contracts are generally invoiced in full on execution of the arrangement.

Hardware
Hardware revenue consists of fees for associated equipment sold with or without a software license arrangement, such as servers, locks and fingerprint readers. Customers are not obligated to buy third party hardware from us, and may procure these items from a number of suppliers. Revenue is recognized at a point in time once the hardware is shipped to the customer. Hardware items are generally invoiced in full on execution of the arrangement.

Support and Maintenance
Support and Maintenance revenue consists of fees for unspecified upgrades, telephone assistance and bug fixes. We satisfy our Support and Maintenance performance obligation by providing "stand-ready" assistance as required over the contract period. We record deferred revenue (contract liability) at time of prepayment until the contracts term occurs. Revenue is recognized over time on a ratable basis over the contract term. Support and Maintenance contracts are up to one year in length and are generally invoiced either annually or quarterly in advance.

Professional Services
Professional services revenues consist primarily of fees for deployment and optimization services, as well as training. The majority of our consulting contracts are billed on a time and materials basis, and revenue is recognized based on the amount billable to the customer in accordance with practical expedient ASC 606-10-55-18. For other professional services contracts, we utilize an input method and recognizes revenue based on labor hours expended to date relative to the total labor hours expected to be required to satisfy its performance obligation.

Contracts with Multiple Performance Obligations
Some contracts with customers contain multiple performance obligations. For these contracts, we account for individual performance obligations separately if they are distinct. The transaction price is allocated to the separate performance obligations on a relative standalone selling price basis. The standalone selling prices are determined based on overall pricing objectives, taking into consideration market conditions and other factors, including the value of the contracts, the cloud applications sold, customer demographics, geographic locations, and the number and types of users within the contracts.

We considered several factors in determining that control transfers to the customer upon shipment of hardware and availability of download of software. These factors include that legal title transfers to the customer, the Company has a present right to payment, and the customer has assumed the risks and rewards of ownership.

Accounts receivable from customers are typically due within 30 days of invoicing. We do not record a reserve for product returns or warranties as amounts are deemed immaterial based on historical experience.

Costs to Obtain and Fulfill a Contract
Costs to obtain and fulfill a contract are predominantly sales commissions earned by the sales force and are considered incremental and recoverable costs of obtaining a contract with a customer. These costs are deferred and then amortized over a period of benefit determined to be four years. These costs are included as capitalized contract costs on the balance sheet. The period of benefit was determined by taking into consideration customer contracts, technology, and other factors based on historical evidence. Amortization expense is included in selling, general and administrative expenses in the accompanying condensed consolidated statements of operations.

2. Impairment or Disposal of Long Lived Assets, including Intangible Assets

We review our long-lived assets, including intangible assets subject to amortization, whenever events or changes in circumstances indicate that the carrying amount of such an asset may not be recoverable. Recoverability of these assets is measured by comparison of their carrying amount to the future undiscounted cash flows the assets are expected to generate. If such assets are considered impaired, the impairment to be recognized is equal to the amount by which the carrying value of the assets exceeds their fair value determined by either a quoted market price, if any, or a value determined by utilizing a discounted cash flow technique. In assessing recoverability, we must make assumptions regarding estimated future cash flows and discount factors. If these estimates or related assumptions change in the future, we may be required to record impairment charges. Intangible assets with determinable lives are amortized over their estimated useful lives, based upon the pattern in which the expected benefits will be realized, or on a straight-line basis, whichever is greater. We recorded an impairment charge for the 2019 year with respect to the FingerQ Resalable License Rights. Refer Note G – Resalable License Rights for additional information.

3. Research and Development Expenditures

Research and development expenses include costs directly attributable to the conduct of research and development programs primarily related to the development of our software products and improving the efficiency and capabilities of our existing software. Such costs include salaries, payroll taxes, employee benefit costs, materials, supplies, depreciation on research equipment, services provided by outside contractors, and the allocable portions of facility costs, such as rent, utilities, insurance, repairs and maintenance, depreciation and general support services. All costs associated with research and development are expensed as incurred.

4. Income Taxes

The provision for, or benefit from, income taxes includes deferred taxes resulting from the temporary differences in income for financial and tax purposes using the liability method. Such temporary differences result primarily from the differences in the carrying value of assets and liabilities. Future realization of deferred income tax assets requires sufficient taxable income within the carryforward period available under tax law. We evaluate, on a quarterly basis whether, based on all available evidence, it is probable that the deferred income tax assets are realizable. Valuation allowances are established when it is more likely than not that the tax benefit of the deferred tax asset will not be realized. The evaluation, as prescribed by ASC 740-10, "Income Taxes," includes the consideration of all available evidence, both positive and negative, regarding historical operating results including recent years with reported losses, the estimated timing of future reversals of existing taxable temporary differences, estimated future taxable income exclusive of reversing temporary differences and carryforwards, and potential tax planning strategies which may be employed to prevent an operating loss or tax credit carryforward from expiring unused. Because of our historical performance and estimated future taxable income a full valuation allowance has been established.

5. Accounting for Stock-Based Compensation

We account for share based compensation in accordance with the provisions of ASC 718-10, "Compensation — Stock Compensation," which requires measurement of compensation cost for all stock awards at fair value on date of grant and recognition of compensation over the service period for awards expected to vest. The majority of our share-based compensation arrangements vest over either a three or four year vesting schedule. We expense our share-based compensation under the ratable method, which treats each vesting tranche as if it were an individual grant. The fair value of stock options is determined using the Black-Scholes valuation model, and requires the input of highly subjective assumptions. These assumptions include estimating the length of time employees will retain their vested stock options before exercising them (the "expected option term"), the estimated volatility of our common stock price over the option's expected term, the risk-free interest rate over the option's expected term, and our expected annual dividend yield. Changes in these subjective assumptions can materially affect the estimate of fair value of stock-based compensation and consequently, the related amount recognized as an expense in the consolidated statements of operations. As required under the accounting rules, we review our valuation assumptions at each grant date and, as a result, are likely to change our valuation assumptions used to value employee stock-based awards granted in future periods. The values derived from using the Black-Scholes model are recognized as expense over the service period, net of estimated forfeitures (the number of individuals that will ultimately not complete their vesting requirements). The estimation of stock awards that will ultimately vest requires significant judgment. We consider many factors when estimating expected forfeitures, including types of awards, employee class, and historical experience. Actual results, and future changes in estimates, may differ substantially from our current estimates.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

See financial statements appearing at pages 27-53 of this Annual Report on Form 10-K.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer ("CEO") and Chief Financial Officer ("CFO"), evaluated the effectiveness of our disclosure controls and procedures as of December 31, 2019. The term "disclosure controls and procedures," as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the Company's management, including its principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure. Based on the evaluation of our disclosure controls and procedures as of December 31, 2019, our CEO and CFO concluded that, as of such date, our disclosure controls and procedures were effective at the reasonable assurance level.

Management's Annual Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rule 13a-15(f). Internal control over financial reporting cannot provide absolute assurance of achieving financial reporting objectives because of its inherent limitations. Internal control over financial reporting is a process that involves human diligence and compliance and is subject to lapses in judgment and breakdowns resulting from human failures. Internal control over financial reporting also can be circumvented by collusion or improper management override. Because of such limitations, there is a risk that material misstatements may not be prevented or detected on a timely basis by internal control over financial reporting. However, these inherent limitations are known features of the financial reporting process. Therefore, it is possible to design into the process safeguards to reduce, though not eliminate, the risk. 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.

Under the supervision and with the participation of our management, including our CEO and CFO, we have conducted an evaluation of the effectiveness of our internal control over financial reporting as of December 31, 2019, based upon the framework in *Internal Control-Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this evaluation, management has concluded that our internal control over financial reporting was effective as of December 31, 2019.

As we are a smaller reporting company, this annual report does not include an attestation report of our registered public accounting firm regarding internal control over financial reporting. Management's report was not subject to attestation by our registered public accounting firm pursuant to rules of the Securities and Exchange Commission that permit the Company to provide only management's report in this Annual Report on Form 10-K.

Changes in Internal Control Over Financial Reporting

No change in our internal control over financial reporting occurred during the quarter ended December 31, 2019 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. – OTHER INFORMATION

None.

PART III

ITEM 10. – DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required by this item will be set forth under “Proposal No. 1: Election of Directors” in the 2020 Proxy Statement and incorporated herein by reference.

ITEM 11. – EXECUTIVE COMPENSATION

The information required by this item will be set forth under “Executive and Director Compensation” in the 2020 Proxy Statement and incorporated herein by reference.

ITEM 12. – SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information required by Item 403 of Regulation S-K regarding security ownership of certain beneficial owners and management will be set forth under “Stock Ownership” in the 2020 Proxy Statement and incorporated herein by reference.

The Equity Compensation Plan Information table required pursuant to Item 201(d) of Regulation S-K will be set forth in the 2020 Proxy Statement and incorporated herein by reference.

ITEM 13. – CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information required by this item will be set forth under “Transactions with Related Persons” and “Director Independence” in the 2020 Proxy Statement and incorporated herein by reference.

ITEM 14. – PRINCIPAL ACCOUNTING FEES AND SERVICES

The information required by this item will be set forth under “Ratification of Rotenberg Meril Solomon Bertiger & Guttilla, P.C. as Independent Registered Public Accounting Firm for 2020” in the 2020 Proxy Statement and incorporated herein by reference.

ITEM 15. – EXHIBITS

(a) The following documents are filed as part of this Report. Portions of Item 15 are submitted as separate sections of this Report:

(1) Financial statements filed as part of this Report:

Reports of Independent Registered Public Accounting Firm

Consolidated Balance Sheets as at December 31, 2019 and 2018

Consolidated Statements of Operations—Years ended December 31, 2019 and 2018

Consolidated Statements of Stockholders’ Equity (Deficit)—Years ended December 31, 2019 and 2018

Consolidated Statements of Cash Flows—Years ended December 31, 2019 and 2018

Notes to Consolidated Financial Statements—December 31, 2019 and 2018

(b) The exhibits listed in the Exhibits Index immediately preceding such exhibits are filed as part of this Report

ITEM 16. – FORM 10-K SUMMARY

None.

ITEM 8—FINANCIAL STATEMENTS

The following financial statements of BIO-key International, Inc. are included herein at the indicated page numbers:

Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors of
BIO-key International, Inc.
Wall, NJ

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of BIO-key International, Inc. and Subsidiaries (the "Company") as of December 31, 2019 and 2018, and the related consolidated statements of operations, stockholders' equity (deficit) and cash flows for the years then ended, 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 the years then ended in conformity with accounting principles generally accepted in the United States of America.

Going Concern

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. As disclosed in the consolidated financial statements, the Company has suffered substantial net losses in recent years, has negative working capital and has an accumulated deficit at December 31, 2019 and is dependent on debt and equity financing to fund its operations, all of which raise substantial doubt about the Company's ability to continue as a going concern. Management's plans regarding these matters are disclosed in Note A. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

Change in Accounting Principles

As discussed in Note A and Note B to the financial statements, the Company has changed its method of accounting for revenue from contracts with customers as of January 1, 2018 due to the adoption of Accounting Standards Codification ("ASC") Topic 606, Revenue from Contracts with Customers. The Company adopted the new revenue standard using the modified retrospective approach.

As discussed in Note A and Note N to the financial statements, the Company adopted ASC 842, Leases as of January 1, 2019 using the modified retrospective approach. ASC 842 had a significant effect on the balance sheet resulting in increased non-current right of use assets and increased current and non-current lease liabilities, required by the new standard.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these 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. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits, we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

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/ Rotenberg Meril Solomon Bertiger & Guttilla,P.C.
ROTENBERG MERIL SOLOMON BERTIGER & GUTTILLA, P.C.

We have served as the Company's auditor since 2010.

Saddle Brook, New Jersey
May 14, 2020

BIO-key International, Inc. and Subsidiaries
CONSOLIDATED BALANCE SHEETS

	December 31, 2019	December 31, 2018
ASSETS		
Cash and cash equivalents	$ 79,013	$ 323,943
Accounts receivable, net	126,000	1,574,032
Due from factor	110,941	56,682
Inventory	429,119	998,829
Resalable software license rights	-	1,125,000
Prepaid expenses and other	108,397	150,811
Investment – non-marketable security	512,821	-
Total current assets	1,366,291	4,229,297
Resalable software license rights, net of current portion	73,802	6,790,610
Equipment and leasehold improvements, net	95,509	148,608
Capitalized contract costs, net	231,519	319,199
Deposits and other assets	8,712	8,712
Operating lease right-of-use assets	566,479	-
Intangible assets, net	154,386	195,906
Total non-current assets	1,130,407	7,463,035
TOTAL ASSETS	$ 2,496,698	$ 11,692,332
LIABILITIES		
Accounts payable	$ 919,294	$ 481,269
Accrued liabilities	686,885	548,232
Convertible notes payable, net of debt discount and debt issuance costs	2,255,454	-
Deferred revenue	359,212	196,609
Operating lease liabilities, current portion	170,560	-
Total current liabilities	4,391,405	1,226,110
Operating lease liabilities, net of current portion	390,466	-
Total non-current liabilities	390,466	-
TOTAL LIABILITIES	4,781,871	1,226,110
Commitments and Contingencies		
STOCKHOLDERS' EQUITY (DEFICIT)		
Common stock — authorized, 170,000,000 shares; issued and outstanding; 14,411,432 and 13,977,868 of $.0001 par value at December 31, 2019 and December 31, 2018, respectively	1,441	1,398
Additional paid-in capital	87,436,402	85,599,140
Accumulated deficit	(89,723,016)	(75,134,316)
TOTAL STOCKHOLDERS' EQUITY (DEFICIT)	(2,285,173)	10,466,222
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY (DEFICIT)	$ 2,496,698	$ 11,692,332

The accompanying notes are an integral part of these statements.

BIO-key International, Inc. and Subsidiaries
CONSOLIDATED STATEMENTS OF OPERATIONS

	Years ended December 31,	
	2019	**2018**
Revenues		
Services	$ 925,245	$ 1,012,576
License fees	442,649	1,739,897
Hardware	899,634	1,292,069
Total revenues	2,267,528	4,044,542
Costs and other expenses		
Cost of services	272,318	443,210
Cost of license fees	916,112	3,072,356
Cost of hardware	1,272,815	648,624
Total costs and other expenses	2,461,245	4,164,190
Gross Profit (Loss)	(193,717)	(119,648)
Operating expenses		
Selling, general and administrative	5,036,820	5,333,906
Research, development and engineering	1,331,667	1,415,401
Total operating expenses before impairment	6,368,487	6,749,307
Impairment of resalable software license rights	(6,957,516)	-
Operating loss	(13,519,720)	(6,868,955)
Other income (expense)		
Interest income	154	80
Interest expense	(1,069,134)	-
Total other income (expense)	(1,068,980)	80
Net loss	(14,588,700)	(6,868,875)
Deemed dividend from trigger of anti-dilution provision feature	-	(1,428,966)
Convertible preferred stock dividends	-	(198,033)
Net loss available to common stockholders	(14,588,700)	(8,495,874)
Basic and Diluted Loss per Common Share	$ (1.03)	$ (0.73)
Weighted Average Shares Outstanding:		
Basic and Diluted	14,223,685	11,607,933

The accompanying notes are an integral part of these statements.

BIO-key International, Inc. and Subsidiaries
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY (DEFICIT)

	Series A-1 Preferred Stock		Series B-1 Preferred Stock		Common Stock		Additional Paid-in	Accumulated	
	Shares	Amount	Shares	Amount	Shares	Amount	Capital	Deficit	Total
Balance - as of December 31, 2017	**62,596**	**$ 6**	**105,000**	**$ 11**	**7,691,324**	**$ 769**	**$80,829,001**	**$ (67,076,492)**	**$ 13,753,295**
ASC 606 adoption								240,017	240,017
Issuance of common stock for directors' fees	-	-	-	-	20,976	2	37,530	-	37,532
Issuance of common stock pursuant to securities purchase agreement	-	-	-	-	1,380,000	138	2,069,862	-	2,070,000
Dividends declared on preferred stock	-	-	-	-	-	-	(198,033)	-	(198,033)
Conversion of A-1 preferred stock to common stock	(62,596)	(6)	-	-	1,738,778	174	(168)	-	-
Conversion of B-1 preferred stock to common stock	-	-	(105,000)	(11)	2,916,668	292	(281)	-	-
Conversion of dividends payable on A-1 preferred stock	-	-	-	-	98,893	10	356,005	-	356,015
Conversion of dividends payable on B-1 preferred stock	-	-	-	-	131,229	13	472,411	-	472,424
Deemed dividend related to down-round features	-	-	-	-	-	-	1,428,966	(1,428,966)	-
Stock issuance costs			-	-	-	-	(338,845)	-	(338,845)
Share-based compensation	-	-	-	-	-	-	942,692	-	942,692
Net loss	-	-	-	-	-	-	-	(6,868,875)	(6,868,875)
Balance as of December 31, 2018	**-**	**$ -**	**-**	**$ -**	**13,977,868**	**$ 1,398**	**$85,599,140**	**$ (75,134,316)**	**$ 10,466,222**
Issuance of common stock for directors' fees	-	-	-	-	36,897	3	35,010	-	35,013
Issuance of common stock for commitment fees net of adjustments	-	-	-	-	396,667	40	594,960	-	595,000
Warrant debt discount valuation	-	-	-	-	-	-	595,662	-	595,662
Legal and commitment fees	-	-	-	-	-	-	(301,077)	-	(301,077)
Share-based compensation							912,707		912,707
Net loss	-	-	-	-	-	-	-	(14,588,700)	(14,588,700)
Balance as of December 31, 2019	**-**	**$ -**	**-**	**$ -**	**14,411,432**	**$ 1,441**	**$87,436,402**	**$ (89,723,016)**	**$ (2,285,173)**

The accompanying notes are an integral part of these statements.

BIO-key International, Inc. and Subsidiaries

CONSOLIDATED STATEMENTS OF CASH FLOWS

	Years ended December 31, 2019	Years ended December 31, 2018
CASH FLOW FROM OPERATING ACTIVITIES:		
Net loss	$ (14,588,700)	$ (6,868,875)
Adjustments to reconcile net loss to cash used for operating activities:		
Bad debt expense	564,361	720,000
Depreciation	81,852	84,617
Amortization of intangible assets and writeoff	43,256	15,596
Amortization of resalable software license rights	843,287	1,513,237
Impairment of resalable software license rights	6,957,516	-
Amortization of debt discount	571,332	-
Amortization of capitalized contract costs	138,679	123,171
Amortization of debt issuance costs	424,980	-
Share based compensation for employees and consultants	912,707	942,692
Stock based fees to directors	35,013	37,532
Amortization of operating lease right-of-use assets	36,458	-
Change in assets and liabilities:		
Accounts receivable	883,671	1,341,914
Due from factor	(54,259)	53,183
Capitalized contract costs	(50,999)	(202,353)
Inventory	569,710	(51,982)
Resalable software license rights	41,005	1,144,961
Prepaid expenses and other	29,819	1,843
Accounts payable	438,025	(17,961)
Accrued liabilities	138,653	(139,793)
Deferred revenue	162,603	(311,257)
Operating lease liabilities	(29,316)	-
Net cash used for operating activities	(1,850,347)	(1,613,475)
CASH FLOWS FROM INVESTING ACTIVITIES:		
Patents	(1,736)	(30,398)
Capital expenditures	(28,753)	(52,060)
Purchase of investment – non-marketable security	(512,821)	-
Net cash used for investing activities	(543,310)	(82,458)
CASH FLOWS FROM FINANCING ACTIVITIES:		
Proceeds from issuance of convertible notes	3,217,000	-
Repayment of convertible notes	(707,000)	-
Proceeds from issuance of common stock	-	1,875,100
Costs to issue notes and common stock	(361,273)	(143,945)
Net cash provided by financing activities	2,148,727	1,731,155
NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	(244,930)	35,222
CASH AND CASH EQUIVALENTS, BEGINNING OF YEAR	323,943	288,721
CASH AND CASH EQUIVALENTS, END OF YEAR	$ 79,013	$ 323,943

The accompanying notes are an integral part of these statements.

SUPPLEMENTARY DISCLOSURES OF CASH FLOW INFORMATION

	Years ended December 31,	
	2019	**2018**
Cash paid for:		
Interest	$ 72,822	$ -
Income taxes	$ -	$ -
Noncash investing and financing activities:		
Accrual of unpaid preferred dividends	$ -	$ 198,033
Conversion of A-1 preferred dividends payable to common stock	$ -	$ 356,015
Conversion of A-1 preferred stock to common stock	$ -	$ 6,259,600
Conversion of B-1 preferred dividends payable to common stock	$ -	$ 472,426
Conversion of B-1 preferred stock to common stock	$ -	$ 10,500,000
Deemed dividend from trigger of anti-dilution provision feature	$ -	$ 1,428,966
Right-of-use asset addition under ASC 842	$ 719,812	$ -
Operating lease liabilities under ASC 842	$ 707,217	$ -
Share based loan commitment fees	$ 595,000	$ -
Debt issuance cost allocated to equity	$ 152,000	$ -
Debt discount issued with convertible note	$ 550,000	$ -
Warrant debt discount valuation	$ 595,662	$ -

The accompanying notes are an integral part of these statements.

NOTE A —THE COMPANY AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Nature of Business

The Company, founded in 1993, develops and markets proprietary fingerprint identification biometric technology and software solutions. The Company was a pioneer in developing automated, finger identification technology that supplements or compliments other methods of identification and verification, such as personal inspection identification, passwords, tokens, smart cards, ID cards, PKI, credit card, passports, driver's licenses, OTP or other form of possession or knowledge-based credentialing. Additionally, advanced BIO-key® technology has been, and is, used to improve both the accuracy and speed of competing finger-based biometrics.

Going Concern and Basis of Presentation

The Company has incurred significant losses to date, and at December 31, 2019, it had an accumulated deficit of approximately $90 million. In addition, broad commercial acceptance of the Company's technology is critical to the Company's success and ability to generate future revenues. At December 31, 2019, total cash and cash equivalents were approximately $79,000, as compared to approximately $324,000 at December 31, 2018.

As discussed below, the Company has financed itself in the past through access to the capital markets by issuing secured and convertible debt securities, convertible preferred stock, common stock, and through factoring receivables. The Company currently requires approximately $525,000 per month to conduct operations, a monthly amount that it has been unable to consistently achieve through revenue generation.

If the Company is unable to generate sufficient revenue to meet its goals, it will need to obtain additional third-party financing to (i) conduct the sales, marketing and technical support necessary to execute its plan to substantially grow operations, increase revenue and serve a significant customer base; and (ii) provide working capital. No assurance can be given that any form of additional financing will be available on terms acceptable to the Company, that adequate financing will be obtained by the Company in order to meet its needs, or that such financing would not be dilutive to existing shareholders.

The accompanying financial statements have been prepared in conformity with accounting principles generally accepted in the United States of America ("GAAP"), which contemplate continuation of the Company as a going concern, and assumes continuity of operations, realization of assets and the satisfaction of liabilities and commitments in the normal course of business. The matters described in the preceding paragraphs raise substantial doubt about the Company's ability to continue as a going concern. Recoverability of a major portion of the recorded asset amounts shown in the accompanying balance sheet is dependent upon the Company's ability to meet its financing requirements on a continuing basis, and become profitable in its future operations. The accompanying consolidated financial statements do not include any adjustments relating to the recoverability and classification of recorded assets or the amounts and classification of liabilities that might be necessary should the Company be unable to continue in existence.

Reclassification

Reclassifications occurred to certain prior year amounts in order to conform to the current year presentation to segregate cost of sales for licenses and hardware. The reclassifications have no effect on the reported net loss.

Summary of Significant Accounting Policies

A summary of the significant accounting policies consistently applied in the preparation of the accompanying consolidated financial statements follows:

1. *Principles of Consolidation*

The accompanying consolidated financial statements include the accounts of BIO-key International, Inc. and its wholly-owned subsidiaries (collectively, the "Company"). Intercompany accounts and transactions have been eliminated in consolidation.

2. *Use of Estimates*

Our consolidated financial statements are prepared in accordance with GAAP as set forth in the Financial Accounting Standards Board's (FASB) Accounting Standards Codification (ASC) and consider the various staff accounting bulletins and other applicable guidance issued by the U.S. Securities and Exchange Commission (SEC). These accounting principles require us to make certain estimates, judgments and assumptions. The Company believes that the estimates, judgments and assumptions upon which it relies are reasonable based upon information available to us at the time that these estimates, judgments and assumptions are made. These estimates, judgments and assumptions can affect the reported amounts of assets and liabilities as of the date of the financial statements as well as the reported amounts of revenues and expenses during the periods presented. Certain significant accounting policies that contain subjective management estimates and assumptions include those related to revenue recognition, accounts receivable, inventory, intangible assets and long-lived assets, and income taxes. To the extent there are material differences between these estimates, judgments or assumptions and actual results, its consolidated financial statements will be affected. In many cases, the accounting treatment of a particular transaction is specifically dictated by GAAP and does not require management's judgment in its application. There are also areas in which management's judgment in selecting among available alternatives would not produce a materially different result.

3. *Revenue Recognition*

The Company adopted ASC Topic 606 on January 1, 2018 using the modified retrospective method for all contracts not completed as of the date of adoption. In accordance with ASC Topic 606, revenue is recognized when a customer obtains control of promised services. The amount of revenue recognized reflects the consideration to which the Company expects to be entitled to receive in exchange for these services. To achieve this core principle, the Company applies the following five steps:

- Identify the contract with a customer
- Identify the performance obligations in the contract
- Determine the transaction price
- Allocate the transaction price to performance obligations in the contract
- Recognize revenue when or as the Company satisfies a performance obligation

All of the Company's performance obligations, and associated revenue, are generally transferred to customers at a point in time, with the exception of support and maintenance, and professional services, which are generally transferred to the customer over time.

Software licenses
Software license revenue consist of fees for perpetual and SaaS software licenses for one or more of the Company's biometric fingerprint solutions. Revenue is recognized at a point in time once the software is available to the customer for download. Software license contracts are generally invoiced in full on execution of the arrangement.

Hardware
Hardware revenue consists of fees for associated equipment sold with or without a software license arrangement, such as servers, locks and fingerprint readers. Customers are not obligated to buy third party hardware from the Company, and may procure these items from a number of suppliers. Revenue is recognized at a point in time once the hardware is shipped to the customer. Hardware items are generally invoiced in full on execution of the arrangement.

Support and Maintenance
Support and Maintenance revenue consists of fees for unspecified upgrades, telephone assistance and bug fixes. The Company satisfies its Support and Maintenance performance obligation by providing "stand-ready" assistance as required over the contract period. The Company records deferred revenue (contract liability) at time of prepayment until the contracts term occurs. Revenue is recognized over time on a ratable basis over the contract term. Support and Maintenance contracts are up to one year in length and are generally invoiced either annually or quarterly in advance.

Professional Services
Professional services revenues consist primarily of fees for deployment and optimization services, as well as training. The majority of the Company's consulting contracts are billed on a time and materials basis, and revenue is recognized based on the amount billable to the customer in accordance with practical expedient ASC 606-10-55-18. For other professional services contracts, the Company utilizes an input method and recognizes revenue based on labor hours expended to date relative to the total labor hours expected to be required to satisfy its performance obligation.

Contracts with Multiple Performance Obligations
Some contracts with customers contain multiple performance obligations. For these contracts, the Company accounts for individual performance obligations separately if they are distinct. The transaction price is allocated to the separate performance obligations on a relative standalone selling price basis. The standalone selling prices are determined based on overall pricing

objectives, taking into consideration market conditions and other factors, including the value of the contracts, the cloud applications sold, customer demographics, geographic locations, and the number and types of users within the contracts.

The Company considered several factors in determining that control transfers to the customer upon shipment of hardware and availability of download of software. These factors include that legal title transfers to the customer, the Company has a present right to payment, and the customer has assumed the risks and rewards of ownership.

Accounts receivable from customers are typically due within 30 days of invoicing. The Company does not record a reserve for product returns or warranties as amounts are deemed immaterial based on historical experience.

Costs to Obtain and Fulfill a Contract

Costs to obtain and fulfill a contract are predominantly sales commissions earned by the sales force and are considered incremental and recoverable costs of obtaining a contract with a customer. These costs are deferred and then amortized over a period of benefit determined to be four years. These costs are included as capitalized contract costs on the balance sheet. The period of benefit was determined by taking into consideration customer contracts, technology, and other factors based on historical evidence. Amortization expense is included in selling, general and administrative expenses in the accompanying consolidated statements of operations.

4. *Cash Equivalents*

Cash equivalents consist of liquid investments with original maturities of three months or less. At December 31, 2019 and 2018, cash equivalents consisted of a money market account.

5. *Accounts Receivable*

Accounts receivable are carried at original amount less an estimate made for doubtful receivables based on a review of all outstanding amounts on a monthly basis. Management determines the allowance for doubtful receivables by regularly evaluating individual customer receivables and considering a customer's financial condition, credit history, and current economic conditions. Accounts receivable are written off when deemed uncollectible.

As a result of the payment delays for a large customer, the Company has reserved $1,720,000 at December 31, 2019 and 2018, which represents 100% of the remaining balance owed under the contract. Recoveries of accounts receivable previously written off are recorded when received. The Company made a license sale to a Chinese reseller in December 2018. Revenue was recognized in accordance with ASC 606 in the amount of $1.1 million in 2018. As of December 31, 2019, the second payment for $555,555 was still outstanding and payable. The Company wrote off directly to bad debt expense $555,555 that was promised to be paid in March 2019, but not received.

Accounts receivable at December 31, 2019 and 2018 consisted of the following:

	December 31, 2019	December 31, 2018
Accounts receivable - current	$ 139,785	$ 1,587,817
Accounts receivable - non current	1,720,000	1,720,000
	1,859,785	3,307,817
Allowance for doubtful accounts - current	(13,785)	(13,785)
Allowance for doubtful accounts - non current	(1,720,000)	(1,720,000)
	(1,733,785)	(1,733,785)
Accounts receivable, net of allowances for doubtful accounts	$ 126,000	$ 1,574,032

The allowance for doubtful accounts for the years ended December 31, 2019 and 2018 is as follows:

	Balance at Beginning of Year	Charged to Costs and Expenses	Deductions From Reserves	Balance at End of Year
Year Ended December 31, 2019				
Allowance for Doubtful Accounts	$ 1,733,785	$ -	$ -	$ 1,733,785
Year Ended December 31, 2018				
Allowance for Doubtful Accounts	$ 1,013,785	$ 720,000	$ -	$ 1,733,785

Bad debt expenses (if any) are recorded in selling, general, and administrative expense.

6. *Software License Rights*

Software license rights acquired for re-sale to end users are recorded as assets when purchased and are stated at the lower of cost or estimated net realizable value.

The cost of the software license rights was initially allocated pro-rata to the maximum number of resalable end-user licenses in the rights contract. Through December 31, 2018, the remaining license rights were amortized over the greater of the following amounts: 1) an estimate of the economic use of such license rights, 2) the amount calculated by the straight line method over ten years or 3) the actual cost basis of sales usage of such rights. After re-evaluation of the expected timeline of future license transaction, commencing January 1, 2019, the Company changed its amortization methodology to the greater of the straight-line methodology or actual unit cost per license sold.

Management re-evaluates the total sub-licenses it expects to sell during the proceeding twelve months and will adjust the allocation of the current portion vs. non-current portion of software rights.

The rights are also evaluated by management on a periodic basis to determine if estimated future net revenues, on a per sub-license basis, support the recorded basis of each license. If the estimated net revenues are less than the current carrying value of the capitalized software license rights, the Company will reduce the rights to their net realizable value.

7. *Equipment and Leasehold Improvements, Intangible Assets and Depreciation and Amortization*

Equipment and leasehold improvements are stated at cost. Depreciation is provided for in amounts sufficient to relate the cost of depreciable assets to operations over the estimated service lives, principally using straight-line methods. Leasehold improvements are amortized over the shorter of the life of the improvement or the lease term, using the straight-line method.

The estimated useful lives used to compute depreciation and amortization for financial reporting purposes are as follows:

	Years
Equipment and leasehold improvements	
Equipment (years)	3 - 5
Furniture and fixtures (years)	3 - 5
Software (years)	3
Leasehold improvements	life or lease term

Intangible assets consist of patents. Patent costs are capitalized until patents are awarded. Upon award, such costs are amortized using the straight-line method over their respective economic lives. If a patent is denied, all costs are charged to operations in that year.

8. *Impairment or Disposal of Long Lived Assets, including Intangible Assets*

The Company reviews long-lived assets, including intangible assets subject to amortization, whenever events or changes in circumstances indicate that the carrying amount of such an asset may not be recoverable. Recoverability of these assets is measured by comparison of their carrying amount to the future undiscounted cash flows the assets are expected to generate. If such assets are considered impaired, the impairment to be recognized is equal to the amount by which the carrying value of the assets exceeds their fair value determined by either a quoted market price, if any, or a value determined by utilizing a discounted cash flow technique. In assessing recoverability, the Company must make assumptions regarding estimated future cash flows and discount factors. If these estimates or related assumptions change in the future, the Company may be required to record impairment charges. Intangible assets with determinable lives are amortized over their estimated useful lives, based upon the pattern in which the expected benefits will be realized, or on a straight-line basis, whichever is greater. The Company recorded an impairment charge for the 2019 year with respect to the FingerQ Resalable Software License Rights. Refer to Note G – Resalable License Rights for additional information.

9. *Advertising Expense*

The Company expenses the costs of advertising as incurred. Advertising expenses for 2019 and 2018 were approximately $317,000 and $309,000, respectively.

10. *Deferred Revenue*

Deferred revenue includes customer advances and amounts that have been paid by customer for which the contractual maintenance terms have not yet occurred. The majority of these amounts are related to maintenance contracts for which the revenue is recognized ratably over the applicable term, which generally is 12 months.

11. *Research and Development Expenditures*

Research and development expenses include costs directly attributable to the conduct of research and development programs primarily related to the development of our software products and improving the efficiency and capabilities of our existing software. Such costs include salaries, payroll taxes, employee benefit costs, materials, supplies, depreciation on research equipment, services provided by outside contractors, and the allocable portions of facility costs, such as rent, utilities, insurance, repairs and maintenance, depreciation and general support services. All costs associated with research and development are expensed as incurred.

12. *Earnings Per Share of Common Stock ("EPS")*

The Company's EPS is calculated by dividing net income (loss) applicable to common stockholders by the weighted-average number of common shares outstanding during the reporting period. Diluted EPS includes the effect from potential issuances of common stock, such as stock issuable pursuant to the conversion of preferred stock, exercise of stock options and warrants, when the effect of their inclusion is dilutive. See Note U - Earnings Per Share "EPS" for additional information.

13. *Accounting for Stock-Based Compensation*

The Company accounts for share based compensation in accordance with the provisions of ASC 718-10, "Compensation — Stock Compensation," which requires measurement of compensation cost for all stock awards at fair value on date of grant and recognition of compensation over the service period for awards expected to vest. The majority of its share-based compensation arrangements vest over either a three or four year vesting schedule. The Company expenses its share-based compensation under the ratable method, which treats each vesting tranche as if it were an individual grant. The fair value of stock options is determined using the Black-Scholes valuation model, and requires the input of highly subjective assumptions. These assumptions include estimating the length of time employees will retain their vested stock options before exercising them (the "expected option term"), the estimated volatility of its common stock price over the option's expected term, the risk-free interest rate over the option's expected term, and the Company's expected annual dividend yield. Changes in these subjective assumptions can materially affect the estimate of fair value of stock-based compensation and consequently, the related amount recognized as an expense in the consolidated statements of operations. As required under the accounting rules, the Company reviews its valuation assumptions at each grant date and, as a result, the Company is likely to change its valuation assumptions used to value employee stock-based awards granted in future periods. The values derived from using the Black-Scholes model are recognized as expense over the service period, net of estimated forfeitures (the number of individuals that will ultimately not complete their vesting requirements). The estimation of stock awards that will ultimately vest requires significant judgment. The Company considers many factors when estimating expected forfeitures, including types of awards, employee class, and historical experience. Actual results, and future changes in estimates, may differ substantially from current estimates.

The following table presents share-based compensation expenses included in the Company's consolidated statements of operations:

	Year ended December 31,	
	2019	**2018**
Selling, general and administrative	$ 828,981	$ 855,125
Research, development and engineering	118,739	125,099
	$ 947,720	$ 980,224

Valuation Assumptions for Stock Options

For 2019 and 2018, 241,334 and 351,918 stock options were granted, respectively. The fair value of each option was estimated on the date of grant using the Black-Scholes option-pricing model with the following assumptions:

	Year ended December 31,	
	2019	**2018**
Weighted average Risk free interest rate	2.33%	2.70%
Expected life of options (in years)	4.50	4.50
Expected dividends	0%	0%
Weighted average Volatility of stock price	84%	143%

The stock volatility for each grant is determined based on the review of the experience of the weighted average of historical daily price changes of the Company's common stock over the expected option term. The expected term was determined using the simplified method for estimating expected option life, which qualify as "plain-vanilla" options; and the risk-free rate is based on the U.S. Treasury yield curve in effect at the time of grant for periods corresponding with the expected life of the option.

14. *Derivative Liabilities*

In connection with the issuances of equity instruments or debt, the Company may issue options or warrants to purchase common stock. In certain circumstances, these options or warrants may be classified as liabilities, rather than as equity. In addition, the equity instrument or debt may contain embedded derivative instruments, such as conversion options or listing requirements, which in certain circumstances may be required to be bifurcated from the associated host instrument and accounted for separately as a derivative liability instrument. The Company early-adopted the new provisions issued July 2017, for derivative liability instruments under FASB ASU 2017-11, Earnings Per Share (Topic 260), Distinguishing Liabilities from Equity (Topic 480) and Derivatives and Hedging (Topic 815): I. Accounting for Certain Financial Instruments with Down Round Features; II. Replacement of the Indefinite Deferral for Mandatorily Redeemable Financial Instruments of Certain Nonpublic Entities and Certain Mandatorily Redeemable Non-controlling Interests with a Scope Exception. Under ASU 2017-11, down round features do not meet the criteria for derivative accounting and no liability is to be recorded until an actual issuance of securities triggers the down-round feature. Prior to these provisions, the liabilities were recorded without the actual issuance of the securities triggering the down-round feature.

15. *Income Taxes*

The provision for, or benefit from, income taxes includes deferred taxes resulting from the temporary differences in income for financial and tax purposes using the liability method. Such temporary differences result primarily from the differences in the carrying value of assets and liabilities. Future realization of deferred income tax assets requires sufficient taxable income within the carryback, carryforward period available under tax law. The Company evaluates, on a quarterly basis whether, based on all available evidence, if it is probable that the deferred income tax assets are realizable. Valuation allowances are established when it is more likely than not that the tax benefit of the deferred tax asset will not be realized. The evaluation, as prescribed by ASC 740-10, "Income Taxes," includes the consideration of all available evidence, both positive and negative, regarding historical operating results including recent years with reported losses, the estimated timing of future reversals of existing taxable temporary differences, estimated future taxable income exclusive of reversing temporary differences and carryforwards, and potential tax planning strategies which may be employed to prevent an operating loss or tax credit carryforward from expiring unused. Because of the Company's historical performance and estimated future taxable income, a full valuation allowance has been established.

The Company accounts for uncertain tax provisions in accordance with ASC 740-10-05, "Accounting for Uncertainty in Income Taxes." The ASC clarifies the accounting for uncertainty in income taxes recognized in an enterprise's financial statements. The ASC prescribes a recognition threshold and measurement attribute for the financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return. The ASC provides guidance on de-recognition, classification, interest and penalties, accounting in interim periods, disclosure and transition.

16*. Leases*

In February 2016, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) 2016-02, "Leases" (Topic 842), as amended (ASC 842). The new standard establishes a right-of-use (ROU) model that requires a lessee to record a ROU asset and a lease liability on the balance sheet for all leases with terms longer than 12 months and classify as either operating or finance leases. We adopted this standard effective January 1, 2019 using the modified retrospective approach for all leases entered into before the effective date. Adoption of the ASC 842 had a significant effect on our balance sheet resulting in increased non-current assets and increased current and non-current liabilities. There was no impact to retained earnings upon adoption of the new standard. We did not have any finance leases (formerly referred to as capital leases prior to the adoption of ASC 842), therefore there was no change in accounting treatment required. For comparability purposes, the Company will continue to comply with the previous disclosure requirements in accordance with the existing lease guidance and prior periods are not restated.

The Company elected the package of practical expedients as permitted under the transition guidance, which allowed us: (1) to carry forward the historical lease classification; (2) not to reassess whether expired or existing contracts are or contain leases; and, (3) not to reassess the treatment of initial direct costs for existing leases.

In accordance with ASC 842, at the inception of an arrangement, the Company determines whether the arrangement is or contains a lease based on the unique facts and circumstances present and the classification of the lease including whether the contract involves the use of a distinct identified asset, whether we obtain the right to substantially all the economic benefit from the use of the asset, and whether we have the right to direct the use of the asset. Leases with a term greater than one year are recognized on the balance sheet as ROU assets, lease liabilities and, if applicable, long-term lease liabilities. The Company has elected not to recognize on the balance sheet leases with terms of one year or less under practical expedient in paragraph ASC 842-20-25-2. For contracts with lease and non-lease components, the Company has elected not to allocate the contract consideration and to account for the lease and non-lease components as a single lease component.

Lease liabilities and their corresponding ROU assets are recorded based on the present value of lease payments over the expected lease term. The implicit rate within our operating leases are generally not determinable and, therefore, the Company uses the incremental borrowing rate at the lease commencement date to determine the present value of lease payments. The determination of the Company's incremental borrowing rate requires judgment. The Company determines the incremental borrowing rate for each lease using our estimated borrowing rate, adjusted for various factors including level of collateralization, term and currency to align with the terms of the lease. The operating lease ROU asset also includes any lease prepayments, offset by lease incentives.

An option to extend the lease is considered in connection with determining the ROU asset and lease liability when it is reasonably certain we will exercise that option. An option to terminate is considered unless it is reasonably certain we will not exercise the option.

For periods prior to the adoption of ASC 842, the Company recorded rent expense based on the term of the related lease. The expense recognition for operating leases under ASC 842 is substantially consistent with prior guidance. As a result, there are no significant differences in our results of operations presented.

The impact of the adoption of ASC 842 on the balance sheet was:

	As reported December 31, 2018	Adoption of ASC 842 - increase (decrease)	Balance January 1, 2019
Operating lease right-of-assets	$ -	$ 602,937	$ 602,937
Prepaid expenses and other	$ 150,811	$ (12,595)	$ 138,216
Total assets	$ 11,692,332	$ 590,342	$ 12,282,674
Operating lease liabilities, current portion	$ -	$ 135,519	$ 135,519
Operating lease liabilities, net of current portion	$ -	$ 454,823	$ 454,823
Total liabilities	$ 1,226,110	$ 590,342	$ 1,816,452
Total liabilities and stockholders' equity	$ 11,692,332	$ 590,342	$ 12,282,674

In the third quarter of 2019, $116,875 was capitalized to operating lease right-of-use assets and operating lease liabilities in connection with signing a long-term lease for the Company's Minnesota office space.

16. *Recent Accounting Pronouncements*

In August 2018, the FASB issued ASU No. 2018-15, Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract ("ASU 2018-15"). ASU 2018-15 aligns 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. The update to the standard is effective for interim and annual periods beginning after December 15, 2019, with early adoption permitted. Entities can choose to adopt the ASU 2018-15 prospectively or retrospectively. The Company has assessed that ASU 2018-15 currently does not have on its consolidated financial statements.

In June 2016, the FASB issued ASU 2016-13, Financial Instruments-Credit Losses (Topic 326), referred to herein as ASU 2016-13, which significantly changes how entities will account for credit losses for most financial assets and certain other instruments that are not measured at fair value through net income. ASU 2016-13 replaces the existing incurred loss model with an expected credit loss model that requires entities to estimate an expected lifetime credit loss on most financial assets and certain other instruments. Under ASU 2016-13 credit impairment is recognized as an allowance for credit losses, rather than as a direct write-down of the amortized cost basis of a financial asset. The impairment allowance is a valuation account deducted from the amortized cost basis of financial assets to present the net amount expected to be collected on the financial asset. Once the new pronouncement is adopted by the Company, the allowance for credit losses must be adjusted for management's current estimate at each reporting date. The new guidance provides no threshold for recognition of impairment allowance. Therefore, entities must also measure expected credit losses on assets that have a low risk of loss. For instance, trade receivables that are either current or not yet due may not require an allowance reserve under currently generally accepted accounting principles, but under the new standard, the Company will have to estimate an allowance for expected credit losses on trade receivables under ASU 2016-13. ASU 2016-13 is effective for annual periods, including interim periods within those annual periods, beginning after December 15, 2022 for smaller reporting companies. Early adoption is permitted. The Company is currently assessing the impact ASU 2016-13 will have on its condensed consolidated financial statements.

Management does not believe that any other recently issued, but not yet effective, accounting standard if currently adopted would have a material effect on the accompanying consolidated financial statements.

NOTE B—REVENUE FROM CONTRACTS WITH CUSTOMERS

The Company adopted ASC 606 on January 1, 2018 using the modified retrospective method for all contracts not completed as of the date of adoption.

Disaggregation of Revenue

The following table summarizes revenue from contracts with customers for the years ended:

	North America	South America	EMEA*	Asia	December 31, 2019
License fees	$ 208,827	$ 46,717	$ 117,401	$ 69,704	$ 442,649
Hardware	388,938	12,636	342,304	155,756	899,634
Support and Maintenance	780,288	8,514	96,911	18,502	904,215
Professional services	14,030	-	3,000	4,000	21,030
Total Revenues	$ 1,392,083	$ 67,867	$ 559,616	$ 247,962	$ 2,267,528

	North America	South America	EMEA*	Asia	December 31, 2018
License fees	$ 318,271	$ 32,000	$ 278,516	$ 1,111,110	$ 1,739,897
Hardware	439,480	53,200	477,674	321,715	1,292,069
Support and Maintenance	805,800	665	60,820	27,321	894,606
Professional services	115,970	-	2,000	-	117,970
Total Revenues	$ 1,679,521	$ 85,865	$ 819,010	$ 1,460,146	$ 4,044,542

* EMEA – Europe, Middle East, Africa

Revenue recognized during the year ended December 31, 2019 from amounts included in deferred revenue at the beginning of the period was approximately $147,000. The Company did not recognize any revenue from performance obligations satisfied in prior periods. Total deferred revenue (contract liability) was $359,212 and $196,609 at December 31, 2019 and December 31, 2018, respectively.

Transaction Price Allocated to the Remaining Performance Obligations

ASC 606 requires that the Company disclose the aggregate amount of transaction price that is allocated to performance obligations that have not yet been satisfied as at December 31, 2019. The guidance provides certain practical expedients that limit this requirement, which the Company's contracts meet as follows:

- The performance obligation is part of a contract that has an original expected duration of one year or less, in accordance with ASC 606-10-50-14.

At December 31, 2019 deferred revenue represents our remaining performance obligations related to prepaid support and maintenance, all of which is expected to be recognized within one year.

NOTE C—FACTORING

Due from factor consisted of the following as of December 31:

	Original Invoice Value	Factored Amount	Factored Balance due
Year Ended December 31, 2019			
Factored accounts receivable	$ 233,005	$ 122,064	$ 110,941
Year Ended December 31, 2018			
Factored accounts receivable	$ 221,120	$ 164,438	$ 56,682

The Company entered into an accounts receivable factoring arrangement with a financial institution (the “Factor”) which has been extended to October 31, 2020. Pursuant to the terms of the arrangement, the Company, from time to time, sells to the Factor a minimum of $150,000 per quarter of certain of its accounts receivable balances on a non-recourse basis for credit approved accounts. The Factor remits 35% of the foreign and 75% of the domestic accounts receivable balance to the Company (the “Advance Amount”), with the remaining balance, less fees, forwarded to the Company once the Factor collects the full accounts receivable balance from the customer. In addition, the Company, from time to time, receives over advances from the Factor. Factoring fees range from 2.75% to 15% of the face value of the invoice factored, and are determined by the number of days required for collection of the invoice. The cost of factoring is included in selling, general and administrative expenses. The cost of factoring was as follows:

	Years Ended December 31,	
	2019	**2018**
Factoring fees	$ 203,950	$ 186,845

NOTE D—FAIR VALUES OF FINANCIAL INSTRUMENTS

Cash and cash equivalents, accounts receivable, inventory, due from factor, accounts payable and accrued liabilities are carried at, or approximate, fair value because of their short-term nature.

NOTE E—CONCENTRATION OF RISK

Financial instruments which potentially subject the Company to risk primarily consist of cash, short-term investments, and accounts receivables.

The Company maintains its cash and cash equivalents with various financial institutions, which, at times may exceed the amounts insured by the Federal Deposit Insurance Corporation. The exposure to the Company is solely dependent upon daily bank balances and the respective strength of the financial institutions. No amounts were in excess of coverage at December 31, 2019 and 2018. The Company has not incurred any losses on these accounts.

The Company extends credit to customers on an unsecured basis in the normal course of business. The Company’s policy is to perform an analysis of the recoverability of its receivables at the end of each reporting period and to establish allowances where appropriate. The Company analyzes historical bad debts and contract losses, customer concentrations, and customer credit-worthiness when evaluating the adequacy of the allowances.

During the year ended December 31, 2019, two customers accounted for 22% and 14% of total revenue, respectively. During the year ended December 31, 2018, three customers accounted for 27%, 14% and 13% of total revenue, respectively.

Three customers accounted for 18%, 16% and 14% of total accounts receivable, respectively, as of December 31, 2019. One customer accounted for 70% of total accounts receivable, as of December 31, 2018.

NOTE F—INVENTORY

Inventory is stated at the lower of cost, determined on a first in, first out basis, or realizable value, and consists primarily of fabricated assemblies and finished goods. Inventory is comprised of the following as of December 31:

	2019	2018
Finished goods	287,761	496,358
Fabricated assemblies	141,358	502,471
Total inventory	$ 429,119	$ 998,829

NOTE G—RESALABLE SOFTWARE LICENSES RIGHTS

On November 11, 2015, the Company entered into a license agreement for the rights to all software and documentation regarding the technology currently known as or offered under the FingerQ name. The license agreement grants the Company the exclusive right to reproduce, create derivative works and distribute copies of the FingerQ software and documentation, create new FingerQ related products, and grant sub-licenses of the licensed technology to end users. The license rights have been granted to the Company in perpetuity, with a stated number of end-user resale sub-licenses allowed under the contract for a total of $12,000,000.

The Company initially determined the software license rights to be a finite lived intangible asset, and estimated that the software license rights shall be economically used over a 10 year period, with a weighting towards the beginning years of that time-frame. The license rights were acquired during the fourth quarter of 2015, but the usage of such rights in the Company's products was not generally available until January 2017. Accordingly, amortization began in the first quarter of 2017.

Through December 31, 2018, the license rights were amortized over the greater of the following amounts: 1) an estimate of the economic use of such license rights, 2) the amount calculated by the straight line method over ten years or 3) the actual cost basis of sales usage of such rights. After re-evaluation of the expected timeline of future license transactions, commencing January 1, 2019, the Company changed its amortization methodology to the greater of the straight-line methodology or actual unit cost per license sold based on net remaining software licenses as of January 1, 2019. The Company categorized the amortization expense under Cost of Sales as it more closely reflected the nature of the license right arrangement and the use of the technology.

During the fourth quarter of 2019, the Company re-evaluated the recoverability of the carrying amount of the balance of license rights, and concluded that there were no significant undiscounted cashflows expected to be generated from the future sale of the license rights. Accordingly, an impairment charge of $6,957,516 was recorded in the fourth quarter of 2019, which reduced the carrying amount of the FingerQ license rights down to zero. Throughout the year, the Company attempted to sell the technology into the mobile market in Asia, but due to, among other things, the trade tension between the US and China, management concluded that the future amortization would not represent an accurate cost to the ongoing business, without corresponding revenue.

A total of $843,888 (prior to the impairment charge detailed above), and $2,640,000 was expensed during the twelve month periods ended December 31, 2019 and 2018, respectively. Since the license purchase, a cumulative amount of $12,000,000 has been expensed, with a carrying balance of $0 as of December 31, 2019.

On December 31, 2015, the Company purchased third-party software licenses in the amount of $180,000 in anticipation of a large pending deployment that has yet to materialize. The Company is amortizing the total cost over the same methodology described above with the greatest of the actual sales or straight-line method approaches being the actual sales through 2019. A total of $40,404, and $18,198 was expensed during the twelve month periods ended December 31, 2019 and 2018, respectively. Since the license purchase, the actual per unit cost (actual usage) of such license rights in the cumulative amount of $106,198 net of credits has been expensed, with a carrying balance of $73,802 as of December 31, 2019. The Company has classified the balance as non-current until a larger deployment occurs. Software license rights is comprised of the following as of:

	2019	2018
Current software license rights	$ -	$ 1,125,000
Non-current software license rights	73,802	6,790,610
Total software license rights	$ 73,802	$ 7,915,610

Estimated minimum amortization expense based on straight line amortization of the software license rights for each of the next five years and thereafter approximates the following:

Years ending December 31		
2020	$	18,000
2021	$	18,000
2022	$	18,000
2023	$	18,000
2024	$	1,802

NOTE H—INVESTMENTS

During 2019, the Company purchased a 4,000,000 Hong Kong dollar denominated Bond Certificate with a financial institution in Hong Kong. The Bond Certificate translates to $512,821 U.S. Dollars as of December, 2019. The bond has a one-year maturity and 5% interest rate. The Company can invest up to a 20,000,000 Hong Kong dollars under the terms of the certificate. The bond is recorded on the balance sheet as an investment – non-marketable security. The investment is recorded at amortized cost which approximates fair value, and is currently planned to be held to maturity.

NOTE I—EQUIPMENT AND LEASEHOLD IMPROVEMENTS

Equipment and leasehold improvements consisted of the following as of December 31:

	2019	2018
Equipment	$ 648,286	$ 619,533
Furniture and fixtures	164,079	164,079
Software	32,045	32,045
Leasehold improvements	23,403	23,403
	867,813	839,060
Less accumulated depreciation and amortization	(772,304)	(690,452)
Total	$ 95,509	$ 148,608

Depreciation was $81,852 and $84,617 for 2019 and 2018, respectively. Amounts are recorded in Selling, General, and Administrative Expense and Cost of Services.

NOTE J—INTANGIBLE ASSETS

Intangible assets consisted of the following as of December 31:

	2019				2018		
	Gross Carrying Amount	Accumulated Amortization	Write-offs	Net Carrying Amount	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Patents and patents pending	$ 380,080	$ (210,694)	$ (15,000)	$ 154,386	$ 378,344	$ (182,438)	$ 195,906

Aggregate amortization expense for 2019 and 2018 was $28,256 and $15,596, respectively. In 2019, the Company recorded $15,000 of write offs of patents rejected. Amounts are recorded in Research, Development and engineering expense. The estimated aggregate amortization expense of intangible assets for the years following December 31, 2019 is approximately $20,000 per year for 2020 through 2022, $17,000 for 2023, $13,000 for 2024 and approximately $65,000 thereafter.

NOTE K—ACCRUED LIABILITIES

Accrued liabilities consisted of the following as of December 31:

	2019	2018
Compensation	$ 193,823	$ 224,135
Compensated absences	155,962	154,169
Accrued legal and accounting fees	105,933	77,133
Sales tax payable	17,248	9,436
Factoring fees	31,458	19,000
Other	182,461	64,359
Total	$ 686,885	$ 548,232

NOTE L—RELATED PARTY

Licensing Agreement with Subsidiaries of China Goldjoy Group Limited.

On November 11, 2015, BIO-key Hong Kong Limited, a subsidiary of the Company, entered into a license purchase agreement with certain subsidiaries of China Goldjoy Group Limited ("CGG"). The license agreement provides for the grant of a perpetual, irrevocable, exclusive, worldwide, fully-paid license to all software and documentation regarding the software code, toolkit, electronic libraries and related technology currently known as or offered under the name, together with perpetual license under all related patents held by the licensors and any other intellectual property rights owned by the licensors related to the forgoing software. The Company made a one-time payment of $12,000,000 to the licensors. Mr. Yao Jianhu is the chairman and chief executive officer of CGG and a director of the Company. Mr. Wong Kwok Fong served as the chief technology officer of CGG through October 2016 and is the beneficial owner of 21.6% of the Company's common stock, and a director and executive officer of the Company. During the fourth quarter of 2019, the Company recorded an impairment charge of approximately $7 million, bringing the carrying value of FingerQ license rights to zero. Refer Note G - Resalable License Rights for additional information.

Securities Purchase Agreements with Wong Kwok Fong

On April 3, 2018, Wong Kwok Fong converted 39,088 of the Series A-1 Shares at a conversion price of $3.60 per share and $330,552 of accrued dividends payable, resulting in the acquisition of 1,177,598 shares of the Company's Common Stock.

On May 31, 2018 Wong Kwok Fong converted 23,508 of the Series A-1 Shares at a conversion price of $3.60 per share and $25,463 of accrued dividends payable, resulting in the acquisition of 660,073 shares of the Company's Common Stock.

Non-Interest-Bearing Advances

During the 2019 fiscal year, the Company received a series of non-interest-bearing advances from Mr. Wong Kwok Fong, and Mr. Michael DePasquale, to pay current liabilities. The balance of the advances as at December 31, 2019 was $74,737 and $114,000, respectively, and was recorded in Accounts Payable and Accrued Liabilities (Other), respectively.

NOTE M—DEFERRED REVENUE

Deferred revenue represents unearned revenue from customer prepayments prior to maintenance contractual term. Maintenance contracts include provisions for unspecified when-and-if available product updates and customer telephone support services, and are recognized ratably over the term of the service period. At December 31, 2019 and 2018, amounts in deferred revenue were approximately $359,000 and $197,000, respectively.

NOTE N—CONVERTIBLE NOTES PAYABLE

On April 4, 2019, the Company issued a $550,000 secured convertible debenture which had a maturity date of November 15, 2019 and was convertible into common stock at a conversion price of $1.50 per share. The note was redeemable at any time by payment of a premium to the principal balance starting at 5% and increasing to 25%. The note was issued at approximately 7% ($40,000) original issue discount. Subject to the mutual agreement of the Company and the investor, the Company could issue two additional $550,000 principal amount notes on the same terms after 45 day intervals from the prior issuance, for additional net proceeds of $1,020,000. The convertible note contained anti-dilution protections if the Company issued shares of common stock for less than the conversion price. The convertible note was secured by substantially all the assets of the Company. At the closing, the Company issued 80,000 shares of common stock in payment of a $120,000 commitment fee and was obligated to issue 10,000 shares of common stock monthly in payment of a monthly commitment fee of $15,000 until the earlier of November 1, 2019 or the repayment or conversion of the note.

On June 14, 2019, the Company issued a $157,000 secured 10% convertible redeemable note which had a maturity date of November 14, 2019 and was convertible into common stock at a conversion price of $1.50 per share. The convertible redeemable note contained anti-dilution protections if the Company offered a conversion discount or other more favorable conversion terms while the note was outstanding. The note was redeemable within the first five months by payment of a premium to the principal balance starting at 10% and increasing to 30% of principal plus interest. At the closing, the Company agreed to issue 200,000 shares of common stock in lieu of payment of a $30,000 commitment fee which was reduced to 20,000 shares as the note was repaid prior to the maturity date.

Both notes were repaid in full on July 10, 2019.

For the two notes issued during the second quarter of 2019, the Company issued a total of 130,000 shares of common stock, amounting to $195,000 in commitment fees. $195,000 was recorded as an offset to notes payable – debt issuance costs and was amortized over the life of the loan. The Company also incurred $17,000 of legal fees withheld from proceeds which was also recorded as an offset to notes payable – debt issuance costs and was amortized over the life of the loan. Amortization of the debt issuance costs and debt discount are included in interest expense on the statement of operations.

Securities Purchase Agreement dated July 10, 2019

On July 10, 2019, the Company issued a $3,060,000 principal amount senior secured convertible note (the "Original Note"). At closing, a total of $2,550,000 was funded. The original issue discount was $510,000. The principal amount due of the Original Note was due and payable as follows: $918,000 was due 180 days after funding, $1,071,000 was due 270 days after funding, and the remaining balance due 12 months after the date of funding.

The Original Note is secured by a lien on substantially all of the Company's assets and properties and is convertible at the option of the Investor in shares of common stock at a fixed conversion price of $1.50 per share. The Company has the right to prepay the Original Note in full at any time without penalty in which event, the Investor had the option of converting 25% of the outstanding principal amount of the Note into shares of common stock.

In connection with the closing of the Original Note, the Company issued a five-year warrant to the Investor to purchase 2,000,000 shares of common stock at a fixed exercise price of $1.50 per share, paid a $50,000 commitment fee, and issued 266,667 shares of common stock in payment of a $400,000 due diligence fee. The Company also paid banker fees of $193,500 and legal fees of $71,330. The valuation of the warrant of $595,662 was recorded to debt discount and is amortized over the life of the Note. The fees associated with the agreement were allocated to debt issuance costs and additional paid-in capital based on the respective ratio of the valuation of the note and warrant. Amortization of the debt issuance costs and debt discount are included in interest expense on the statement of operations.

On March 12, 2020, the Company issued a $3,789,000 principal amount senior secured convertible note (the "Amended Note"), which replaced the Original Note. The principal amount was due and payable in full on April 13, 2020. The Amended Note was secured by a lien on substantially all of the Company's assets and properties and was convertible at the option of the Investor into shares of common stock at a fixed conversion price of $0.65 per share.

On April 12, 2020, and May 6, 2020 the Company entered into amendments (the "Amendments") to the Amended Note. The Amendments extended the maturity date to June 12, 2020 and extended the Investor's right to convert the Amended Note into shares of the Company's common stock at a price of $0.65 per share through June 12, 2020. All other provisions of the Amended Note remain the same. As of May 12, 2020, the Investor has converted $3,250,000 into 4,999,995 shares of common stock.

Until the second anniversary of the closing, the Investor has the right to purchase up to 20% of the securities the Company issues in any future private placement, subject to certain exceptions for, among other things, strategic investments.

Secured convertible note payable relating to the Original Note, net of unamortized debt discount and debt issuance costs at December 31, 2019 consisted of:

Principal amount	$	3,060,000
Less unamortized debt discount		(574,330)
Less unamortized debt issuance costs		(230,216)
Notes payable, net of unamortized debt discount and debt issuance costs	$	2,255,454

Interest expense for the year ended December 31, 2019 consists of:

April 4, 2019 debenture interest expense	$	55,000
April 4, 2019 debenture discount amortized		40,000
April 4, 2019 debenture deferred costs amortized		175,000
June 14, 2019 convertible note interest expense		17,822
June 14, 2019 convertible note deferred costs amortized		37,000
July 10, 2019 convertible note discount amortized		245,083
July 10, 2019 convertible note deferred costs amortized		212,980
July 10, 2019 warrant valuation (debt discount) amortization		286,249
Total	$	1,069,134

NOTE O—LEASES

The Company's leases office space in New Jersey, Hong Kong and Minnesota with lease termination dates of 2023, 2020, and 2022, respectively. The leases include non-lease components with variable payments. The following tables present the components of lease expense and supplemental balance sheet information related to the operating leases, were:

		Year ended December 31, 2019
Lease cost		
Operating lease cost	$	186,246
Short-term lease cost		41,535
Total lease cost	$	227,781
Balance sheet information		
Operating right-of-use assets	$	566,479
Operating lease liabilities, current portion	$	170,560
Operating lease liabilities, non-current portion		390,466
Total operating lease liabilities	$	561,026
Weighted average remaining lease term (in years) – operating leases		3.33
Weighted average discount rate – operating leases		5.50%

Supplemental cash flow information related to leases were as follows, for the year ended December 31, 2019:

Cash paid for amounts included in the measurement of operating lease liabilities	$	179,105

Maturities of operating lease liabilities were as follows:

2020	$	197,724
2021		170,853
2022		160,817
2023		89,226
Total future lease payments	$	618,620
Less: imputed interest		(57,594)
Total	$	561,026

NOTE P—COMMITMENTS AND CONTINGENCIES

Litigation

From time to time, we may be involved in litigation relating to claims arising out of our operations in the normal course of business. As of December 31, 2019, the Company was not a party to any pending lawsuits.

NOTE Q— EQUITY

1. Preferred Stock

Within the limits and restrictions provided in the Company's Certificate of Incorporation, the Board of Directors has the authority, without further action by the shareholders, to issue up to 5,000,000 shares of preferred stock, $.0001 par value per share, in one or more series, and to fix, as to any such series, any dividend rate, redemption price, preference on liquidation or dissolution, sinking fund terms, conversion rights, voting rights, and any other preference or special rights and qualifications. As of December 31, 2019, 100,000 shares of preferred stock have been designated as Series A-1 Convertible Preferred Stock, of which 90,000 were issued in 2015 and 0 remain outstanding, and 105,000 shares of preferred stock have been designated as Series B-1 Convertible Preferred Stock, of which 105,000 were issued in 2015 and 0 remain outstanding.

Series A-1 Convertible Preferred Stock

On October 22 and 29, 2015, the Company issued 84,500 shares of Series A-1 Stock at a purchase price of $100.00 per share, for aggregate gross proceeds of $8,450,000. On November 11, 2015, 5,500 additional shares of Series A-1 Stock were issued at a purchase price of $100.00 per share, for gross cash proceeds of $550,000.

In 2017, the holder of the Series A-1 Stock converted $540,000 in accrued dividends payable into 150,000 shares common stock and converted 27,404 Series A-1 Stock into 761,222 shares of common stock. Between January 1, 2018 and May 31,2018, the holder of the Series A-1 Stock converted all remaining shares of the Series A-1 Stock into an aggregate of 1,738,778 shares of common stock and purchased an aggregate of 98,893 shares of common stock in consideration of the conversion of $356,015 of accrued dividends payable on the Series A-1 Stock.

As a result of the forgoing conversions, at December 31, 2018 and 2019 there are no longer any issued and outstanding shares of Series A-1 Stock.

Overall balances and conversion of Series A-1 Stock and accrued dividends into common stock has been as follows:

	Series A-1	Accrued Dividends
Balance – January 1, 2017	90,000	$ 270,000
Accrual of dividends – Q1 2017	-	135,000
Accrual of dividends – Q2 2017	-	135,000
Accrual of dividends – Q3 2017	-	135,000
Conversion into common stock – September 2017	-	(540,000)
Conversion into common stock – October 2017	(27,404)	-
Accrual of dividends – Q4 2017	-	101,658
Balance – December 31, 2017	62,596	$ 236,658
Accrual of dividends – Q1 2018	-	93,894
Conversion into common stock – April 2018	(39,088)	(330,552)
Accrual of dividends – Q2 2018 (until final conversion)	-	25,463
Conversion into common stock – May 2018	(23,508)	(25,463)
Balance – December 31, 2018 and December 31, 2019	-	$ -

Series B-1 Convertible Preferred Stock

On November 11, 2015, the Company issued 105,000 shares of Series B-1 Stock at a purchase price of $100.00 per share, for gross proceeds of $10,500,000.

Between March 23, 2018 and May 23, 2018, holders of shares of Series B-1 Stock converted all shares of Series B-1 Stock into an aggregate of 2,916,668 shares of common stock and purchased an aggregate of 131,229 shares of common stock in consideration of the conversion of $472,426 of accrued dividends payable on the Series B-1 Stock.

As a result of the forgoing conversions, at December 31, 2018 and 2019 there are no longer any issued and outstanding shares of Series B-1 Stock.

Overall balances and conversion of Series B-1 Stock and accrued dividends into common stock has been as follows:

	Series B-1	Accrued Dividends
Balance – January 1, 2017	105,000	$ 131,250
Accrual of dividends – Q1 2017	-	65,625
Accrual of dividends – Q2 2017	-	65,625
Accrual of dividends – Q3 2017	-	65,625
Accrual of dividends – Q4 2017	-	65,625
Balance – December 31, 2017	105,000	393,750
Conversion into common stock – March 2018	(60,420)	(417,084)
Accrual of dividends – Q1 2018	-	62,268
Accrual of dividends – Q2 2018 (until final conversion)	-	16,408
Conversion into common stock – May 2018	(44,580)	(55,342)
Balance – December 31, 2018 and December 31, 2019	-	$ -

2. Common Stock

Holders of common stock have equal rights to receive dividends when, as and if declared by the Board of Directors, out of funds legally available therefor. Holders of common stock have one vote for each share held of record and do not have cumulative voting rights.

Holders of common stock are entitled, upon liquidation of the Company, to share ratably in the net assets available for distribution, subject to the rights, if any, of holders of any preferred stock then outstanding. Shares of common stock are not redeemable and have no preemptive or similar rights. All outstanding shares of common stock are fully paid and nonassessable.

Issuances of Common Stock

See Note N for common stock issued as commitment fees for notes payable during the 2019 fiscal year.

On August 22, 2018, the Company entered into an underwriting agreement (the "Underwriting Agreement") with Maxim Group LLC (the "Underwriter") with respect to the issuance and sale of an aggregate of 1,200,000 units ("Units") with each unit consisting of one share of common stock and a warrant to purchase 0.75 shares of common stock at an exercise price of $1.50 per share, in an underwritten public offering pursuant to the Underwriting Agreement. Each Unit was sold for a price of $1.50. The Warrants have a term of five years and are immediately exercisable. Pursuant to the Underwriting Agreement, the Company granted the Underwriters a 45-day option to purchase up to an additional 180,000 shares of Common Stock and/or 135,000 Warrants to cover over-allotments, if any (the "Over-Allotment"). On August 22, 2018, the Underwriter exercised its Over-Allotment option in full on both the Common Stock and the Warrants. Pursuant to this agreement, 1,380,000 shares of common stock and warrants to purchase 1,035,000 shares of stock were issued on August 24, 2018 for aggregate gross proceeds of $2,070,000. The gross proceeds were reduced by a 7% commission ($144,900) and $50,000 of underwriting expenses to net to $1,875,100 cash received.

Costs of $143,945 were incurred during 2018 in relation to the issuance of common stock.

Also see preferred stock section above for conversions of shares of preferred stock and accrued dividends into shares of common stock in 2018.

Issuances to Directors, Executive Officers & Consultants

During the year ended December 31, 2019, the Company issued 36,897 shares of common stock to its directors in lieu of payment of board fees, valued at $35,013.

During the year ended December 31, 2018, the Company issued 20,976 shares of common stock to its directors in lieu of payment of board fees, valued at $37,532.

Employees' exercise options

During 2019 and 2018, no employee stock options were exercised.

Securities Purchase Agreement dated November 13, 2014

Pursuant to a Securities Purchase Agreement, dated November 13, 2014, by and between the Company and a number of private and institutional investors, the Company issued to certain private investors 664,584 shares of common stock and warrants to purchase an additional 996,877 shares of common stock for aggregate gross proceeds of $1,595,000.

The warrants had a term of five years and an initial exercise price of $3.60 per share, and were fully exercisable since February 2015. The warrants had customary anti-dilution protections including a "full ratchet" anti-dilution adjustment provision which are triggered in the event the Company sells or grants any additional shares of common stock, options, warrants or other securities that are convertible into common stock at a price lower than $3.60 per share. The anti-dilution adjustment provision was not triggered by certain "exempt issuances" which among other issuances, includes the issuance of shares of common stock, options or other securities to officers, employees, directors, consultants or service providers.

On August 24, 2018 the Company issued Common Stock and Warrants to investors at a purchase price of $1.50 per unit which triggered the anti-dilution protection provision under this Securities Purchase Agreement. As a result, the total number of outstanding and fully vested warrants was increased from 996,877 to 2,392,502, and the exercise price was reduced from $3.60 to $1.50 per share. The Company recognized a non-cash deemed dividend of $1,288,139 in 2018 in connection with these adjustments.

The warrants expired in November 2019.

Securities Purchase Agreement dated September 23, 2015

On September 23, 2015, the Company issued a warrant to purchase 69,445 shares of common stock in connection with the issuance of a promissory note. The warrants are immediately exercisable at an initial exercise price of $3.60 per share and have a term of five years.

The warrants have customary anti-dilution protections including a "full ratchet" anti-dilution adjustment provision which are triggered in the event the Company sells or grants any additional shares of common stock, options, warrants or other securities that are convertible into common stock at a price lower than $3.60 per share. The anti-dilution adjustment provision was not triggered by certain "exempt issuances" which among other issuances, includes the issuance of shares of common stock, options or other securities to officers, employees, directors, consultants or service providers.

On August 24, 2018 the Company issued Common Stock and Warrants to the investors at a purchase price of $1.50 per unit which triggered the anti-dilution protection provision under this Securities Purchase Agreement. As a result, the total number of outstanding and fully vested warrants was increased from 69,445 to 166,668, and the exercise price was reduced from $3.60 to $1.50 per share. The Company recognized a non-cash deemed dividend of $140,827 in 2018 in connection with these adjustments.

In February 2020, the Company entered into a convertible note at a conversion price of $1.15 that triggered the anti-dilution feature under Securities Purchase Agreement dated September 23, 2015. Additionally, the Company entered into an amendment (as discussed in Note N) that reduced the conversion price of the Amended Note to $0.65, thus triggering the anti-dilution feature under the Securities Purchase Agreement dated September 23, 2015. In the first quarter of 2020, the total number of outstanding and fully vested warrants will increase, the exercise price will ultimately reduce to $0.65 per share, and the Company will record a non-cash deemed dividend in connection with both triggering events.

3. Warrants

The Company has issued warrants to certain creditors, investors, investment bankers and consultants. A summary of warrant activity is as follows:

	Total Warrants	Weighted average exercise price	Weighted average remaining life (in years)	Aggregate intrinsic value
Outstanding, as of December 31, 2017	1,398,969	3.81	2.06	
Granted	1,035,000	1.50		
Increase due to trigger of anti-dilution provision feature	1,492,848	1.50		
Exercised	—	—		
Forfeited	—	—		
Expired	(145,841)	6.00		
Outstanding, as of December 31, 2018	3,780,976	1.59	2.05	—
Granted	2,000,000	1.50		
Exercised	—	—		
Forfeited	—	—		
Expired	(2,392,502)	1.50		
Outstanding, as of December 31, 2019	3,388,474	1.60	3.94	—
Vested or expected to vest at December 31, 2019	3,388,474	1.60		—
Exercisable at December 31, 2019	3,388,474	1.60		—

NOTE R—STOCK OPTIONS

2004 *Stock Option Plan*

On October 12, 2004, the Board of Directors of the Company approved the 2004 Stock Option Plan (the 2004 Plan). The 2004 Plan was not presented to stockholders for approval and thus incentive stock options were not available under this plan. Under the terms of this plan, 166,667 shares of common stock were reserved for issuance to employees, officers, directors, and consultants of the Company at exercise prices which may not be below 85% of fair market value. The term of stock options granted may not exceed ten years. Options issued under the 2004 Plan vest pursuant to the terms of stock option agreements with the recipients. In the event of a change in control, as defined, all options outstanding vest immediately. The 2004 Plan expired in October 2014.

2015 *Stock Option Plan*

On January 27, 2016, the shareholders approved the 2015 Equity Incentive Plan (the 2015 Plan). Under the terms of this plan, 666,667 shares of common stock are reserved for issuance to employees, officers, directors, and consultants of the Company at exercise prices which may not be below 100-110% of fair market value. The term of stock options granted may not exceed ten years. Options issued under the 2015 Plan vest pursuant to the terms of stock option agreements with the recipients. In the event of a change in control, certain stock awards issued under this plan may be subject to additional acceleration of vesting as may be provided in the participants' written agreement. The 2015 Plan expires in December 2025.

Non-Plan Stock Options

Periodically, the Company has granted options outside of the 2004 and 2015 Plans to various employees and consultants. In the event of change in control, as defined, certain of the non-plan options outstanding vest immediately.

Stock Option Activity

Information summarizing option activity is as follows:

	Number of Options				Weighted average exercise price	Weighted average remaining life (in years)	Aggregate intrinsic value
	2004 Plan	2015 Plan	Non Plan	Total			
Outstanding, as of December 31, 2017	**52,296**	**82,086**	**1,343,111**	**1,477,493**	**$ 2.91**		
Granted	—	351,918	—	351,918	1.97		
Exercised	—	—	—	—	—		
Forfeited	—	(38,613)	(111,253)	(149,866)	2.63		
Expired	(18,961)	(13,473)	(59,097)	(91,531)	3.03		
Outstanding, as of December 31, 2018	**33,335**	**381,918**	**1,172,761**	**1,588,014**	**$ 2.72**	**5.00**	**$ 0**
Granted	—	241,334	—	241,334	1.17		
Exercised	—	—	—	—	—		
Forfeited	—	(40,615)	(4,168)	(44,783)	2.27		
Expired	(2,084)	(14,717)	(16,040)	(32,841)	3.08		
Outstanding, as of December 31, 2019	**31,251**	**567,920**	**1,152,553**	**1,751,724**	**$ 2.51**	**4.30**	**$ 0**
Vested or expected to vest at December 31, 2019				**1,594,905**	**$ 2.59**	**4.17**	**$ 0**
Exercisable at December 31, 2019				**992,747**	**$ 2.88**	**3.63**	**$ 0**

The options outstanding and exercisable at December 31, 2019 were in the following exercise price ranges:

	Options Outstanding			Options Exercisable	
Range of exercise prices	**Number of shares**	**Weighted average exercise price**	**Weighted average remaining life (in years)**	**Number exercisable**	**Weighted average exercise price**
$ 0.51 - 1.99	418,336	$ 1.52	5.78	62,712	$ 1.96
$ 2.00 - 3.50	1,164,841	2.56	4.28	761,488	2.58
$ 3.51 - 4.92	168,547	4.58	0.76	168,547	4.58
$ 0.51 - 4.92	1,751,724			992,747	

The aggregate intrinsic value in the table above represents the total intrinsic value, based on the Company's closing stock price of $0.50 as of December 31, 2019, which would have been received by the option holders had all option holders exercised their options as of that date. The total number of in-the-money options exercisable as of December 31, 2019 was 0.

The weighted average fair value of options granted during the years ended December 31, 2019 and 2018 was $1.03 and $1.53 per share, respectively. The total intrinsic value of options exercised during the years ended December 31, 2019 and 2018 was $0. The total fair value of shares vested during the years ended December 31, 2019 and 2018 was $891,760 and $946,435, respectively.

As of December 31, 2019, future forfeiture adjusted compensation cost related to nonvested stock options is $731,370 and will be recognized over an estimated weighted average period of 0.91 years.

NOTE S—INCOME TAXES

There was no provision for federal or state taxes as at December 31, 2019 and 2018.

The Company has deferred taxes due to income tax credits, net operating loss carryforwards, and the effect of temporary differences between the carrying values of certain assets and liabilities for financial reporting and income tax purposes. Significant components of deferred taxes are as follows at December 31:

	2019	2018
Accrued compensation	$ 84,000	$ 91,000
Accounts receivable allowance	474,000	474,000
Stock-based compensation	894,000	644,000
Basis differences in fixed assets	(5,000)	(13,000)
Basis differences in intangible assets	62,000	50,000
Net operating loss and credit carryforwards	15,002,000	12,735,000
Valuation allowances	(16,511,000)	(13,981,000)
	$ —	$ —

The Company has a valuation allowance against the full amount of its net deferred taxes due to the uncertainty of realization of the deferred tax assets due to operating loss history of the Company. The Company currently provides a valuation allowance against deferred taxes when it is more likely than not that some portion, or all of its deferred tax assets will not be realized. The valuation allowance could be reduced or eliminated based on future earnings and future estimates of taxable income. Similarly, income tax benefits related to stock options exercised have not been recognized in the financial statements.

As of December 31, 2019, the Company has federal net operating loss carryforwards of approximately $70 million. Approximately $55 million are subject to expiration between 2022 and 2037, and $15 million net operating loss carryforwards have no expiration date. These net operating loss carryforwards are subject to the limitations under Section 382 of the Internal Revenue Code due to changes in the equity ownership of the Company. The Company has 3.6 million of state net operating loss carryforwards.

A reconciliation of the effective income tax rate on operations reflected in the Statements of Operations to the US Federal statutory income tax rate is presented below.

	2019	2018
Federal statutory income tax rate	21%	21%
Permanent differences	(2)	—
Effect of net operating loss	(22)	(21)
Effective tax rate	—%	—%

The Company has not been audited by the Internal Revenue Service ("IRS") or any states in connection with income taxes. The Company files income tax returns in the U.S. federal jurisdiction and various state jurisdictions. The periods from 2016 through 2019 remain open to examination by the IRS and state jurisdictions. The Company believes it is not subject to any tax audit risk beyond those periods. The Company's policy is to recognize interest and penalties accrued on any unrecognized tax benefits as a component of income tax expense. The Company does not have any accrued interest or penalties associated with any unrecognized tax benefits, nor was any interest expense incurred during the years ended December 31, 2019 and 2018.

NOTE T—PROFIT SHARING PLAN

The Company has established a savings plan under section 401(k) of the Internal Revenue Code. All employees of the Company, after completing one day of service, are eligible to enroll in the 401(k) plan. Participating employees may elect to defer a portion of their salary on a pre-tax basis up to the limits as provided by the IRS Code. The Company is not required to match employee contributions but may do so at its discretion. The Company made no contributions during the years ended December 31, 2019 and 2018.

NOTE U—EARNINGS PER SHARE (EPS)

The Company's basic EPS is calculated using net income (loss) available to common shareholders and the weighted-average number of shares outstanding during the reporting period. Diluted EPS includes the effect from potential issuance of common stock, such as stock issuable pursuant to the exercise of stock options and warrants and the assumed conversion of preferred stock.

The reconciliation of the numerator of the basic and diluted EPS calculations, due to the inclusion of preferred stock dividends was as follows for the following fiscal years ended December 31:

	2019	2018
Basic Numerator:		
Net Loss	$ (14,588,700)	$ (6,868,875)
Deemed dividend from trigger of anti-dilution provision feature	-	(1,428,966)
Convertible preferred stock dividends	-	(198,033)
Net loss available to common stockholders (basic and diluted EPS)	$ (14,588,700)	$ (8,495,874)

The following table summarizes the weighted average securities that were excluded from the diluted per share calculation because the effect of including these potential shares was antidilutive.

	Years ended December 31,	
	2019	2018
Stock options	945	83
Warrants	-	697,879
Potentially dilutive securities	945	697,962

Items excluded from the diluted per share calculation because the exercise price was greater than the average market price of the common shares:

	Years ended December 31,	
	2019	2018
Stock options	1,749,724	1,583,014
Warrants	3,388,474	186,806
Convertible notes	1,458,740	-
Preferred stock	-	1,426,756
Total	6,596,938	3,196,576

NOTE V—SUBSEQUENT EVENTS

Refer to Note N for subsequent events related to convertible notes in effect as of December 31, 2019.

On January 13, 2020, the Company issued a $157,000 principal amount convertible note to an institutional investor with a maturity date of June 13, 2020 which is convertible into common stock at a conversion price of $1.50 per share. The note was redeemable at any time by payment of a premium to the principal balance starting at 10% and increasing to 30%. At the closing, the Company agreed to issue 650,000 shares of common stock in lieu of payment of a $75,000 commitment fee which would be reduced to 50,000 shares if the note is repaid prior to the maturity date.

On February 13, 2020, the Company issued a $126,000 principal amount convertible note to an institutional investor with a maturity date of July 13, 2020 which is convertible into common stock at a conversion price of $1.15 per share. The note is redeemable at any time by payment of a premium to the principal balance starting at 10% and increasing to 30%. At the closing, the Company agreed to issue 550,000 shares of common stock in lieu of payment of a $57,500 commitment fee which would be reduced to 50,000 shares if the note is repaid prior to the maturity date. To date, the Company has only issued 50,000 shares at the request of the lender.

On March 25, 2020, the Company entered into a sales incentive agreement TTI. The agreement provides that for each $5,000,000 in revenue (up to a maximum of $20,000,000) TTI generates for the Company during the first year, that generate net income (calculated under U.S. generally accepted accounting principles) of at least 20%, the Company will pay TTI a sales incentive fee of $500,000 payable by the issuance of 500,000 shares of Common Stock. In the event that TTI generates revenue for the Company in excess of $20,000,000 during first year, the Company will issue TTI a five-year warrant to purchase 100,000 shares of Common Stock at an exercise price of $1.50 per share (the "Warrants") for each $1,000,000 of revenue in excess of $20,000,000 (up to a maximum of $25,000,000). In no event shall the Company be obligated to issue more than 2,000,000 shares of Common Stock or Warrants to purchase more than 500,000 shares of Common Stock pursuant to the Sales Agreement.

On March 30, 2020, 972,000 warrant shares were exercised at $1.50 for net proceeds to the Company of $1,458,000.

On April 2, 2020, the Company issued 6,850 shares of common stock to its directors in payment of meeting fees. Additionally, the Company issued a warrant to a new employee for 5,000 shares with three -vesting period.

On April 20, 2020, the Company entered into a Paycheck Protection Program Term Note (the "SVB Note") with Silicon Valley Bank ("SVB") pursuant to the Paycheck Protection Program (the "Program") of the recently enacted Coronavirus Aid, Relief, and Economic Security Act ("CARES Act") administered by the U.S. Small Business Administration. The Company received total proceeds of $340,000 which will be used in accordance with the requirements of the CARES Act. The Company will apply to SVB for forgiveness of amounts due on the SVB Note to the extent they are used for eligible payroll costs, rent obligations, and covered utility payments incurred during the eight weeks following disbursement under the SVB Note. Until the six-month anniversary of the date of the SVB Note (the "Deferral Expiration Date"), neither principal nor interest is due and payable. On the Deferral Expiration Date, the outstanding principal of the SVB Note that is not forgiven will convert to an amortizing term loan at an interest rate of 1% per annum requiring equal monthly payments of principal and interest through November 20, 2022.

On May 6, 2020, the Company issued a $2,415,000 principal amount senior secured convertible note (the "Note") which provided for the funding of $2,100,000. The principal amount is due and payable in five equal monthly installments of $268,333 beginning seven months after the funding date with the remaining balance due on the twelfth month after the date of funding. The Note is convertible at a fixed convertible price of $1.16 per share. In connection with the issuance of the Note, the Company made a payment of a $133,333 due diligence fee by issuing 114,943 shares to the Investor priced at $1.16. The Company also issued a warrant to purchase 1,900,000 shares of common stock at a fixed exercise price of $1.16 and paid a placement fee of 7% of the gross proceeds to Maxim Group LLC.

On May 12, 2020, the Company issued 7,077 shares of common stock to its directors in payment of meeting fees.

Subsequent to year-end, due to the effects of the worldwide coronavirus pandemic, the Company is closely monitoring its operations, liquidity, and capital resources. We are actively working to minimize the current and future impact of this unprecedented situation. As of the date of issuance of these financial statements, the full impact to the Company's financial position is not known.

The Company has reviewed subsequent events through the date of this filing.

EXHIBIT INDEX

Exhibit No.	Exhibit
3.1	Certificate of Incorporation of BIO-key International, Inc., a Delaware corporation (incorporated by reference to Exhibit 3.1 to the current report on Form 8-K, filed with the SEC on January 5, 2005)
3.2	Bylaws (incorporated by reference to Exhibit 3.3 to the current report on Form 8-K, filed with the SEC on January 5, 2005)
3.3	Certificate of Amendment to Certificate of Incorporation (incorporated by reference to Appendix A to the definitive proxy statement, filed with the SEC on January 18, 2006)
3.4	Certificate of Amendment of Certificate of Incorporation of Bio-key International, Inc., a Delaware corporation (incorporated by reference to Exhibit 3.4 to the annual report on Form 10-K, filed with the SEC on March 31, 2015)
3.5	Certificate of Elimination of BIO-key International, Inc. filed October 6, 2015 (incorporated by reference to Exhibit 3.5 to the registration statement on Form S-1 File No. 333-208747 filed with the SEC on December 23, 2015)
3.6	Certificate of Designation of Preferences, Rights and Limitations of Series A-1 Convertible Preferred Stock (incorporated by reference to Exhibit 3.1 to the current report on Form 8-K, filed with the SEC on November 2, 2015)
3.7	Certificate of Designation of Preferences, Rights and Limitations of Series B-1 Convertible Preferred Stock (incorporated by reference to Exhibit 3.1 to the quarterly report on Form 10-Q, filed with the SEC on November 16, 2015)
3.8	Certificate of Amendment of Certificate of Incorporation of Bio-key International, Inc., a Delaware corporation (incorporated by reference to Exhibit 3.1 to the current report on Form 8-K, filed with the SEC on December 28, 2016)
4.1	Specimen Stock Certificate (incorporated by reference to Exhibit 4.1 to the registration statement on Form SB-2, File No. 333-16451)
10.1	Employment Agreement by and between BIO-key International, Inc. and Mira LaCous dated November 20, 2001 (incorporated by reference to Exhibit 10.39 to the current report on Form 8-K, filed with the SEC on January 22, 2002)***
10.2	BIO-key International, Inc. 2004 Stock Incentive Plan (incorporated by reference to Exhibit 10.48 to amendment no. 1 the registrant's registration statement on Form SB-2, File No. 33-120104, filed with the SEC on December 14, 2004)
10.3	Employment Agreement, effective March 25, 2010, by and between the Company and Michael W. DePasquale (incorporated by reference to Exhibit 10.93 to the annual report on Form 10-K, filed with the SEC on March 26, 2010)***
10.4	Employment Agreement by and between BIO-key International, Inc. and Cecilia Welch dated May 15, 2013 (incorporated by reference to Exhibit 10.42 to the annual report on Form 10-K, filed with the SEC on March 31, 2014)***
10.5	Third Amendment to Lease Agreement by and between BIO-key International, Inc. and Victor AOP, Inc. dated June 30, 2013 (incorporated by reference to Exhibit 10.43 to the annual report on Form 10-K, filed with the SEC on March 31, 2014)
10.6	First Amendment to Lease Agreement by and between BIO-key International, Inc. and BRE/DP MN LLC dated September 12, 2013 (incorporated by reference to Exhibit 10.44 to the annual report on Form 10-K, filed with the SEC on March 31, 2014)
10.7	Form of Registration Rights Agreement (incorporated by reference to Exhibit 10.2 to the quarterly report on Form 10-Q, filed with the SEC on November 16, 2015)
10.8	BIO-key International, Inc. 2015 Equity Incentive Plan (incorporated by reference to Appendix B to the definitive proxy statement filed with the SEC on December 15, 2015)

10.9 Software License Purchase Agreement Dated November 11, 2015 by and among BIO-key Hong Kong Limited, Shining Union Limited, WWTT Technology China, Golden Vast Macao Commercial Offshore Limited, Giant Leap International Limited (incorporated by reference to Exhibit 10.36 to the registration statement on Form S-1 File No. 333-208747 filed with the SEC on December 23, 2015)**

10.10 Common Stock Purchase Agreement dated May 2, 2017 by and between Registrant and Xanthe Holdings Ltd. (incorporated by reference to Exhibit 10.2 to the quarterly report on Form 8-K, filed with the SEC on May 3, 2017)

10.11 Form of Registration Rights Agreement (incorporated by reference to Exhibit 10.3 to the current report on Form 8-K, filed with the SEC on May 3, 2017)

10.12 Form Non-Plan Option Agreement between the Company and certain of its directors, officers, employees and contractors (incorporated by reference to Exhibit 10.4 to the quarterly report on Form 10-Q filed with the SEC on May 15, 2017)***

10.13 Securities Purchase Agreement dated April 3, 2018 by and between the Registrant and Wong Kwok Fong (Kelvin) (incorporated by reference to Exhibit 10.1 to the current report on Form 8-K, filed with the SEC on April 4, 2018)

10.14 Securities Purchase Agreement dated May 23, 2018 by and between the Registrant and Giant Leap International Limited (incorporated by reference to Exhibit 10.1 to the current report on Form 8-K, filed with the SEC on May 30, 2018)

10.15 Securities Purchase Agreement dated May 23, 2018 by and between the Registrant and Micron Technology Development Limited (incorporated by reference to Exhibit 10.2 to the current report on Form 8-K, filed with the SEC on May 30, 2018)

10.16 Securities Purchase Agreement dated May 31, 2018 by and between the Registrant and Wong Kwok Fong (Kelvin) (incorporated by reference to Exhibit 10.1 to the current report on Form 8-K, filed with the SEC on June 4, 2018)

10.17 Underwriting Agreement dated August 22, 2018 by and between the Registrant and Maxim Group LLP (incorporated by reference to Exhibit 1.1 to the current report on Form 8-K, filed with the SEC on August 27, 2018)

10.18 Form of Common Stock Purchase Warrant dated August 24, 2018 (incorporated by reference to Exhibit 4.1 to the current report on Form 8-K, filed with the SEC on August 27, 2018)

10.19 GLP 2nd Amendment to Lease dated July 27, 2018 (incorporated by reference to Exhibit 10.26 to the annual report on Form 10-K, filed with the SEC on April 1, 2019)

10.20 Marlen 4th Amendment to Lease dated June 2, 2018 (incorporated by reference to Exhibit 10.27 to the annual report on Form 10-K, filed with the SEC on April 1, 2019)

10.21 Securities Purchase Agreement dated July 10, 2019 by and between the Registrant and Lind Global Macro Fund, LP. (incorporated by reference to Exhibit 10.1 to the quarterly report on Form 10-Q, filed with the SEC on August 14, 2019)

10.22 Security Agreement dated July 10, 2019 by and between the Registrant and Lind Global Macro Fund, LP. (incorporated by reference to Exhibit 10.2 to the quarterly report on Form 10-Q, filed with the SEC on August 14, 2019)

10.23 Collateral Sharing Agreement dated July 10, 2019 by and among the Registrant, Lind Global Macro Fund, LP and Versant Funding LLC (incorporated by reference to Exhibit 10.3 to the quarterly report on Form 10-Q, filed with the SEC on August 14, 2019)

10.24 $3,060,00 Senior Secured Convertible Promissory Note dated July 10, 2019 (incorporated by reference to Exhibit 10.4 to the quarterly report on Form 10-Q, filed with the SEC on August 14, 2019)

10.25 Common Stock Purchase Warrant dated July 10, 2019 (incorporated by reference to Exhibit 10.5 to the quarterly report on Form 10-Q, filed with the SEC on August 14, 2019)

10.26 BIO-key International, Inc. Amended and Restated 2015 Equity Incentive Plan (incorporated by reference to Appendix A to the definitive proxy statement filed with the SEC on April 30, 2019)***

21.1 List of subsidiaries of BIO-key International, Inc. (incorporated by reference to Exhibit 21.1 to the annual report on Form 10-K, filed with the SEC on March 30, 2016)

23.1* Consent of RMSBG

31.1* Certification of the Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
31.2* Certification of the Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
32.1* Certification of the Chief Executive Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
32.2* Certification of the Chief Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

101.INS* XBRL Instance

101.SCH* XBRL Taxonomy Extension Schema

101.CAL* XBRL Taxonomy Extension Calculation

101.DEF* XBRL Taxonomy Extension Definition

101.LAB* XBRL Taxonomy Extension Labels

101.PRE* XBRL Taxonomy Extension Presentation

* filed herewith

** Confidential treatment has been requested with respect to certain portions of this exhibit. Omitted sections have been filed separately with the Securities and Exchange Commission

*** Management compensatory plan.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

BIO-KEY INTERNATIONAL, INC.

Date: May 14, 2020

By: /s/ MICHAEL W. DEPASQUALE
Michael W. DePasquale
CHIEF EXECUTIVE OFFICER
(Principal Executive Officer)

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Registrant and in the capacities on the dates indicated.

Signature	Title	Date
/s/ MICHAEL W. DEPASQUALE Michael W. DePasquale	Chairman of the Board of Directors, Chief Executive Officer and Director (Principal Executive Officer)	May 14, 2020
/s/ CECILIA WELCH Cecilia Welch	Chief Financial Officer (Principal Financial and Accounting Officer)	May 14, 2020
/s/ROBERT J. MICHEL Robert J. Michel	Director	May 14, 2020
/s/ THOMAS E. BUSH III Thomas E. Bush	Director	May 14, 2020
/s/ THOMAS GILLEY Thomas Gilley	Director	May 14, 2020
/s/ WONG KWOK FONG Wong Kwok Fong	Director	May 14, 2020
/s/ YAO JIANHUI Yao Jianhui	Director	May 14, 2020
/s/ FABIAN SHIN Fabian Shin	Director	May 14, 2020
/s/ PIETER KNOOK Pieter Knook	Director	May 14, 2020
/s/ MANNY ALIA Manny Alia	Director	May 14, 2020

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934 as amended, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

BIO-KEY INTERNATIONAL, INC.

Date: May 20, 2020

By: */s/ Michael DePasquale*
Michael DePasquale
Chief Executive Officer

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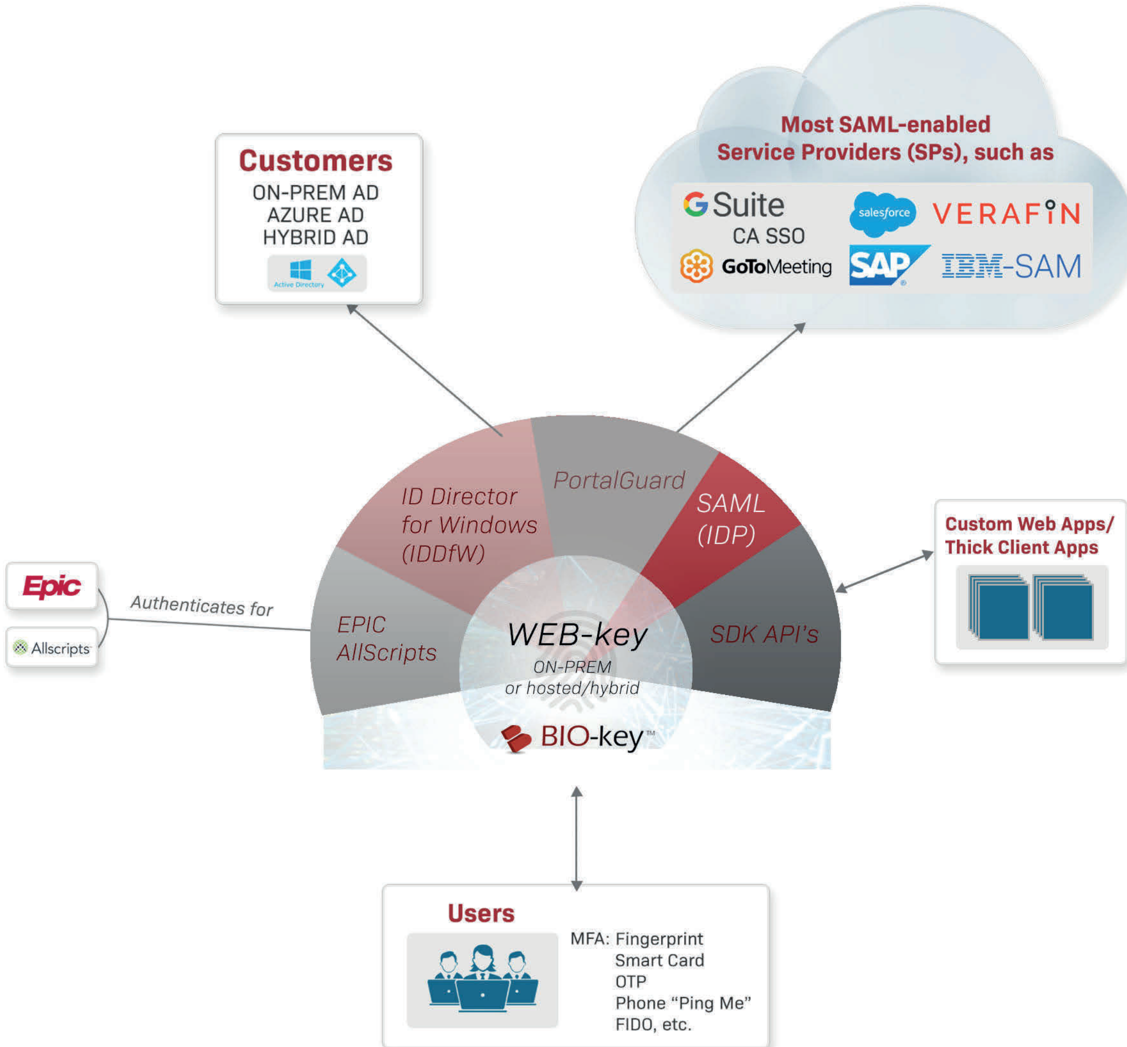

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