

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

FORM 10-K

FOR ANNUAL AND TRANSITION REPORTS PURSUANT TO
SECTIONS 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

(Mark One)

[x] ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(D) OF THE SECURITIES EXCHANGE ACT OF 1934 FOR THE FISCAL YEAR
ENDED DECEMBER 31, 2017

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 000-24389

VASCO Data Security International, Inc.

(Exact Name of Registrant as Specified in Its Charter)

DELAWARE
(State or Other Jurisdiction of
Incorporation or Organization)

36-4169320
(IRS Employer
Identification No.)

121 West Wacker Drive, Suite 2050
Chicago, Illinois 60601

(Address of Principal Executive Offices)(Zip Code)

Registrant's telephone number, including area code:

312-766-4001

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

Table with 2 columns: Title of each class, Name of exchange on which registered. Row 1: Common Stock, par value \$.001 per share; 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 by Rule 405 of the Securities Act. Yes ___ No [X]

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the act. Yes ___ No [X]

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 [X] No ___

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted 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 and post such files). Yes [X] No ___

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. []

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See definition 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 [X] Non-accelerated filer [] Smaller reporting company [] Emerging growth company []
(do not check if smaller reporting 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 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 [X]

As of June 30, 2017, the aggregate market value of voting and non-voting common equity (based upon the last sale price of the common stock as reported on the NASDAQ Capital Market on June 30, 2017) held by non-affiliates of the registrant was \$441,357,597 at \$14.35 per share.

As of February 22, 2018, there were 40,160,900 shares of common stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Certain sections of the registrant's Notice of Annual Meeting of Stockholders and Proxy Statement for its 2018 Annual Meeting of Stockholders are incorporated by reference into Part III of this report.

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This report contains trademarks of VASCO Data Security International, Inc. and its subsidiaries, which include VASCO, the VASCO “V” design, DIGIPASS, VACMAN, IDENTIKEY, Cronto, and eSignLive.

Cautionary Statement for Purposes of the Safe Harbor Provisions of the Private Securities Litigation Reform Act of 1995

This Annual Report on Form 10-K, including Management’s Discussion and Analysis of Financial Condition and Results of Operations and Quantitative and Qualitative Disclosures About Market Risk contains forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended and Section 27A of the Securities Act of 1933, as amended concerning, among other things, our expectations regarding the prospects of, and developments and business strategies for, VASCO and our operations, including the development and marketing of certain new products and services and the anticipated future growth in certain markets in which we currently market and sell our products and services or anticipate selling and marketing our products or services in the future. These forward-looking statements (1) are identified by use of terms and phrases such as “expect”, “believe”, “will”, “anticipate”, “emerging”, “intend”, “plan”, “could”, “may”, “estimate”, “should”, “objective”, “goal”, “possible”, “potential”, “projected”, and similar words and expressions, but such words and phrases are not the exclusive means of identifying them, and (2) are subject to risks and uncertainties and represent our present expectations or beliefs concerning future events. VASCO cautions that the forward-looking statements are qualified by important factors that could cause actual results to differ materially from those in the forward-looking statements. These additional risks, uncertainties and other factors have been described in greater detail in this Annual Report on Form 10-K and include, but are not limited to, (a) risks of general market conditions, including currency fluctuations and the uncertainties resulting from turmoil in world economic and financial markets, (b) risks inherent to the computer and network security industry, including rapidly changing technology, evolving industry standards, increasingly sophisticated hacking attempts, increasing numbers of patent infringement claims, changes in customer requirements, price competitive bidding, and changing government regulations, and (c) risks specific to VASCO, including demand for our products and services, competition from more established firms and others, pressures on price levels and our historical dependence on relatively few products, certain suppliers and certain key customers. These risks, uncertainties and other factors include VASCO’s ability to integrate eSignLive into the global business of VASCO successfully and the amount of time and expense spent and incurred in connection with the integration; the risk that the revenue synergies, cost savings and other economic benefits that VASCO anticipates as a result of this acquisition are not fully realized or take longer to realize than expected. Thus, the results that we actually achieve may differ materially from any anticipated results included in, or implied by these statements. Except for our ongoing obligations to disclose material information as required by the U.S. federal securities laws, we do not have any obligations or intention to release publicly any revisions to any forward-looking statements to reflect events or circumstances in the future or to reflect the occurrence of unanticipated events.

Unless otherwise noted, references in this Annual Report on Form 10-K to “VASCO”, “company”, “we”, “our”, and “us” refer to VASCO Data Security International, Inc. and its subsidiaries.

PART I

Item 1 - Business

VASCO Data Security International, Inc. was incorporated in the State of Delaware in 1997 and is the successor to VASCO Corp., a Delaware corporation. Our principal executive offices are located at 121 West Wacker Drive, Suite 2050, Chicago, Illinois 60601; the telephone number at that address is 312 766 4001. Our international headquarters in Europe is located at World-Wide Business Center, Balz-Zimmermannstrasse 7, CH-8152, Glattbrugg, Switzerland; the phone number at this location is +41 43 555 3500. Our principal operations offices in Europe are located at Romeinsessesteeuweg 564C, Strombeek-Bever 1853, Belgium and the telephone number at that address is +34 2 609 9700. Unless otherwise noted, references in this Annual Report on Form 10-K to “VASCO”, “company”, “we”, “our”, and “us” refer to VASCO Data Security International, Inc. and its subsidiaries.

Additional information on the company, our products and services and our results, including the company’s annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports filed with the Securities and Exchange Commission (the “SEC”) are available, free of charge, on our website at <https://www.vasco.com>. You may also read and copy any materials we file with the SEC at the SEC’s Public Reference Room at 100 F Street, NE, Washington, DC 20549. You may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. Our reports are filed electronically with the SEC and are also available on the SEC’s website (<https://www.sec.gov>).

Overview

We design, develop and market digital solutions for identity, security, and business productivity that protect and facilitate transactions online, via mobile devices, and in-person. We are a global leader in providing anti-fraud and digital transaction management solutions to financial institutions and other businesses. Our solutions secure access to online accounts, data, assets, and applications for global enterprises; provide tools for application developers to easily integrate security functions into their web-based and mobile applications; and facilitate digital transactions involving the signing, sending, and managing of documents. Our core technologies, multi-factor authentication and transaction signing, strengthen the process of preventing hacking attacks against online and mobile transactions to allow companies to transact business safely with remote customers.

We offer cloud based and on premises solutions using both open standards and proprietary technologies. Some of our proprietary technologies are patented. Our products and services are used for authentication, fraud mitigation, e-signing transactions and documents, and identity management in Business-to-Business (“B2B”), Business-to-Employee (“B2E”) and Business-to-Consumer (“B2C”) environments. Our target market is business processes using electronic interface, particularly the Internet, where there is risk of unauthorized access. Our products can increase security associated with accessing business processes, reduce losses from unauthorized access, and minimize the cost of the process by automating activities previously performed manually.

Online and mobile application owners and publishers benefit from our expertise in multi-factor authentication, document signing, transaction signing, application security, and in mitigating hacking attacks. Our convenient and proven security solutions enable frictionless and trusted interactions between businesses, employees, and consumers across a variety of online and mobile platforms.

Our newest product offerings enhance our library of mobile application security solutions, expand our risk-based anti-fraud capabilities, and deliver broad-based signature capabilities that enable secure and simple digitized business transactions.

Our growth strategy includes:

- Expanding our portfolio of services that enable institutions to mitigate fraud, comply with regulations, easily on-board customers, and adaptively authenticate transactions;

- Enabling secure digitization of business processes at banks and enterprises with eSignature and eVaulting solutions;
- Leveraging our unique portfolio of hardware, software, and recurring services across a global footprint;
- Driving increased demand for our products in new applications, new markets, and new territories; and
- Strategically acquiring companies that expand our technology portfolio or customer base.

Industry Background

The number of people using the internet via computers, tablets, and smartphones continues to grow at a rapid pace. Consumers are embracing online and mobile transactions and banking in increasing numbers. Organizations of all types have an increasing number of employees and business partners accessing protected resources from remote locations. New business paradigms such as these introduce new security risks for participants, especially banks, merchants, and other online and mobile service providers. Large and powerful criminal hacking organizations are launching more sophisticated hacking attacks with greater frequency. The criminal activities of private and state-sponsored hacking organizations have driven an increased need for security solutions and expansion of regulations requiring improved security measures to protect against hacking attacks and breaches. Several governments worldwide have recognized the risk associated with using user name and password access for internet and mobile applications and have issued specific recommendations advocating multi-factor authentication for enhanced online and mobile banking security. We anticipate this trend may continue.

We believe there are no reliable measurements of the total industry size or the industry growth rate for our security and eSignature products and services. However, we believe the market for authentication, anti-fraud and eSignature solutions will continue to grow driven by new government regulations, growing awareness of the impact of cyber-crime, and growth in electronic commerce. The issues driving growth are global however, the rate of adoption in each country is a function of culture, competitive position, economic conditions and use of technology.

Our Background

Our predecessor company, VASCO Corp., entered the data security business in 1991 through the acquisition of a controlling interest in ThumbScan, Inc., which we renamed as VASCO Data Security, Inc.

In 1996, we expanded our computer security business by acquiring Lintel Security NV/SA, a Belgian corporation, which included assets associated with the development of security tokens and security technologies for personal computers and computer networks. Also in 1996, we acquired Digipass NV/SA, a Belgian corporation, which was also a developer of security tokens and security technologies. In 1997, the acquired entity was renamed VASCO Data Security NV/SA.

In 1997, VASCO Data Security International, Inc. was incorporated and in 1998, we completed a registered exchange offer with the holders of the outstanding securities of VASCO Corp.

In 2006, we opened our international headquarters in Zurich, Switzerland.

In 2013, we acquired Cronto Limited (“CRONTO”), a provider of secure visual transaction authentication solutions for online banking.

In 2014, we acquired Risk IDS, a provider of risk analysis solutions to the banking community.

In November 2015, we acquired Silanis Technology Inc., a leading provider of electronic signature (eSignature) and digital transaction solutions used to sign, send and manage documents. The solution is sold under the eSignLive™ name and is trusted by many of the largest banks, insurers and government agencies.

Including our predecessor company, VASCO Corp., we have engaged in fifteen acquisitions and two dispositions.

Our Products and Services

DIGIPASS for Apps and DIGIPASS for Mobile

Our DIGIPASS Software authenticators, DIGIPASS for Apps and DIGIPASS for Mobile are designed to provide our customers with increased security for access to their mobile applications and networks without having to carry a standalone hardware device. DIGIPASS software authenticators balance the need for stronger mobile application security with the demands for user convenience by delivering comprehensive, built-in security for mobile applications, combined with a frictionless, “hands-free” authentication and e-signing experience for mobile users.

DIGIPASS for Apps is a comprehensive software development kit (SDK) that allows application developers to natively integrate security features including geolocation, device identification, jailbreak and root detection, fingerprint and face recognition, one-time password delivery via PUSH notification, and electronic signing, among others. Through a comprehensive library of APIs, application developers can extend and strengthen application security, deliver enhanced convenience to their application users, and streamline application deployment and lifecycle management processes.

DIGIPASS for Mobile is a user-friendly and secure mobile authenticator that operates as a discrete mobile application. It includes many of the features of DIGIPASS for Apps and can easily be tailored to meet the needs of any authentication process. It can be customized and deployed rapidly without extensive technical support ensuring strong security with compelling value.

IDENTIKEY Risk Manager

IDENTIKEY Risk Manager (IRM) is a comprehensive anti-fraud solution designed to help banks and other users improve the manner and speed of detecting fraud across multiple channels. It enables banks and financial institutions to take a proactive approach to fraud prevention, while making the experience frictionless for end users. IRM uses analytic techniques such as neural network implementations to score real-time transaction activity. Cross-channel prebuilt rules complement this score and allow fraud experts to make decisions on alerts or link to automated business processes such as step-up authentication. This solution can be implemented in combination with DIGIPASS for Apps to provide integrated trust with minimal impact on the end user experience. These products are targeted at banks, transaction processors, and ATM operations.

Application Shielding with RASP

VASCO’s application shielding with Runtime Application Self-Protection (RASP), neutralizes the threat of sophisticated attacks on mobile apps. It can mitigate malicious app activities before they interfere with the normal operation of the app and expose sensitive user data. This solution also provides code obfuscation and anti-tampering to stop hackers from debugging and reverse-engineering applications, ultimately reducing the risk of rogue apps.

eSignLive eSignature

eSignLive supports a broad range of eSignature requirements from simple to complex, and from the occasional electronic contract to the processing tens of thousands of transactions. eSignLive provides multiple deployment options including public cloud, private cloud, or on-premises, without compromising security or functionality. eSignLive is also available in a FedRAMP SaaS-level compliant cloud, allowing U.S. government agencies to implement eSignatures in the cloud and meet GSA security requirements.

Customers can configure eSignLive end-user to reinforce their brand for a seamless signing experience. Each step of the eSignature workflow can be customized, from authentication to e-document distribution. eSignLive can be

used across multiple devices, including laptop, mobile phone, or tablet, contributing to high levels of user adoption and satisfaction.

eSignLive provides the most comprehensive and secure electronic evidence for the strongest legal protection by capturing both document and process-level evidence. This reduces the time and cost of gathering evidence and demonstrating legal and regulatory compliance. eSignLive electronic signature capabilities can be a critical component of the customer onboarding process for mobile applications providing a secure and user friendly way to capture customer signatures.

eSignLive eVault Manager

eVault Manager is a secure, web-based platform that provides mortgage lenders, auto financiers, equipment lessors and other financial services organizations the means to store, assign and service electronic mortgage notes and secured loans and leases. The solution enables fully electronic, straight-through processing of mortgages and other secured loans and leases, from origination to retirement. After being electronically signed with eSignLive or another system, the authoritative copy of an eMortgage note or e-chattel paper is deposited in an eVault and protected throughout its lifecycle.

eVault Manager can be deployed in a public cloud, private cloud or on-premise. It maintains a single authoritative copy that is unique and identifiable; securely manages the transfer of assignment and location; ensures records cannot be altered, except as permitted; provides secure access and authorization control; includes an administration console for managing, pooling, searching and auditing electronic records; and supports vault-to-vault transfers and secure output to paper.

VACMAN

Our VACMAN product line incorporates a range of strong authentication utilities and solutions designed to allow organizations to add DIGIPASS strong authentication into their existing networks and applications. VACMAN solutions integrate with the most popular hardware and software and once integrated, become largely transparent to users, minimizing rollout and support issues. VACMAN encompasses multiple authentication technologies (passwords, dynamic password technologies, certificates, and biometrics) and allows use of any combination of those technologies simultaneously.

VACMAN enables customers to administer a high level of access control and allows them to match the level of authentication security used with the risk associated with each user of their application. Customers simply add fields to their existing user databases to describe the authentication technology used, and, if applicable, the unique DIGIPASS assigned to each end user of their application. VACMAN requires only a few days to implement in most systems and supports all DIGIPASS functionality. Once linked to an application, VACMAN automatically handles login requests from any user authorized to have a DIGIPASS.

DIGIPASS Hardware Authenticators

We offer a wide variety of DIGIPASS authenticators, each of which has its own distinct characteristics to meet the needs of our customers. All models of the DIGIPASS family are designed to work together so customers can switch devices without changes to their existing infrastructure. Our hardware DIGIPASS models range from simple one-button devices to devices that include more secure technologies, such as public key infrastructure (“PKI”).

With the acquisition of CRONTO in May 2013, VASCO added visual cryptography to its product portfolio. Sensitive transaction data is captured in a cryptogram that consists of a matrix of colored dots. By scanning the image with a hardware or software authenticator, the data contained in the cryptogram is decrypted and the transaction details are presented to the user for verification providing a highly secure method of visual transaction signing with maximum user convenience.

Many DIGIPASS hardware authenticators combine the benefits of traditional password authenticators (authentication and digital signatures) with smart card readers. Together, they bring portability to smart cards and allow the use of secure time-based algorithms.

DIGIPASS hardware technology is designed to support authentication and digital signatures for applications running on desktop PCs, laptops, tablets, and smart phones.

IDENTIKEY Authentication Server

IDENTIKEY Authentication Server is a centralized authentication server that supports the deployment, use, and administration of DIGIPASS strong user authentication. It is based on VASCO's core VACMAN technology. IDENTIKEY is also available as a stand-alone appliance and as a virtual appliance.

Intellectual Property and Proprietary Rights and Licenses

We rely on a combination of patent, copyright, trademark, design and trade secret laws, as well as employee and third-party non-disclosure agreements to protect our proprietary rights. In particular, we hold several patents in the U.S. and in other countries, which cover multiple aspects of our technology. These patents expire between 2019 and 2035. In addition to the issued patents, we also have several patent applications pending in the U.S., Europe and other countries. The majority of our issued and pending patents cover our DIGIPASS product line. We believe these patents to be valuable property rights and we rely on the strength of our patents and on trade secret law to protect our proprietary technology. We furthermore have registrations for most of our trademarks in most of the markets where we sell the corresponding products and services and registrations of the designs of many of our hardware products primarily in the EU and China. To the extent that we believe our intellectual property rights are being infringed upon, we intend to assert vigorously our intellectual property rights, including but not limited to, pursuing all available legal remedies.

Research and Development

Our research and development efforts historically have been, and will continue to be, concentrated on product enhancement, new technology development, and related new product introductions. We employ a team of full-time engineers and, from time to time, also engage independent engineering firms to conduct non-strategic product development efforts on our behalf. For fiscal years ended December 31, 2017, 2016, and 2015, we incurred expenses of \$23.1 million, \$23.2 million, and \$17.5 million, respectively, for research and development.

Production

Our security hardware DIGIPASS products are manufactured by third party manufacturers pursuant to purchase orders that we issue. Our hardware DIGIPASS products are made primarily from commercially available electronic components purchased globally. Our software products are produced in-house.

Hardware DIGIPASS products utilize commercially available programmable microprocessors purchased from several suppliers. The microprocessors are the most important components of our security authenticators that are not commodity items readily available on the open market. Some microprocessors are single sourced. Orders of microprocessors generally require a lead-time of 12-16 weeks. We attempt to maintain a sufficient inventory of all parts to handle short-term increases in orders.

Large orders that would significantly deplete our inventory are typically required to be placed with more than twelve weeks of lead-time, allowing us to make appropriate arrangements with our suppliers. We purchase microprocessors and arrange for shipment to third parties for assembly and testing in accordance with our design specifications. The majority of our DIGIPASS products are manufactured by four independent vendors domiciled in Hong Kong and Macau with production facilities in mainland China. Purchases are made on a volume purchase order basis. We supply product test equipment at the point of assembly. We maintain a local team in China to conduct quality control and quality assurance procedures. Periodic visits are conducted by our personnel for quality management, assembly process review, and supplier relations.

Competition

The market for computer and network security solutions is very competitive and, like most technology-driven markets, is subject to rapid change and constantly evolving products and services. Our anti-fraud products are designed to allow authorized users access to a computing environment or application, in some cases using patented technology, as a replacement for or supplement to a static password. Although certain of our security technologies are patented, there are other organizations that offer anti-fraud solutions that compete with us for market share. Our main competitors in our anti-fraud markets are Gemalto and RSA Security, a subsidiary of Dell Technologies. There are many other companies, such as Kobil Systems, Symantec, and Early Warning that offer competing authentication hardware, software and services that range from simple locking mechanisms to sophisticated encryption technologies. In addition to these companies, we face competition from many small authentication solution providers, many of whom offer new technologies and niche solutions such as biometric or behavioral analysis. We believe that competition in this market is likely to intensify as a result of increasing demand for security products. Our primary competitors for electronic signature solutions include DocuSign and Adobe Systems. Both companies are significantly larger than us. In addition to these companies, there are dozens of smaller and regional providers of electronic signing solutions.

We believe that the principal competitive factors affecting the market for computer and network security products as well as electronic signatures include the strength and effectiveness of the solution, technical features, ease of use, quality and reliability, customer service and support, brand recognition, customer base, distribution channels, and the total cost of ownership of the solution. Although we believe that our products currently compete favorably with respect to such factors, there can be no assurance that we can maintain our competitive position against current and potential competitors.

Some of our present and potential competitors have significantly greater financial, technical, marketing, purchasing, and other resources. As a result, they may be able to respond more quickly to new or emerging technologies and changes in customer requirements, or to devote greater resources to the development, promotion and sale of products, or to deliver competitive products at a lower end-user price. Current and potential competitors have established or may establish cooperative relationships among themselves or with third parties to increase the ability of their products to address the needs of our prospective customers. It is possible that new competitors or alliances may emerge and rapidly acquire significant market share. Accordingly, we have forged, and will continue to forge, our own partnerships to offer a broader range of products and capabilities to the market.

Sales and Marketing

Our solutions are sold worldwide through our direct sales force, as well as through distributors, resellers, systems integrators, and original equipment manufacturers. Our sales staff coordinates sales activity through both our sales channels and those of our strategic partners making direct sales calls either alone or with the sales personnel of our partners. Our sales staff also provides product education seminars to sales and technical personnel of vendors and distributors with whom we have working relationships and to potential end-users of our products.

Our sales force is able to offer customers a choice of an on-site implementation using our on-premises model or a cloud implementation for some solutions using our services platform.

Part of our expanded selling effort includes approaching our existing strategic partners to find additional applications for our security products. In addition, our marketing plan calls for the identification of new business opportunities that may require enhanced security or areas where we do not currently market our products. Our efforts also include various activities to increase market awareness of solutions as well as preparation and dissemination of white papers explaining how our security products can add value or otherwise be beneficial.

Customers and Markets

Customers for our products include some of the world's most recognized names: JPMorgan Chase & Co., Citibank, HSBC, Rabobank, Deutsche Bank, Sumitomo Mitsui Banking Corporation, BNP-Paribas Fortis, The Bank of

Tokyo-Mitsubishi, Banco Santander, and U.S. government agencies including the Postal Service, USDA, Census Bureau, and GSA.

Our top 10 customers contributed 27%, 36%, and 50%, in 2017, 2016, and 2015, respectively, of total worldwide revenue. In 2015, Rabobank contributed 30% of our worldwide revenue.

A significant portion of our sales is denominated in foreign currencies and changes in exchange rates impact results of operations. To mitigate exposure to risks associated with fluctuations in currency exchange rates, we attempt to denominate an amount of billings in a currency such that it would provide a hedge against operating expenses being incurred in that currency. For additional information regarding how currency fluctuations can affect our business, please refer to “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and “Quantitative and Qualitative Disclosures about Market Risk.”

We experience seasonality in our business. Historically, these seasonal trends are most notable in the summer months, particularly in Europe, when many businesses defer purchase decisions; however, the timing of any one or more large orders may temper or offset this seasonality.

We generally focus our sales and marketing efforts in three primary areas:

- Financial Institutions, which includes Banking, is our largest market. We believe there are substantial opportunities for future growth in the financial vertical.
- Businesses seeking secure internal and remote network access. We sell to these businesses primarily through distributors and resellers. Our strategy is to leverage products developed for the Banking market.
- Government: Our customer base includes a significant number of government organizations and we continue to experience positive growth in this market. This is primarily driven by our eSignature solution, eSignLive.

We serve multiple markets via our two-tier indirect sales channel. We invest in and support our channel with training, marketing and sales support resources. Distributors and resellers get the tools they need to be successful, such as campaigns, case studies, marketing funds and more. We train employees of our resellers and distributors on-site and in our offices.

Backlog

Our backlog at December 31, 2017 was approximately \$48 million compared to \$50 million at December 31, 2016 and \$51 million at December 31, 2015. We do not believe that the specific amount of backlog at any point in time is indicative of the trends in our markets or the expected results of our business. Given the large size of orders, the backlog number can change significantly with the receipt of a new order or modification of an existing order.

Financial Information Relating to Foreign and Domestic Operations

For financial information regarding VASCO, see our Consolidated Financial Statements and the related Notes, which are included in this Annual Report on Form 10-K. We have a single operating segment for all our products and operations. See Note 11 in the Notes to Consolidated Financial Statements for a breakdown of revenue and long-lived assets between U.S. and foreign operations.

Employees

As of December 31, 2017, we had 611 total employees, including 327 located in EMEA (Europe, the Middle East and Africa), 254 located in the Americas, and 30 located in Asia Pacific. Of the total employees, 311 were involved

in sales, marketing, operations and customer support, 203 in research and development and 97 in general and administration.

Item 1A - Risk Factors

RISK FACTORS

You should carefully consider the following risk factors, which we consider the most significant, as well as other information contained in this Annual Report on Form 10-K. In addition, there are a number of less significant and other general risk factors that could affect our future results. If any of the events described in the risk factors were to occur, our business, financial condition or operating results could be materially and adversely affected. We have grouped our Risk Factors under captions that we believe describe various categories of potential risk. For the reader's convenience, we have not duplicated risk factors that could be considered to be included in more than one category.

Risks Related to Our Business

A significant portion of our sales are to a limited number of customers. The loss of substantial sales to any one of them could have an adverse effect on revenues and profits.

We derive a substantial portion of our revenue from a limited number of customers, many of which are financial institutions. The loss of substantial sales to any one of them could adversely affect our operations and results. In fiscal 2017, 2016, and 2015, our top 10 largest customers contributed 27%, 36%, and 50%, respectively, of total worldwide revenue. In 2015, Rabobank contributed 30% of total revenue principally due to an order for card readers incorporating our CRONTO technology.

The return of a worldwide recession and/or an increase in the concern over the European sovereign debt crisis may further impact our business.

Our business is subject to economic conditions that may fluctuate in the major markets in which we operate. Factors that could cause economic conditions to fluctuate include, without limitation, recession, inflation, deflation, interest rates, unemployment, consumer debt levels, general retail or commercial markets and consumer or business purchasing power or preferences.

While it appears that circumstances that led to the sovereign debt crisis have abated, many significant economic issues have not been addressed fully. As a result, we expect that parts of Europe will continue to face difficult economic conditions in 2018. If global economic and financial market conditions remain uncertain and/or weak for an extended period of time, any of the following factors, among others, could have a material adverse effect on our financial condition and results of operations:

- slower consumer or business spending may result in reduced demand for our products, reduced orders from customers for our products, order cancellations, lower revenues, increased inventories, and lower gross margins;
- continued volatility in the global markets and fluctuations in exchange rates for foreign currencies and contracts or purchase orders in foreign currencies could negatively impact our reported financial results and condition;
- continued volatility in the prices for commodities and raw materials we use in our products could have a material adverse effect on our costs, gross margins, and ultimately our profitability;
- restructurings, reorganizations, consolidations and other corporate events could affect our customers' budgets and buying cycles, particularly in the banking industry;

- if our customers experience declining revenues, or experience difficulty obtaining financing in the capital and credit markets to purchase our products, this could result in reduced orders for our products, order cancellations, inability of customers to timely meet their payment obligations to us, extended payment terms, higher accounts receivable, reduced cash flows, greater expense associated with collection efforts and increased bad debt expense;
- in the event of a contraction of our sales, dated inventory may result in a need for increased obsolescence reserves;
- a severe financial difficulty experienced by our customers may cause them to become insolvent or cease business operations, which could reduce the availability of our products to consumers; and
- any difficulty or inability on the part of manufacturers of our products or other participants in our supply chain in obtaining sufficient financing to purchase raw materials or to finance general working capital needs may result in delays or non-delivery of shipments of our products.

While we believe that many of the effects of the recession and credit crisis have abated, we are unable to predict potential future economic conditions, disruptions in the sovereign debt markets or other financial markets, the Euro Monetary Union or the European Union, or the effect of any such disruption or disruptions on our business and results of operations, but the consequences may be materially adverse. We believe that our business in the Banking market in Europe would be impacted most directly by any such disruption and that the consequences may be materially adverse, as approximately 48% of our consolidated revenues originated in the EMEA region in 2017.

Disruptions in markets or the European Union may affect our liquidity and capital resources.

We believe our financial resources are adequate to meet our operating needs. However, disruptions in the sovereign debt markets or other financial markets, the Euro Monetary Union or the European Union, could materially adversely affect our liquidity and capital resources and expose us to additional currency fluctuation risk. Sufficiently adverse effects could cause us to modify our business plans.

Furthermore, in an adverse economic environment there is a risk that customers may delay their orders until the economic conditions improve further. If a significant number of orders are delayed for an indefinite period of time, our revenue and cash receipts may not be sufficient to meet the operating needs of the business. If this is the case, we may need to significantly reduce our workforce, sell certain of our assets, enter into strategic relationships or business combinations, discontinue some or all of our operations, or take other similar restructuring actions. While we expect that these actions would result in a reduction of recurring costs, they also may result in a reduction of recurring revenue and cash receipts. It is also likely that we would incur substantial non-recurring costs to implement one or more of these restructuring actions.

We could incur substantial accounting related costs if we are unable to maintain an effective system of internal control over financial reporting.

As a result of the material weakness disclosed as of December 31, 2016, related to deficiencies associated with our acquisition of Silanis Technology Inc. in November 2015 and its subsequent operations, we improved our internal control over financial reporting and the effectiveness of our disclosure controls and procedures. We expended significant resources, including accounting-related costs and significant management oversight as we corrected past deficiencies. Management has determined that full remediation of the prior deficiencies in internal control over financial reporting that led to the material weakness has occurred, and the subsequent investment in the control environment will continue.

We cannot provide absolute assurance that additional material weaknesses, or significant deficiencies, in our internal controls will not be identified in the future. Failure to maintain effective controls or implement new or improved controls could result in significant deficiencies or material weaknesses, affect management evaluations and auditor attestations regarding the effectiveness of our internal controls, failure to meet periodic reporting obligations, and

material misstatements in our financial statements. Material misstatement of our financial statements may result in a restatement, loss of investor and customer confidence, a decline in the market price of the Company's common stock, and potential sanctions or investigations by NASDAQ, the Securities and Exchange Commission or other regulatory authorities. Failure to remedy any material weakness in the Company's internal control over financial reporting, or to implement or maintain other effective control systems required of public companies, could also restrict the Company's future access to the capital markets.

We have a long operating history, but only modest accumulated profit.

Although we have reported net income (loss) of \$(22.4) million, \$10.5 million, and \$42.2 million for the years ended December 31, 2017, 2016, and 2015, respectively, our retained earnings were \$156.2 million at December 31, 2017. Over our 25 year operating history, we have operated at a loss for many of those years. In the current uncertain economic environment, it may be difficult for us to sustain our recent levels of profitability. We may also choose to invest for long term value which could decrease or eliminate short term profit.

We derive revenue from a limited number of products and do not have a broadly-diversified product base.

A majority of our revenue is derived from the sale of authentication products. We anticipate a substantial portion of future revenue, will be derived from authentication products and related services. If the sale of these products and services is impeded for any reason and we have not diversified our product offerings, our business and results of operations would be negatively impacted.

The sales cycle for our products and technology is long, and we may incur substantial expenses for sales that do not occur when anticipated.

The sales cycle for our products, which is the period of time between the identification of a potential customer and completion of the sale, is typically lengthy and subject to a number of significant risks over which we have little control. If revenue falls significantly below anticipated levels, our business would be seriously harmed.

A typical sales cycle in the Banking market is often six months or more. Larger Banking transactions may take up to 18 months or more. Purchasing decisions for our products and systems may be subject to delays due to many factors that are not within our control, such as:

- Time required for a prospective customer to recognize the need for our products;
- Significant expense of many data security products and network systems;
- Customer budgeting process; and
- Customer testing and approval process.

As our operating expenses are based on anticipated revenue levels, a small fluctuation in the timing of sales can cause our operating results to vary significantly between periods.

We have a great dependence on a limited number of suppliers and the loss of their manufacturing capability could materially impact our operations.

In the event that the supply of components or finished products is interrupted or relations with any of our principal vendors is terminated, there could be increased costs and considerable delay in finding suitable replacement sources to manufacture our products. The majority of our products are manufactured by four independent vendors domiciled in Hong Kong and Macau. Our hardware DIGIPASS authentication devices are assembled at facilities located in mainland China. The importation of these products from China exposes us to the possibility of product supply disruption and increased costs in the event of changes in the policies of the Chinese government, political unrest or unstable economic conditions in China or developments in the United States or European Union that are adverse to trade, including enactment of protectionist legislation.

We order some hardware components, such as processors, in advance of expected use and often produce finished goods prior to the receipt of executed customer orders. If orders are not received, we could suffer losses related to inventory that cannot be sold at full value.

In an attempt to minimize the risk of not having an adequate supply of component parts to meet demand and to take advantage of volume purchasing benefits, especially in situations where we have been notified that key processors will no longer be manufactured, we sometimes purchase multiple years' supply of parts based on internal forecasts of demand. In addition, to meet customers' demands for accelerated delivery of product, we sometimes produce finished product for existing customers before we receive the executed order from the customer. Should our forecasts of future demand be inaccurate or if we produce product that is never ordered, we could incur substantial losses related to the realization of our inventory.

Our success depends on establishing and maintaining strategic relationships with other companies to develop, market, and distribute our technology and products and, in some cases, to incorporate our technology into their products.

Part of our business strategy is to enter into strategic alliances and other cooperative arrangements with other companies in our industry. We currently are involved in cooperative efforts with respect to the incorporation of our products into products of others, research and development efforts, marketing efforts and reseller arrangements. None of these relationships are exclusive, and some of our strategic partners also have cooperative relationships with certain of our competitors. If we are unable to enter cooperative arrangements in the future or if we lose any of our current strategic or cooperative relationships, our business could be harmed. We do not control the time and resources devoted to such activities by parties with whom we have relationships. In addition, we may not have the resources available to satisfy our commitments, which may adversely affect these relationships. These relationships may not continue, may not be commercially successful, or may require our expenditure of significant financial, personnel and administrative resources from time to time. Further, certain of our products and services compete with the products and services of our strategic partners.

We may not be able to maintain effective product distribution channels, which could result in decreased revenue.

We rely on both our direct sales force and an indirect channel distribution strategy for the sale and marketing of our products. We may be unable to attract distributors, resellers and integrators, as planned, that can market our products effectively and provide timely and cost-effective customer support and service. There is also a risk that some or all of our distributors, resellers or integrators may be acquired, may change their business models or may go out of business, any of which could have an adverse effect on our business. Further, our distributors, integrators and resellers may carry competing lines of products. The loss of important sales personnel, distributors, integrators or resellers could adversely affect us.

We depend on our key personnel for the success of our business and the loss of one or more of our key personnel could have an adverse effect on our ability to manage our business or could be negatively perceived in the capital markets.

Our success and our ability to manage our business depend, in large part, upon the efforts and continued service of our senior management team. The loss of one or more of our key personnel could have a material adverse effect on our business and operations. It could be difficult for us to find replacements for our key personnel, as competition for such personnel is often intense. Further, such a loss could be negatively perceived in the capital markets, which could reduce the market value of our securities.

If we fail to continue to attract and retain qualified personnel, our business may be harmed.

Our future success depends upon our ability to continue to attract and retain highly qualified technical, sales and managerial personnel. Competition for such personnel is often intense and there can be no assurance that we can attract other highly qualified personnel in the future. If we cannot retain or are unable to hire such key personnel, our business, financial condition and results of operations could be significantly adversely affected.

Changes in our effective tax rate may have an adverse effect on our results of operations.

Our future effective tax rates may be adversely affected by a number of factors including the distribution of income among the various countries in which we operate, changes in the valuation of our deferred tax assets, increases in expenses not deductible for tax purposes, including the impairment of goodwill in connection with acquisitions, changes in share-based compensation expense, and changes in tax laws or the interpretation of such tax laws and changes in generally accepted accounting principles. Any significant increase in our future effective tax rates could adversely impact net income for future periods; and a reduction in our U.S. tax rate could negatively impact our deferred tax assets which could also adversely impact our net income.

Our worldwide income tax provisions and other tax accruals may be insufficient if any taxing authorities assume taxing positions that are contrary to our positions.

Significant judgment is required in determining our provision for income taxes and other taxes such as sales and VAT taxes. There are many transactions for which the ultimate tax outcome is uncertain. Some of these uncertainties arise as a consequence of intercompany agreements to purchase intellectual properties, allocate revenue and costs, and other factors, each of which could ultimately result in changes once the arrangements are reviewed by taxing authorities. Although we believe that our approach to determining the amount of such arrangements is reasonable, we cannot be certain that the final tax authority review of these matters will not differ materially from what is reflected in our historical income tax provisions and other tax accruals. Such differences could have a material effect on our income tax provisions or benefits, or other tax accruals, in the period in which such determination is made, and consequently, on our results of operations for such period.

Changes in global tax laws or in their interpretation or enforcement, could have a material adverse effect on our effective tax rate, results of operations, cash flows and financial condition.

We could be materially adversely affected by future changes in tax law or policy (or in their interpretation or enforcement) in Europe or other jurisdictions where we operate. These changes could be exacerbated by economic, budget or other challenges facing these jurisdictions. For example, foreign jurisdictions could impose tax rate changes along with additional corporate tax provisions that would disallow or tax perceived “base erosion” or profit shifting amongst jurisdictions. In addition, aspects of U.S. tax reform may lead foreign jurisdictions to respond by enacting additional tax legislation that results in an adverse effect on our effective tax rate, results of operations, cash flows and financial condition.

The ongoing effects of U.S. tax reform and the refinement of provisional estimates could make our results difficult to predict.

In December 2017, the United States enacted tax reform legislation (“U.S. tax reform”). The legislation implements many new U.S. domestic and international tax provisions. Many aspects of the U.S. tax reform are unclear, and although additional clarifying guidance is expected to be issued in the future (by the Internal Revenue Service, the U.S. Treasury Department or via a technical correction law change), it may not be clarified for some time. In addition, many states have not yet updated their laws to take into account the new federal legislation. As a result, we have not yet been able to determine the full impact of the new laws on our results of operations and financial condition. Provisional estimates used in our financial statements to reflect U.S. tax reform are expected to change and such changes could be significant depending on future guidance under U.S. tax reform and state actions. It is possible that U.S. tax reform, or the guidance under it, could change in the future and could have a material adverse effect on our effective tax rate, results of operations, cash flows and financial condition.

We may acquire or invest in companies, which may disrupt our business and divert management's attention and cause harm to our financial condition or results. We may be unable to integrate acquired businesses and technologies successfully or achieve the expected benefits of such acquisitions.

We may evaluate and consider potential strategic transactions, including acquisitions of, or investments in, complementary businesses, technologies, services, products and other assets in the future. We also may enter into

relationships with other businesses to expand our products and platform, which could involve preferred or exclusive licenses, additional channels of distribution, discount pricing or investments in other companies.

Our failure to successfully structure or manage any acquisitions could seriously harm our financial condition or operating results. The expected benefits of any acquisition may not be realized. In connection with our acquisition of eSignLive and any future purchases, we will face additional financial and operational risks, including:

- Difficulty in assimilating the operations, technology and personnel of acquired companies;
- Disruption in our business because of the allocation of resources to consummate these transactions and the diversion of management's attention from our existing business;
- Difficulty in retaining key technical and managerial personnel from acquired companies;
- Dilution of our stockholders, if we issue equity to fund these transactions;
- Reduced liquidity, increased debt and higher amortization expenses;
- Assumption of operating losses, increased expenses and liabilities;
- Our relationships with existing employees, customers and business partners may be weakened or terminated as a result of these transactions;
- Discovery of unanticipated issues and liabilities;
- Failure to meet expected returns; and
- Difficulty in maintaining financial reporting and internal control processes needed to be compliant with requirements applicable to companies subject to SEC reporting.

Reported revenue may fluctuate widely due to the interpretation or application of accounting rules.

Our sales arrangements often include multiple elements, including hardware, services, software, maintenance and support. In addition, we have sold software related arrangements in multiple forms, including perpetual licenses, term based licenses and SaaS, each of which may be treated differently under accounting rules. The accounting rules for such arrangements are complex and subject to change from time to time. Small changes in circumstances could cause wide deviations in the timing of reported revenue.

Provisions in various agreements potentially expose us to substantial liability for intellectual property infringement and other losses.

Our agreements with customers, solution partners and channel partners generally include provisions under which we agree to indemnify them for losses suffered or incurred as a result of claims of intellectual property infringement and, in some cases, for damages caused by us to property or persons or for other damages. In addition, we make certain representations and warranties and incur obligations under our contracts in the ordinary course of business, including for items related to data security and potential data breaches. Not all of our potential losses under our contracts are covered by insurance policies, which could increase the impact of any such loss should it occur. Large indemnity payments or damages resulting from our contractual obligations could harm our business, operating results and financial condition.

The evolution of our business requires more complex development and go-to-market strategies, which involve significant risk.

Our increasing focus on developing and marketing a platform of solutions for identity management, authentication, risk analysis, fraud detection, digital business processes and related areas requires different development and go-to-market strategies than our historic hardware authentication business. We are developing, buying and licensing technology weighted toward software solutions and investment in research, development, product management, sales training and senior management. This transformation strategy is currently in progress and brings with it significant risks related to our choice of solutions and our ability to execute the strategy successfully. This strategy requires a greater focus on marketing and selling product suites and software solutions rather than selling hardware products for authentication and transaction signing. Consequently, we are developing, and must continue to develop, new strategies for marketing and selling our offerings. In addition, marketing and selling new technologies to enterprises requires significant investment of time and resources in order to train our employees and educate our customers on the benefits of our new product offerings. These investments can be costly and the additional effort required to educate both customers and our own sales force can distract from efforts to sell existing products and services.

Risks Related to the Market

We face significant competition and if we lose or fail to gain market share our financial results will suffer.

The market for data security products and services is highly competitive. Our competitors include organizations that provide data security products based upon approaches similar to and different from those that we employ. Many of our competitors have significantly greater financial, marketing, technical and other competitive resources than we do. As a result, our competitors may be able to adapt more quickly to new or emerging technologies and changes in customer requirements, or to devote greater resources to the promotion and sale of their products.

A decrease of average selling prices for our products and services could adversely affect our business.

The average selling prices for our solution offerings may decline as a result of competitive pricing pressures or a change in our mix of products, software and services. In addition, competition continues to increase in the market segments in which we participate and we expect competition to further increase in the future, thereby leading to increased pricing pressures. Furthermore, we anticipate that the average selling prices and gross profits for our products will decrease over product life cycles. To maintain or realize our revenue and gross margins, we must continue to develop, or purchase and introduce new products and services that incorporate new technologies or increased functionality. If we experience such pricing pressures or fail to deliver new products and services relevant to our markets, our revenue and gross margins could decline, which could harm our business, financial condition and results of operations.

We may need additional capital in the future and our failure to obtain capital would interfere with our growth strategy.

Our ability to obtain financing will depend on a number of factors, including market conditions, our operating performance and investor or creditor interest. These factors may make the timing, amount, terms and conditions of any financing unattractive. They may also result in our incurring additional indebtedness or accepting stockholder dilution. If adequate funds are not available or are not available on acceptable terms, we may have to forego strategic acquisitions or investments, defer our product development activities, or delay the introduction of new products.

We experience variations in quarterly operating results and sales are subject to seasonality, both of which may result in a volatile stock price.

In the future, as in the past, our quarterly operating results may vary significantly, resulting in a volatile stock price. Factors affecting our operating results include:

- The level of competition;

- The size, timing, cancellation or rescheduling of significant orders;
- New product announcements or introductions by competitors;
- Technological changes in the market for data security products including the adoption of new technologies and standards;
- Changes in pricing by competitors;
- Our ability to develop, introduce and market new products and product enhancements on a timely basis, if at all;
- Component costs and availability;
- Achievement of significant market share in particular markets followed by declines as buying cycles tend to be multiple years apart;
- The variability of revenue realized from individual customers as their buying patterns often vary significantly from period to period;
- Our success in expanding our sales and marketing programs;
- Market acceptance of new products and product enhancements;
- Changes in foreign currency exchange rates; and
- General economic conditions in the countries in which we operate.

We also experience seasonality in all markets. These seasonal trends are most notable in the summer months, particularly in Europe, when many businesses defer purchase decisions.

Our stock price may be volatile for reasons other than variations in our quarterly operating results.

The market price of our common stock may fluctuate significantly in response to factors, some of which are beyond our control, including the following:

- Actual or anticipated fluctuations in our quarterly or annual operating results;
- Differences between actual operating results and results estimated by analysts that follow our stock and provide estimates of our results to the market;
- Differences between guidance relative to financial results, if given, and actual results;
- Changes in market valuations of other technology companies, and cybersecurity companies in particular;
- Announcements by us or our competitors of significant technical innovations, contracts, acquisitions, strategic partnerships, joint ventures or capital commitments;
- Additions or departures of key personnel;
- Future sales of common stock;

- The inclusion or exclusion of our stock in ETF's, indices and other benchmarks, and changes made to methodologies connected therewith;
- Trading volume fluctuations; and
- Reactions by investors to uncertainties in the world economy and financial markets.

A small group of persons control a substantial amount of our common stock and could delay or prevent a change of control.

Our Board of Directors, our officers and their immediate families and related entities beneficially own approximately 23%, with Mr. T. Kendall Hunt beneficially owning approximately 21%, of the outstanding shares of our common stock. As the Chairman of the Board of Directors and our largest stockholder, Mr. Hunt may exercise substantial control over our future direction and operations and such concentration of control may have the effect of discouraging, delaying or preventing a change in control and may also have an adverse effect on the market price of our common stock.

Certain provisions of our charter and of Delaware law make a takeover of our company more difficult.

Our corporate charter and Delaware law contain provisions, such as a class of authorized but unissued preferred stock which may be issued by our board without stockholder approval that might enable our management to resist a takeover of our company. Delaware law also limits business combinations with interested stockholders. These provisions might discourage, delay or prevent a change in control or a change in our management. These provisions could also discourage proxy contests, and make it more difficult for stockholders to elect directors and take other corporate actions. The existence of these provisions could limit the price that investors might be willing to pay in the future for shares of our common stock.

Future issuances of blank check preferred stock may reduce voting power of common stock and may have anti-takeover effects that could prevent a change in control.

Our corporate charter authorizes the issuance of up to 500,000 shares of preferred stock with such designations, rights, powers and preferences as may be determined from time to time by our Board of Directors, including such dividend, liquidation, conversion, voting or other rights, powers and preferences as may be determined from time to time by the Board of Directors without further stockholder approval. The issuance of preferred stock could adversely affect the voting power or other rights of the holders of common stock. In addition, the authorized shares of preferred stock and common stock could be utilized, under certain circumstances, as a method of discouraging, delaying or preventing a change in control.

Risks Related to Technology and Intellectual Property

Technological changes occur rapidly in our industry and our development of new products is critical to maintain our revenue.

The introduction by our competitors of products embodying new technologies and the emergence of new industry standards could render our existing products obsolete and unmarketable. Our future revenue growth and operating profit will depend in part upon our ability to enhance our current products and develop innovative products to distinguish us from the competition and to meet customers' changing needs. Security-related product developments and technology innovations by others may adversely affect our competitive position and we may not successfully anticipate or adapt to changing technology, industry standards or customer requirements on a timely basis.

Our business could be negatively impacted by cyber security incidents and other disruptions.

Our use of technology is increasing and is critical in three primary areas of our business:

1. Software and information systems that we use to help us run our business more efficiently and cost effectively;
2. The products we have traditionally sold and continue to sell to our customers for integration into their software applications contain technology that incorporates the use of secret numbers and encryption technology; and
3. Solutions delivered on a software-as-a-service basis, from both public and private cloud models, which may process and store confidential, personal, health and financial information.

A cyber incident in any of these areas of our business could disrupt our ability to take orders or deliver products or services to our customers, cause us to suffer significant monetary and other losses and significant reputational harm, or substantially impair our ability to grow the business. We expect that there will continue to be hacking attempts intended to impede the performance of our products, disrupt our services and harm our reputation as a company, as the processes used by computer hackers to access or sabotage technology products, services and networks are rapidly evolving in sophistication.

In July 2011, we experienced a cyber incident related to DigiNotar B.V. shortly after we purchased the company. The hacking incident at DigiNotar B.V. led to the termination of DigiNotar B.V.'s registration as a certification service provider and DigiNotar B.V.'s bankruptcy. We may incur losses from such events as a result of unanticipated costs associated with hacking incidents.

In addition, because we are in the cyber security industry, we could be targeted by hackers more than other companies and if a material cyber security breach occurred related to corporate or customer information, the reputational harm and potential lost future business could be greater than other companies not in our industry. We have taken various measures to strengthen the security of our products and our systems, to establish information security governance procedures and to train our employees. However, we are the subject of a large volume of hacking attempts and our defenses might not always be effective. If a hacking attempt were to be successful and lead to a material data breach, then it could harm our business, financial condition and results of operations, both in the current period and for a significant future period of time.

We rely upon Amazon Web Services to operate portions of our platform and any disruption of or interference with our use of Amazon Web Services would adversely affect our business, results of operations and financial condition

We outsource portions of our cloud infrastructure to Amazon Web Services, or AWS. Customers of our products need to be able to access our platform at any time, without interruption or degradation of performance. AWS runs its own platform that we access, and we are, therefore, vulnerable to service interruptions at AWS. We have experienced, and expect that in the future we may experience interruptions, delays and outages in service and availability from time to time due to a variety of factors, including infrastructure changes, human or software errors, website hosting disruptions and capacity constraints. Capacity constraints could be due to a number of potential causes including technical failures, natural disasters, fraud or security attacks. In addition, if our security, or that of AWS, is compromised, our products or platform are unavailable or our users are unable to use our products within a reasonable amount of time or at all, then our business, results of operations and financial condition could be adversely affected. In some instances, we may not be able to identify the cause or causes of these performance problems within a period of time acceptable to our customers. It may become increasingly difficult to maintain and improve our platform performance, especially during peak usage times, as our products become more complex and the usage of our products increases. To the extent that we do not effectively address capacity constraints, either through AWS or alternative providers of cloud infrastructure, our business, results of operations and financial condition may be adversely affected.

In addition, any changes in service levels from AWS may adversely affect our ability to meet our customers' requirements.

Any of the above circumstances or events may harm our reputation, possibly move customers to stop using our products, impair our ability to increase revenue from existing customers, impair our ability to grow our customer base, subject us to financial penalties and liabilities under our service level agreements and otherwise harm our business, results of operations and financial condition. These risks are present with our other cloud service infrastructure vendors beside AWS as well.

Our products contain third-party, open-source software and failure to comply with the terms of the underlying open-source software licenses could restrict our ability to sell our products or otherwise result in claims of infringement.

Our products are distributed with software programs licensed to us by third-party authors under “open-source” licenses, which may include the GNU General Public License, the GNU Lesser Public License, the BSD License and the Apache License. These open-source software programs include, without limitation, Linux, Apache, Openssl, IPTables, Tcpdump, Postfix, Cyrus, Perl, Squid, Snort, Ruby, Rails, PostgreSQL, MongoDB and Puppet. These third-party, open-source programs are typically licensed to us for no fee and the underlying license agreements generally require us to make available to users the source code for such programs, as well as the source code for any modifications or derivative works we create based on these third-party, open-source software programs.

We do not believe that we have created any modifications or derivative works to, an extended version of, or works based on, any open-source software programs referenced above. We include instructions to users on how to obtain copies of the relevant open-source code and licenses.

We do not provide end users a copy of the source code to our proprietary software because we believe that the manner in which our proprietary software is aligned or communicates with the relevant open-source programs does not create a modification, derivative work or extended version of, or a work based on, that open-source program requiring the distribution of our proprietary source code.

Our ability to commercialize our products by incorporating third-party, open-source software may be restricted because, among other reasons:

- the terms of open-source license agreements are unclear and subject to varying interpretations, which could result in unforeseen obligations regarding our proprietary products or claims of infringement;
- it may be difficult to determine the developers of open-source software and whether such licensed software infringes another party’s intellectual property rights;
- competitors will have greater access to information by obtaining these open source products, which may help them develop competitive products; and
- open-source software potentially increases customer support costs because licensees can modify the software and potentially introduce errors.

We must continue to attract and retain highly skilled technical personnel for our research and development efforts.

The market for highly skilled technicians is highly competitive. If we fail to attract, train, assimilate and retain qualified technical personnel for our research and development and product management efforts, we will experience delays or failures in introductions of new or modified products, and services, failures in adequate analysis of technology or acquisitions in the market, loss of clients and market share and a reduction in revenue.

We cannot be certain that our research and development activities will be successful.

While management is committed to enhancing our current product offerings and introducing new products, we cannot be certain our research and development activities will be successful. Furthermore, we may not have sufficient financial resources to identify and develop new technologies and bring new products to market in a timely and cost effective manner, and we cannot ensure that any such products will be commercially successful.

Failure to effectively manage our product and service lifecycles could harm our business.

As part of the natural lifecycle of our products and services, we periodically inform customers that products or services will be reaching their end of life or end of availability and will no longer be supported or receive updates and security patches. Failure to effectively manage our product and service lifecycles could lead to customer dissatisfaction and contractual liabilities, which could adversely affect our business and operating results.

SaaS offerings, which involve various risks, constitute an important part of our business.

As we continue to acquire, develop and offer SaaS versions of products, we will need to continue to evolve our processes to meet a number of regulatory, intellectual property, contractual and service compliance challenges. These challenges include compliance with licenses for open source and third party software embedded in our SaaS offerings, maintaining compliance with export control and privacy regulations, including HIPAA and GDPR, protecting our services from external threats, maintaining continuous service levels and data security expected by our customers, preventing inappropriate use of our services and adapting our go-to-market efforts. In addition to using our internal resources, we also utilize third party resources to deliver SaaS offerings, such as third party data hosting vendors. The failure of a third party provider to prevent service disruptions, data losses or security breaches may require us to issue credits or refunds or indemnify or otherwise be liable to customers or third parties for damages that may occur. Additionally, if these third-party providers fail to deliver on their obligations, our reputation could be damaged, our customers could lose confidence in us and our ability to maintain and expand our SaaS offerings. Finally, our SaaS offerings need to be designed to operate at significant transaction volumes. When combined with third party software and hosting infrastructure, our SaaS offerings may not perform as designed which could lead to service disruptions and associated damages.

We depend significantly upon our proprietary technology and intellectual property and the loss of or successful challenge to our proprietary rights could require us to divert management attention and could reduce revenue and increase our operating costs.

From time to time, we receive claims that we have infringed the intellectual property rights of others, including claims regarding patents, copyrights, and trademarks. Because of constant technological change in the segments in which we compete, the extensive patent coverage of existing technologies, and the rapid rate of issuance of new patents, it is possible that the number of these claims may grow. In addition, former employers of our former, current, or future employees may assert claims that such employees have improperly disclosed to us the confidential or proprietary information of these former employers. Any such claim, with or without merit, could result in costly litigation and distract management from day-to-day operations. If we are not successful in defending such claims, we could be required to stop selling, delay shipments, redesign our products, pay monetary amounts as damages, enter into royalty or licensing arrangements, or satisfy indemnification obligations with our customers. Royalty or licensing arrangements we may seek in such circumstances may not be available to us on commercially reasonable terms or at all. We have made and expect to continue making significant expenditures to establish our intellectual property rights and to investigate, defend and settle claims related to the use of technology and intellectual property rights as part of our strategy to manage this risk. In addition, we license and use software from third parties in our business. These third party software licenses may not continue to be available to us on acceptable terms or at all, and may expose us to additional liability. This liability, or our inability to use any of this third party software, could result in shipment delays or other disruptions in our business that could materially and adversely affect our operating results.

We rely principally on trade secrets to protect much of our intellectual property in cases where we do not believe patent protection is appropriate or obtainable. However, trade secrets are difficult to protect. Although our

employees are subject to confidentiality obligations, this protection may be inadequate to deter or prevent misappropriation of our confidential information. We may be unable to detect unauthorized use of our intellectual property or otherwise take appropriate steps to enforce our rights. Failure to obtain or maintain trade secret protection could adversely affect our competitive business position. If we are unable to prevent third parties from infringing or misappropriating our copyrights, trademarks or other proprietary information, our competitive position could be adversely affected. In the course of conducting our business, we may inadvertently infringe the intellectual property rights of others, resulting in claims against us or our customers. Our contracts generally indemnify our customers for third-party claims for intellectual property infringement by the services and products we provide. The expense of defending these claims may adversely affect our financial results and may not be covered by any insurance policies we maintain.

Our patents may not provide us with competitive advantages.

We hold several patents in the United States and in other countries, which cover multiple aspects of our technology. A substantial part of our patents cover the DIGIPASS product line. Our patents expire between 2019 and 2035. There can be no assurance that we will continue to develop proprietary products or technologies that are patentable, that any issued patent will provide us with any competitive advantages or will not be challenged by third parties, or that patents of others will not hinder our competitive advantage. Although certain of our technologies are patented, there are other organizations that offer products with comparable functionality that employ different technological solutions and compete with us for market share.

We are subject to warranty and product liability risks.

A malfunction of or design defect in our products which results in a breach of a customer's data security or physical harm or damage from our hardware products could result in tort or warranty claims against us. We seek to reduce the risk of these losses by using qualified engineers in the design, manufacturing and testing of our hardware products, attempting to negotiate warranty disclaimers and liability limitation clauses in our sales agreements, and maintaining customary insurance coverage. However, these measures may ultimately prove ineffective in limiting our liability for damages.

In addition to any monetary liability for the failure of our products, an actual or perceived breach of network or data security at one of our customers could adversely affect the market's perception of us and our products, and could have an adverse effect on our reputation and the demand for our products. Similarly, an actual or perceived breach of network or data security within our own systems could damage our reputation and have an adverse effect on the demand for our products.

There is significant government regulation of technology exports and to the extent we cannot meet the requirements of the regulations we may be prohibited from exporting some of our products, which could negatively impact our revenue.

Our international sales and operations are subject to risks such as the imposition of government controls, new or changed export license requirements, restrictions on the export of critical technology, trade restrictions and changes in tariffs. If we are unable to obtain regulatory approvals on a timely basis our business may be impacted. Certain of our products are subject to export controls under U.S. law. The list of products and countries for which export approval is required, and the regulatory policies with respect thereto, may be revised from time to time and our inability to obtain required approvals under these regulations could materially and adversely affect our ability to make international sales. Violations of export control and international trade laws could result in penalties, fines, adverse reputational consequences, and other materially adverse consequences. Reference is made to Part 1, Item 3, Legal Proceedings of this Form 10-K with respect to the internal investigation regarding sales of VASCO products by a VASCO European subsidiary to a third party distributor which distributor may have resold such products to Iranian entities.

We employ cryptographic technology in our authentication products that uses complex mathematical formulations to establish network security systems.

Many of our products are based on cryptographic technology. With cryptographic technology, a user is given a key that is required to encrypt and decode messages. The security afforded by this technology depends on the integrity of a user's key and in part on the application of algorithms, which are advanced mathematical factoring equations. These codes may eventually be broken or become subject to government regulation regarding their use, which would render our technology and products less effective. The occurrence of any one of the following could result in a decline in demand for our technology and products:

- Any significant advance in techniques for attacking cryptographic systems, including the development of an easy factoring method or faster, more powerful computers;
- Publicity of the successful decoding of cryptographic messages or the misappropriation of keys; and
- Increased government regulation limiting the use, scope or strength of cryptography.

Risks Related to International Operations

We face a number of risks associated with our international operations, any or all of which could result in a disruption in our business and a decrease in our revenue.

In 2017, approximately 72% of our revenue and approximately 76% of our operating expenses were generated/incurred outside of the U.S. In 2016, approximately 88% of our revenue and approximately 73% of our operating expenses were generated/incurred outside of the U.S. In 2015, approximately 95% of our revenue and approximately 65% of our operating expenses were generated/incurred outside of the U.S. A severe economic decline in any of our major foreign markets could adversely affect our results of operations and financial condition.

In addition to exposures to changes in the economic conditions of our major foreign markets, we are subject to a number of risks any or all of which could result in a disruption in our business and a decrease in our revenue. These include:

- Inconsistent regulations and unexpected changes in regulatory requirements;
- Export controls relating to our technology;
- Difficulties and costs of staffing and managing international operations, including maintaining internal controls;
- Potentially adverse tax consequences;
- Wage and price controls or protection;
- Uncertain protection for intellectual property rights, contractual rights and collecting accounts receivable;
- Imposition of trade barriers;
- Differing technology standards;
- Uncertain demand for electronic commerce;
- Linguistic and cultural differences;

- A widely distributed workforce;
- Difficulty in providing support and training to customers in certain international locations;
- Political instability; and
- Social unrest.

We are subject to foreign currency exchange rate fluctuations and risks, and improper management of that risk could adversely affect our business, results of operations, and financial conditions.

Because a significant number of our principal customers are located outside the United States, we expect that international sales will continue to generate a significant portion of our total revenue. We are subject to foreign exchange fluctuations and risks because the majority of our product costs are denominated in U.S. Dollars, whereas a significant portion of the sales and expenses of our foreign operating subsidiaries are denominated in various foreign currencies. A decrease in the value of any of these foreign currencies relative to the U.S. Dollar could adversely affect our revenue and profitability in U.S. Dollars of our products sold in these markets. We do not currently hold forward exchange contracts to exchange foreign currencies for U.S. Dollars to offset currency rate fluctuations.

Changes in the European regulatory environment regarding privacy and data protection regulations could have a material adverse impact on our results of operations.

In Europe, we are subject to the 1995 European Union (“EU”) Directive on Data Protection (“1995 Data Protection Directive”), which requires EU member states to impose minimum restrictions on the collection and use of personal data that, in some respects, are more stringent, and impose more significant burdens on subject businesses, than current privacy standards in the United States. We may also face audits or investigations by one or more foreign government agencies relating to our compliance with these regulations that could result in the imposition of penalties or fines. The EU member state regulations establish several obligations that organizations must follow with respect to use of personal data, including a prohibition on the transfer of personal information from the EU to other countries whose laws do not protect personal data to an adequate level of privacy or security. In addition, certain member states have adopted more stringent data protection standards. The Company addressed these requirements by certification to the U.S.-EU Safe Harbor Frameworks prior to such Frameworks being invalidated in October 2015 by the European Court of Justice. The General Data Protection Regulation (“GDPR”) will replace the 1995 Data Protection Directive effective May 25, 2018, creating significant impacts on how businesses can collect and process the personal data of EU individuals. In the interim, we are pursuing alternative methods of compliance, but those methods may be subject to scrutiny by data protection authorities in EU member states. The costs of compliance with, and other burdens imposed by, such laws, regulations and policies that are applicable to us may limit the use and adoption of our products and solutions and could have a material adverse impact on our results of operations.

We must comply with governmental regulations setting environmental standards.

Governmental regulations setting environmental standards influence the design, components or operation of our products. New regulations and changes to current regulations are always possible and, in some jurisdictions, regulations may be introduced with little or no time to bring related products into compliance with these regulations. Our failure to comply with these regulations may prevent us from selling our products in a certain country. In addition, these regulations may increase our cost of supplying the products by forcing us to redesign existing products or to use more expensive designs or components. In these cases, we may experience unexpected disruptions in our ability to supply customers with products, or we may incur unexpected costs or operational complexities to bring products into compliance. This could have an adverse effect on our revenues, gross profit margins and results of operations and increase the volatility of our financial results.

We are subject to the Restriction on the Use of Hazardous Substances Directive 2002/95/EC (also known as the “RoHS Directive”) and the Waste Electrical and Electronic Equipment Directive (also known as the “WEEE Directive”).

These directives restrict the distribution of products containing certain substances, including lead, within applicable geographies and require a manufacturer or importer to recycle products containing those substances.

These directives affect the worldwide electronics and electronics components industries as a whole. If we or our customers fail to comply with such laws and regulations, we could incur liabilities and fines and our operations could be suspended.

The vote by the United Kingdom (UK) to leave the European Union (EU) could adversely affect our financial results.

In June 2016, UK voters approved a referendum to withdraw the UK's membership from the EU, which is commonly referred to as "Brexit". In March 2017, the UK government initiated the exit process under Article 50 of the Treaty of the European Union, commencing a period of up to two years for the UK and the other EU member states to negotiate the terms of the withdrawal. We have operations in the UK and the EU, and as a result, we face risks associated with the potential uncertainty and disruptions that may lead up to and follow Brexit, including with respect to volatility in exchange rates and interest rates and potential material changes to the regulatory regime applicable to our operations in the UK. Brexit could adversely affect European or worldwide political, regulatory, economic or market conditions and could contribute to instability in global political institutions, regulatory agencies and financial markets. Although we do not have a substantial portion of our operations in, nor derive a substantial portion of our revenue from, the UK, we do have substantial operations and revenue in the EU. Any of these effects of Brexit, and others we cannot anticipate or that may evolve over time, could adversely affect our business, financial condition, and operating results.

We or our suppliers may be impacted by new regulations related to climate change.

In addition to the European environmental regulations noted above, we or our suppliers may become subject to new laws enacted with regards to climate change. In the event that new laws are enacted or current laws are modified in countries in which we or our suppliers operate, our flow of product may be impacted and/or the costs of handling the potential waste associated with our products may increase dramatically, either of which could result in a significant negative impact on our ability to operate or operate profitably.

The effects of regulations relating to conflict minerals may adversely affect our business.

The Dodd-Frank Wall Street Reform and Consumer Protection Act contains provisions to improve transparency and accountability concerning the supply of certain minerals and derivatives (collectively "Conflict Minerals") which may originate from the conflict zones of the Democratic Republic of Congo (DRC) and adjoining countries (collectively, "Covered Countries"). As a result, in August 2012 the SEC established annual disclosure and reporting requirements for companies using Conflict Minerals in their products, including products manufactured by third parties. Like many electronic devices, our hardware products contain Conflict Minerals and are subject to the disclosure and reporting requirements. Compliance with these rules also requires due diligence including country of origin inquiries to determine the sources of Conflict Minerals used in our products.

As required, we filed our annual reports related to products manufactured. We reported that we determined we had no reason to believe Conflict Minerals used in our products may have originated in Covered Countries.

We may incur continued costs associated with complying with these disclosure requirements. These requirements may affect pricing, sourcing and availability of Conflict Minerals used to produce our devices. We may be unable to verify the origin of all Conflict Minerals in our products. We may encounter challenges with customers and stakeholders if we are unable to certify that our products are conflict free.

U.S. investors may have difficulties in making claims for any breach of their rights as holders of shares because some of our assets and key employees are not located in the United States.

Several of our key employees are full-time or part-time residents of foreign countries, and a substantial portion of our assets and those of some of our key employees are located in foreign countries. As a result, it may not be possible

for investors to effect service of process on those persons located in foreign countries, or to enforce judgments against some of our key employees based upon the securities or other laws of jurisdictions in those foreign countries.

Our business in countries with a history of corruption and transactions with foreign governments increase the risks associated with our international activities.

We are subject to the U.S. Foreign Corrupt Practices Act (FCPA), and other laws that prohibit improper payments or offers of payments to foreign governments and their officials and political parties by U.S. and other business entities for the purpose of obtaining or retaining business. We have operations, deal with and make sales to governmental or quasi-governmental customers in countries known to experience corruption, particularly certain countries in the Middle East, Africa, East Asia and South America, and further expansion of our international selling efforts may involve additional regions. Our activities in these countries create the risk of unauthorized payments or offers of payments by one of our employees, consultants, sales agents or channel partners that could be in violation of various laws, including the FCPA and the U.K. Bribery Act, even though these parties are not always subject to our control. Violations of the FCPA may result in severe criminal or civil sanctions, including suspension or debarment from U.S. government contracting, and we may be subject to other liabilities, which could negatively affect our business, operating results and financial condition. Violations of the U.K. Bribery Act may result in severe criminal or civil sanctions and we may be subject to other liabilities that could negatively affect our business operating results and financial condition.

Item 1B - Unresolved Staff Comments

None.

Item 2 - Properties

Our corporate headquarters is located in Chicago, Illinois. Our international headquarters is in Zurich, Switzerland. Our European operational headquarters is located in Brussels, Belgium. We conduct sales and marketing, research and development and customer support activities from our operational headquarters. Our logistics facility is also located in Belgium. In the Netherlands, we have two research and development facilities, one of which also houses a sales office. Additionally, we have research and development facilities in Cambridge, United Kingdom, Bordeaux, France and Vienna, Austria.

We have sales personnel in our offices near Boston, Massachusetts, Sydney, Australia, Singapore, Tokyo, Japan, Sao Paulo, Brazil, Dubai, Zurich, Switzerland, Chicago, Illinois, and London, United Kingdom, and conduct sales activities through liaison offices and agents in other locations.

During 2015, we acquired Silanis Technology, Inc. with offices in Montreal, Canada.

All of our properties are leased.

Item 3 - Legal Proceedings

In addition to the legal matters described below, we are, from time to time, involved in routine legal matters incidental to the conduct of our business, including legal matters such as to protect our intellectual property rights and resolve employment claims. We believe that the ultimate resolution of any such current routine matter will not have a material adverse effect on our continued financial position, results of operations or cash flows.

On January 10, 2011, we purchased our wholly-owned subsidiary, DigiNotar B.V., a private company organized and existing in The Netherlands from the shareholders (“Sellers”). On September 19, 2011, DigiNotar B.V. filed a bankruptcy petition under Article 4 of the Dutch Bankruptcy Act in the Haarlem District Court, The Netherlands. On September 20, 2011, the court declared DigiNotar B.V. bankrupt and appointed a bankruptcy trustee and a bankruptcy judge to manage all affairs of DigiNotar B.V. through the bankruptcy process.

In January 2015, we received a notice of potential claim by the trustee against all of the individuals who served as Directors of DigiNotar, both before and after our acquisition of DigiNotar. T. Kendall Hunt, Jan Valcke, and Clifford K. Bown were the Directors of DigiNotar following its purchase by VASCO. We do not expect the resolution of the potential claim to have a material adverse effect on our business, financial condition or results of operations. VASCO is indemnifying Messrs. Hunt, Valcke, and Bown for this matter.

On July 28, 2015 a putative class action complaint was filed in the United States District Court for the Northern District of Illinois, captioned *Linda J. Rossbach v. Vasco Data Security International, Inc., et al.*, naming VASCO and certain of its current and former executive officers as defendants and alleging violations under the Securities Exchange Act of 1934, as amended. The suit was purportedly filed on behalf of a putative class of investors who purchased VASCO securities between April 28, 2015 and July 28, 2015, and seeks to recover damages allegedly caused by the defendants' alleged violations of the federal securities laws and to pursue remedies under Sections 10(b) and 20(a) of the Securities Exchange Act of 1934 and Rule 10b-5 promulgated thereunder. The complaint seeks certification as a class action and unspecified compensatory damages plus interest and attorneys' fees. On January 30, 2017, the appointed lead plaintiff filed an amended complaint in which the allegations regarding OFAC related matters were dropped and replaced with allegations regarding public disclosures made by the defendants in April 2015 as compared to public statements made in July 2015, generally regarding the strength of the Company's business and its future prospects. This case is now referred to by the name of the new lead plaintiff, Bunk. The defendants filed a motion to dismiss the Bunk complaint on March 31, 2017. A decision from the court on such motion has not been issued to date. Although the ultimate outcome of litigation cannot be predicted with certainty, the Company believes that this lawsuit is without merit and intends to defend against the action vigorously. VASCO is indemnifying its officers and directors for this matter.

On October 9, 2015, a derivative complaint was filed in the United States District Court for the Northern District of Illinois, captioned *Elizabeth Herrera v. Hunt, et al.*, naming VASCO's Board of Directors and certain of its current and former executive officers as individual defendants and the Company as a nominal defendant. The plaintiff in the Herrera case voluntarily dismissed the action on July 12, 2017. Two additional complaints, captioned *Beth Seltzer v. Hunt, et al.*, and *William Hooper v. Hunt, et al.*, were filed on October 22, 2015 and March 22, 2016, respectively, in the Circuit Court of Cook County, Illinois naming the same defendants.

The complaints assert, among other things, that the individual defendants breached their fiduciary duties by making material misstatements in, and omitting material information from, the Company's public disclosures and by failing to maintain adequate internal controls and properly manage the Company. Among other things, the complaints seek unspecified compensatory damages and injunctive relief.

On February 9, 2016, the court granted an agreed motion for voluntary dismissal of the Seltzer action, which dismissed the action with prejudice as to the named plaintiff's individual claims. As for the Hooper action, the court granted a stay on June 8, 2016 and on July 18, 2017, the plaintiff in Hooper amended the complaint to largely mirror the amended complaint in Bunk.

On July 19, 2017, a derivative complaint was filed in the Circuit Court of Cook County, Illinois, captioned *Fancesco D'Angelo v. Hunt, et. al.*, naming VASCO's Board of Directors and certain former officers as individual defendants and the Company as a nominal defendant. This complaint largely follows the allegations in the Bunk case. The D'Angelo case has been consolidated with the Hooper case and remains subject to stay.

In February 2017, we learned an integrated reseller and certain end customers, were named as defendants in a patent infringement lawsuit in Japan related to our CRONTO technology. We have indemnification obligations in favor of our reseller and end customers and are working with them to defend such suit. In December 2017 the Japan Patent Office ruled the plaintiff's patent is invalid. In February 2018, a trial court decision declared the plaintiff's patent to be invalid. The decision is subject to appeal. We believe there are strong grounds to argue the plaintiff's patent is invalid.

On March 14, 2017, a complaint was filed in the United States District Court for the District of Massachusetts, captioned *StrikeForce Technologies, Inc. v. Vasco Data Security International, Inc., et al.*, claiming VASCO infringed on certain patent rights of the plaintiff. On May 8, 2017, VASCO answered the complaint denying the allegations of patent infringement. The parties then engaged in motion practice and discovery in the case. The plaintiff has also

brought suit against various other companies in the cybersecurity industry. In one such suit in the federal district court for the Central District of California, on December 1, 2017, the court granted defendant's motion to dismiss, finding that the StrikeForce asserted claims are invalid. StrikeForce is in the process of appealing such decision. In light of such ruling, on December 20, 2017, the court in the Company's case granted a stay of the proceedings pending the appeal in the related case. Although the ultimate outcome of litigation cannot be predicted with certainty, the Company believes that this lawsuit is without merit and intends to defend itself vigorously.

On February 14, 2018, a complaint was filed in the United States District Court for the District of Delaware, captioned Vortex Pathway LLC (a Texas non-practicing entity) v. VASCO Data Security International, Inc. et. al. claiming one of VASCO's hardware authenticators infringes on certain patent rights of the plaintiff. The Company will analyze this recent complaint in the ordinary course and intends to defend itself vigorously.

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, par value \$0.001 per share, trades on the NASDAQ Capital Market under the symbol VDSL.

The following table sets forth the range of high and low daily closing prices of our common stock on the NASDAQ Capital Market for the past two years.

2017	High	Low
Fourth quarter	\$ 14.35	\$ 11.90
Third quarter	14.60	11.05
Second quarter	14.80	12.10
First quarter	15.65	12.60
2016	High	Low
Fourth quarter	\$ 18.44	\$ 13.50
Third quarter	19.02	15.31
Second quarter	18.40	15.39
First quarter	16.64	13.39

On February 22, 2018, there were 57 registered holders and approximately 18,279 street name holders of the company's common stock.

We have not paid any dividends on our common stock since incorporation. The declaration and payment of dividends will be at the sole discretion of the Board of Directors and subject to certain limitations under the General Corporation Law of the State of Delaware. The timing, amount and form of dividends, if any, will depend, among other things, on the company's results of operations, financial condition, cash requirements, plans for expansion and other factors deemed relevant by the Board of Directors. The company intends to retain any future earnings for use in its business and therefore does not anticipate paying any cash dividends in the foreseeable future.

Recent Sales of Unregistered Securities

None

Issuer Purchases of Equity Securities

The following table provides information about purchases by the Company of its shares of common stock during the three month period ended December 31, 2016:

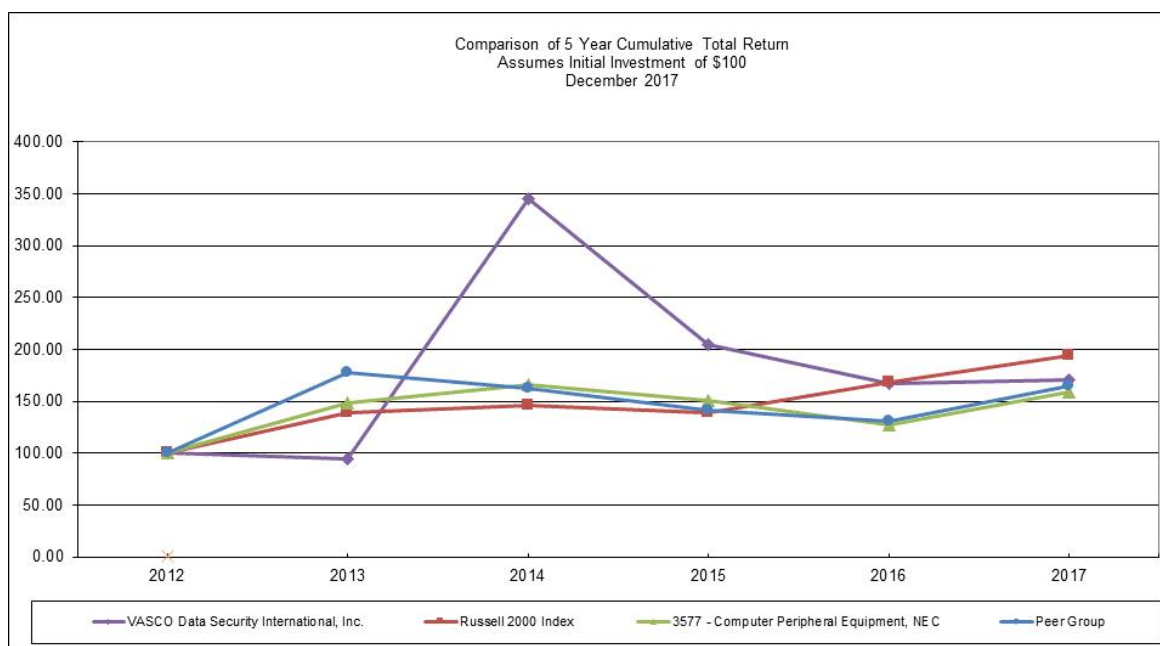
Period	Total Number of Shares Purchased (1)	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs (2)	Maximum Number of Shares that May Yet Be Purchased Under the Plans or Programs (2)
October 1, 2017 through October 31, 2017	237	\$ 12.00	—	—
November 1, 2017 through November 30, 2017	18,535	14.10	—	—
December 1, 2017 through December 31, 2017	1,832	12.95	—	—

- (1) All transactions represent surrender of vested shares in satisfaction of tax withholdings by grantees under the 2009 Equity Incentive Plan.
- (2) The Company has no publically announced plans or programs to repurchase its shares.

Stock Performance Graph

The Stock Performance Graph below compares the cumulative total return through December 31, 2017, assuming reinvestment of dividends, by an investor who invested \$100.00 on December 31, 2012, in each of (i) our common stock, (ii) the Russell 2000 index, (iii) the Standard Industrial Code Index 3577 – Computer Peripheral Equipment, NEC and (iv) a comparable industry (the peer group) index selected by the company. The peer group for this purpose consists of: American Software, Inc., Appian Corporation, Barracuda Networks, Inc., BlackLine, Inc., Callidus Software, Inc., Carbonite, Inc., CPI Card Group, Inc., FireEye, Inc., Gigamon, Inc., Imperva, Inc., MobileIron, Inc., ProofPoint, Inc., PROS Holdings, Inc., Q2 Holdings, Inc., QAD, Inc., Qualys, Inc., Rapid7, Inc., SecureWorks Corp.,

Varonis Systems, Inc. The stock price performance shown on the graph below is not necessarily indicative of future price performance.



Item 6 - Selected Financial Data (in thousands, except per share data)

	Year Ended December 31,				
	2017	2016	2015	2014	2013
<i>Statements of Operations Data:</i>					
Revenue	\$ 193,291	\$ 192,304	\$ 241,443	\$ 201,537	\$ 155,047
Operating income	6,192	9,599	50,453	38,088	13,712
Net income (loss)	(22,399)	10,514	42,151	32,611	10,967
Diluted net income (loss) per common share	(0.56)	0.27	1.06	0.85	0.28
<i>Balance Sheet Data:</i>					
Cash and equivalents	\$ 78,661	\$ 49,345	\$ 78,522	\$ 72,441	\$ 98,607
Working capital	161,784	139,199	127,675	161,029	124,538
Total assets	337,622	327,270	311,827	251,553	211,877
Long term obligations	33,539	6,148	11,197	2,823	493
Total stockholders equity	237,930	253,162	245,156	205,873	174,278
Cash dividends declared per common share	—	—	—	—	—

Item 7 - Management's Discussion and Analysis of Financial Condition and Results of Operations (in thousands, except head count, ratios, time periods and percents)

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our financial statements and related notes appearing elsewhere in this Annual Report on Form 10-K. In addition to historical financial information, the following discussion may contain predictions, estimates and other forward-looking statements that involve a number of risks and uncertainties, including those discussed under Item 1A and elsewhere in this Form 10-K. These risks could cause our actual results to differ materially from any future performance suggested below. Please see "Cautionary Statement for Purposes of the Safe Harbor Provisions of the Private Securities Litigation Reform Act of 1995" at the beginning of this Form 10-K.

Overview

We design, develop and market digital solutions for identity, security, and business productivity that protect and facilitate electronic transactions, via mobile and connected devices. We are a global leader in providing anti-fraud and digital transaction management solutions to financial institutions and other businesses. Our solutions secure online and mobile access to accounts, data, assets, and applications for enterprises; provide tools for application developers to easily integrate security functions into their web-based and mobile applications; and facilitate digital transactions involving the signing, sending, and managing of documents. Our core technologies, multi-factor authentication and transaction signing, strengthen the process of preventing hacking attacks against online and mobile transactions to allow companies to transact business safely with remote customers.

We offer cloud based and on premises solutions using both open standards and proprietary technologies. Some of our proprietary technologies are patented. Our products and services are used for authentication, fraud mitigation, e-signing transactions and documents, and identity management in Business-to-Business ("B2B"), Business-to-Employee ("B2E") and Business-to-Consumer ("B2C") environments. Our target market is business processes using electronic interface, particularly the Internet, where there is risk of unauthorized access. Our products can increase security associated with accessing business processes, reduce losses from unauthorized access and reduce the cost of the process by automating activities previously performed manually.

Our Business Model

We offer our products through a product sales and licensing model or through our services platform, which includes our cloud-based service offering.

Our solutions are sold worldwide through our direct sales force, as well as through distributors, resellers, systems integrators, and original equipment manufacturers. Our sales force is able to offer customers a choice of an on-site implementation using our traditional on-premises model or a cloud implementation for some solutions using our services platform.

Industry Growth

We believe there are no reliable measurements of the industry size or growth rates for the segments that we serve. However, we believe the market for authentication, anti-fraud, and electronic signature solutions will continue to grow driven by new government regulations, growing awareness of the impact of cyber-crime, and the growth in electronic commerce. The issues driving growth are global however, the rate of adoption in each country is a function of culture, competitive position, economic conditions and use of technology.

Economic Conditions

Our revenue may vary significantly with changes in the economic conditions in the countries in which we currently sell products. With our current concentration of revenue in Europe and specifically in the banking and finance vertical market, significant changes in the economic outlook for the European Banking market may have a significant effect on our revenue.

Cybersecurity Risks

Our use of technology is increasing and is critical in three primary areas of our business:

1. Software and information systems that we use to help us run our business more efficiently and cost effectively;
2. The products we have traditionally sold and continue to sell to our customers for integration into their software applications contain technology that incorporates the use of secret numbers and encryption technology; and
3. New products and services that we introduced to the market are focused on processing information through our servers or in the cloud.

We believe that the risks and consequences of potential incidents in each of the above areas are different.

In the case of the information systems we use to help us run our business, we believe that an incident could disrupt our ability to take orders or deliver product to our customers, but such a delay in these activities would not have a material impact on our overall results. To minimize this risk, we actively use various forms of security and monitor the use of our systems regularly to detect potential incidents as soon as possible.

In the case of products that we have traditionally sold, we believe that the risk of a potential cyber incident is minimal. We offer our customers the ability to either create the secret numbers themselves or have us create the numbers on their behalf. When asked to create the numbers, we do so in a secure environment with limited physical access and store the numbers on a system that is not connected to any other network, including other VASCO networks, and similarly, is not connected to the internet.

In the case of our new products and services, which involve the active daily processing of the secret numbers on our servers or servers managed by others in a hosted environment, we believe a cyber incident could have a material impact on our future business. We also believe that these products may be more susceptible to cyber attacks than our traditional products since it involves the active processing of transactions using the secret numbers. While we do not have a significant amount of revenue from these products today, we believe that these products have the potential to provide substantial future growth. A cyber incident involving these products in the future could substantially impair our ability to grow the business and we could suffer significant monetary and other losses and significant reputational harm.

To minimize the risk, we review our security procedures on a regular basis. Our reviews include the processes and software programs we are currently using as well as new forms of cyber incidents and new or updated software programs that may be available in the market that would help mitigate the risk of incidents. Certain insurance coverages may apply to certain cyber incidents. Overall, we expect the cost of securing our networks will increase in future periods, whether through increased staff, systems or insurance coverage.

While we did not experience any cyber incident in 2017, 2016, or 2015 that had a significant impact on our business, it is possible that we could experience an incident in 2018 or future years, which could result in unanticipated costs.

Currency Fluctuations

In 2017, approximately 72% of our revenue and approximately 76% of our operating expenses were generated/incurred outside of the U.S. In 2016, approximately 88% of our revenue and approximately 73% of our operating expenses were generated/incurred outside of the U.S. While the majority of our revenue is generated outside of the U.S., the majority of our revenue is billed in U.S. Dollars. In 2017, approximately 66% of our revenue was denominated in U.S. Dollars, 29% was denominated in Euros and 5% was denominated in other currencies. In 2016, approximately 69% of our revenue was denominated in U.S. Dollars, 26% was denominated in Euros, and 5% was denominated in other currencies.

In general, to minimize the net impact of currency fluctuations on operating income, we attempt to denominate an amount of billings in a currency such that it would provide a hedge against the operating expenses being incurred in that currency. We expect that changes in currency rates may also impact our future results if we are unable to match amounts of revenue with our operating expenses in the same currency. If the amount of our revenue in Europe denominated in Euros continues as it is now or declines, we may not be able to balance fully the exposures of currency exchange rates on revenue and operating expenses.

The financial position and the results of operations of our foreign subsidiaries, with the exception of our subsidiaries in Switzerland, Singapore and Canada, are measured using the local currency as the functional currency. Accordingly, assets and liabilities are translated into U.S. Dollars using current exchange rates as of the balance sheet date. Revenues and expenses are translated at average exchange rates prevailing during the year. Translation adjustments arising from differences in exchange rates generated comprehensive income of \$4.0 million in 2017, and comprehensive losses of \$2.5 million and \$3.3 million, in 2016, and 2015, respectively. These amounts are included as a separate component of stockholders' equity. The functional currency of our subsidiaries in Switzerland, Canada, and Singapore is the U.S. Dollar.

Gains and losses resulting from foreign currency transactions are included in the consolidated statements of operations as other non-operating income/expense. We reported foreign exchange transaction losses of \$0.5 million in 2017, foreign exchange transaction gains of \$0.1 million in 2016, and foreign exchange transaction losses of \$1.2 million in 2015, respectively.

Components of Operating Results

Revenue

We generate revenue from the sale of our hardware products, software licenses, subscriptions and services. We believe comparison of revenues between periods is heavily influenced by the timing of orders and shipments reflecting the transactional nature of our business.

- *Product and license revenue.* Product and license revenue includes hardware products and software licenses.
- *Service and other revenue.* Service and other revenue includes software as a service ("SaaS") solutions, maintenance and support, and professional services.

Cost of Goods Sold

Our total cost of goods sold consists of cost of product and license revenue and cost of service and other revenue. We expect our cost of goods sold to increase in absolute dollars as our business grows, although it may fluctuate as a percentage of total revenue from period to period.

- *Cost of product and license revenue.* Cost of product and license revenue primarily consists of direct product costs.
- *Cost of service and other revenue.* Cost of service and other revenue primarily consists of costs related to SaaS solutions, including personnel and equipment costs, and personnel costs of employees providing professional services and maintenance and support.

Gross Profit

Gross profit as a percentage of total revenue, or gross margin, has been and will continue to be affected by a variety of factors, including our average selling price, manufacturing costs, the mix of products sold, and the mix of revenue among products, subscriptions and services. We expect our gross margins to fluctuate over time depending on these factors.

Operating Expenses

Our operating expenses are generally based on anticipated revenue levels and fixed over short periods of time. As a result, small variations in revenue may cause significant variations in the period-to-period comparisons of operating income or operating income as a percentage of revenue.

Generally, the most significant factor driving our operating expenses is headcount. Direct compensation and benefit plan expenses generally represent between 55% and 65% of our operating expenses. In addition, a number of other expense categories are directly related to headcount. We attempt to manage our headcount within the context of the economic environments in which we operate and the investments we believe we need to make for our infrastructure to support future growth and for our products to remain competitive.

In November 2015, with the acquisition of eSignLive, our headcount increased by 156. Average headcount for the full-year 2017, 2016, and 2015 was 614, 595, and 412, respectively.

Historically, operating expenses have been impacted by changes in foreign exchange rates. We estimate the change in currency rates in 2017 compared to 2016 resulted in an increase in operating expenses of approximately \$0.4 million in 2017.

The comparison of operating expenses can also be impacted significantly by costs related to our stock-based and long-term incentive plans. For full-year 2017, 2016, and 2015, operating expenses included \$5.4 million, \$4.9 million, and \$5.7 million, respectively, related to stock-based and long-term incentive plans. Generally, performance awards granted at the beginning of 2016 were not earned. Long-term incentive awards granted at the beginning of 2015 were earned. Long-term incentive plan compensation expense includes both cash and stock-based incentives.

- *Sales and marketing.* Sales and marketing expenses consist primarily of personnel costs, commissions and bonuses, trade shows, marketing programs and other marketing activities, travel, outside consulting costs, and long-term incentive compensation. We expect sales and marketing expenses to increase in absolute dollars as we continue to invest in sales resources in key focus areas, although our sales and marketing expenses may fluctuate as a percentage of total revenue.
- *Research and development.* Research and development expenses consist primarily of personnel costs and long-term incentive compensation. We expect research and development expenses to increase in absolute dollars as we continue to invest in our future solutions, although our research and development expenses may fluctuate as a percentage of total revenue.
- *General and administrative.* General and administrative expenses consist primarily of personnel costs, legal and other professional fees, and long term incentive compensation. We expect general and administrative expenses to increase in absolute dollars although our general and administrative expenses may fluctuate as a percentage of total revenue.
- *Amortization of purchased intangible assets.* Acquired intangible assets are amortized over their respective amortization periods.

Interest Income

Interest income consists of income earned on our cash equivalents and short term investments. Our cash equivalents and short term investments are invested in short-term instruments at current market rates.

Other Income (Expense), Net

Other income (expense), net primarily includes exchange gains (losses) on transactions that are denominated in currencies other than our subsidiaries' functional currencies, subsidies received from foreign governments in support of our research and development in those countries and other miscellaneous non-operational expenses.

Income Taxes

Our effective tax rate reflects our global structure related to the ownership of our intellectual property (“IP”). All our IP in our traditional authentication business is owned by two subsidiaries, one in the U.S. and one in Switzerland. These two subsidiaries have entered into agreements with most of the other VASCO entities under which those other entities provide services to our U.S. and Swiss subsidiaries on either a percentage of revenue or on a cost plus basis or both. Under this structure, the earnings of our service provider subsidiaries are relatively constant. These service provider companies tend to be in jurisdictions with higher effective tax rates. Fluctuations in earnings tend to flow to the U.S. company and Swiss company. In 2018, earnings flowing to the U.S. company are expected to be taxed at a rate of 21% to 25%, while earnings flowing to the Swiss company are expected to be taxed at a rate ranging from 11% to 12%. Our Canadian subsidiary currently sells and services global customers directly.

As the majority of our revenues are generated outside of the U.S., our consolidated effective tax rate is strongly influenced by the effective tax rate of our foreign operations. Changes in the effective rate related to foreign operations reflect changes in the geographic mix of earnings and the tax rates in each of the countries in which it is earned. The statutory tax rate for the primary foreign tax jurisdictions ranges from 11% to 35%.

The geographic mix of earnings of our foreign subsidiaries primarily depends on the level of pretax income of our service provider subsidiaries and the benefit realized in Switzerland through the sales of product. The level of pretax income in our service provider subsidiaries is expected to vary based on:

1. the staff, programs and services offered on a yearly basis by the various subsidiaries as determined by management, or
2. the changes in exchange rates related to the currencies in the service provider subsidiaries, or
3. the amount of revenues that the service provider subsidiaries generate.

For items 1 and 2 above, there is a direct impact in the opposite direction on earnings of the U.S. and Swiss entities. Any change from item 3 is generally expected to result in a larger change in income in the U.S. and Swiss entities in the direction of the change (increased revenues expected to result in increased margins/pretax profits and conversely decreased revenues expected to result in decreased margins/pretax profits).

In addition to the provision of services, the intercompany agreements transfer the majority of the business risk to our U.S. and Swiss subsidiaries. As a result, the contracting subsidiaries’ pretax income is reasonably assured while the pretax income of the U.S. and Swiss subsidiaries varies directly with our overall success in the market.

In November 2015, we acquired eSignLive, a foreign company with substantial IP and net operating loss and other tax carryforwards. The tax benefit of the carryforwards has been fully reserved as realization has not been deemed more likely than not.

U.S. Tax Reform

On December 22, 2017, the United States enacted U.S. tax reform that included a broad range of business tax provisions, including but not limited to a reduction in the U.S. federal tax rate from 35% to 21% as well as provisions that limit or eliminate various deductions or credits. The legislation also includes a one-time transition tax on accumulated foreign earnings and profits.

In response to the enactment of U.S. tax reform, the SEC issued guidance to address the complexity in accounting for this new legislation. When the initial accounting for items under the new legislation is incomplete, the guidance allows us to recognize provisional amounts when reasonable estimates can be made or to continue to apply the prior tax law if a reasonable estimate of the impact cannot be made. The SEC has provided up to a one-year window for companies to finalize the accounting for the impacts of this new legislation and we anticipate finalizing our accounting during 2018.

While our accounting for the new U.S. tax legislation is not complete, we have made reasonable estimates for some provisions and recognized a \$28.1 million discrete tax expense in our 2017 financial statements. This expense is primarily comprised of a \$2.3 million provisional deferred tax expense from revaluing our net U.S. deferred tax assets to reflect the new U.S. corporate tax rate, an additional \$7.3 million provisional deferred tax expense related to changes in our indefinite reinvestment assertion, as well as \$18.5 million provisional charge for the deemed repatriation tax. However, as of the date of this Form 10-K, we are continuing to evaluate the accounting impacts of the legislation, as we continue to assemble and analyze all the information required to prepare and analyze these effects and await additional guidance from the U.S. Treasury Department, the IRS or other standard-setting bodies. Additionally, we continue to analyze other information and regulatory guidance, and accordingly we may record additional provisional amounts or adjustments to provisional amounts in future periods. See Note 6, Income Taxes, for further details on the impacts of U.S. tax reform.

Results of Operations

The following tables summarize our consolidated results of operations for the periods presented (dollars in thousands) and as a percentage of our total revenue for those periods. The period-to-period comparison of results is not necessarily indicative of results for future periods.

Comparison of the Years Ended December 31, 2017 and 2016

Revenue

	Years ended December 31,					
	2017		2016		Change	
	Amount	% of Total Revenue	Amount	% of Total Revenue	Amount	%
Revenue						
Product and license	\$ 147,257	76%	\$ 156,057	81%	\$ (8,800)	(6%)
Services and other	46,034	24%	36,247	19%	9,787	27%
Total revenue	\$ 193,291	100%	\$ 192,304	100%	\$ 987	1%
Revenue by geographic region						
EMEA	\$ 92,859	48%	\$ 95,897	50%	\$ (3,038)	(3%)
Americas	52,981	27%	33,204	17%	19,777	60%
APAC	47,452	25%	63,203	33%	(15,751)	(25%)
Total revenue	\$ 193,291	100%	\$ 192,304	100%	\$ 987	1%

Total revenue increased \$1.0 million or 1%, during the year ended December 31, 2017 compared to the year ended December 31, 2016. Product and license revenue decreased by \$8.8 million, or 6% during the year ended December 31, 2017. The decrease in product and license revenue was primarily due to a decrease in hardware revenue offset partially by an increase in software licenses. Services and other revenue increased by \$9.8 million, or 27% during the year ended December 31, 2017. The increase was due to an increase in SaaS and maintenance revenue.

Revenue generated in EMEA decreased \$3.0 million, or 3% during the year ended December 31, 2017. The decrease in revenue was primarily driven by a decline in our hardware products partially offset by an increase in software licenses.

Revenue generated in the Americas increased \$19.8 million, or 60% during the year ended December 31, 2017. The increase in revenue was primarily due to increased revenue from non-hardware products, including eSignLive and security software licenses.

Revenue generated in the Asia Pacific region decreased \$15.8 million, or 25% during the year ended December 31, 2017. The decrease in revenue was primarily due to a decline in hardware revenue.

Cost of Goods Sold and Gross Margin

	Years ended December 31,					
	2017		2016		Change	
	Amount	Gross margin	Amount	Gross margin	Amount	%
Cost of goods sold						
Product and license	\$ 48,333		\$ 53,191		\$ (4,858)	(9%)
Services and other	10,444		8,456		1,988	24%
Total cost of goods sold	<u>58,777</u>		<u>61,647</u>		<u>(2,870)</u>	<u>(5%)</u>
Gross profit	\$ 134,514		\$ 130,657		\$ 3,857	3%
Gross margin						
Product and license		67%		66%		
Services and other		77%		77%		
Total gross margin		70%		68%		

The cost of product and license revenue decreased \$4.9 million, or 9% during the year ended December 31, 2017 compared to the year ended December 31, 2016. The decrease in cost of product and license revenue was primarily driven by a decline in our hardware revenue.

The cost of services and other revenue increased \$2.0 million, or 24%, during the year ended December 31, 2017 compared to the year ended December 31, 2016. The increase in cost of services and other revenue was primarily due to increased services and other revenues and increased SaaS hosting fees.

Gross profit increased \$3.9 million, or 3%, during the year ended December 31, 2017 compared to the year ended December 31, 2016. Gross margin was 70% for the year ended December 31, 2017 and 68% for the year ended December 31, 2016. The increase in gross margin primarily reflects an increase in software solutions as a percentage of total revenues.

The majority of our inventory purchases are denominated in U.S. Dollars. Our sales are denominated in various currencies including the Euro. For the year ended December 31, 2017, as the U.S. Dollar weakened against the Euro compared to the year ended December 31, 2016, revenue from sales in Euros, as measured in U. S. Dollars, increased, without a corresponding change in the cost of goods sold. The impact of changes in currency rates are estimated to have increased revenue by approximately \$1.2 million for the full year of 2017. Had currency rates in the full year of 2017 been equal to rates in the same period in 2016, the gross profit margin would have been approximately 0.2 percentage points lower for the full year of 2017.

Operating Expenses

	Years ended December 31,					
	2017		2016		Change	
	Amount	% of Total Expense	Amount	% of Total Expense	Amount	%
Operating costs						
Sales and marketing	\$ 58,994	46%	\$ 57,347	47%	\$ 1,647	3%
Research and development	23,119	18%	23,214	19%	(95)	(0%)
General and administrative	37,400	29%	31,648	26%	5,752	18%
Amortization of purchased intangible assets	8,809	7%	8,849	7%	(40)	(0%)
Total operating costs	<u>\$ 128,322</u>	<u>100%</u>	<u>\$ 121,058</u>	<u>100%</u>	<u>\$ 7,264</u>	<u>6%</u>

Sales and marketing expenses increased \$1.6 million, or 3% during the year ended December 31, 2017 compared to the year ended December 31, 2016, primarily due to headcount and increased marketing investments. Average full-time sales, marketing, support, and operating employee headcount for year ended December 31, 2017 was 614, compared to 595 for year ended December 31, 2016. Average headcount in 2017 was 3% higher than in 2016.

Research and development expenses decreased \$0.1 million, or 0% during the year ended December 31, 2017 compared to the year ended December 31, 2016. Average full-time research and development employee headcount for year ended December 31, 2017 was 215, compared to 225 for year ended December 31, 2016. Average headcount in 2017 was 4% lower than in 2016, partially attributed to the divestiture of a non-strategic business line in August 2017.

General and administrative expenses increased \$5.8 million, or 18% during the year ended December 31, 2017 compared to the year ended December 31, 2016. The increase in general and administrative expenses for the year ended December 31, 2017 primarily reflect increased headcount, professional fees and facilities expense. Professional fees primarily relate to internal controls, legal and internal systems. Average full-time general and administrative employee headcount for year ended December 31, 2017 was 91, compared to 82 for year ended December 31, 2016. Average headcount in 2017 was 11% higher than in 2016.

Amortization of purchased intangible assets expense for the year ended December 31, 2017 was \$8.8 million, compared to \$8.8 million for the year ended December 31, 2016. There were no significant changes in our amortization of purchased intangible assets for the year ended December 31, 2017 from the year ended December 31, 2016.

Interest Income

	Years ended December 31,			
	2017	2016	Change	
	Amount	Amount	Amount	%
Interest income	\$ 1,431	\$ 785	\$ 646	82%

Consolidated net interest income for the year ended December 31, 2017 was \$1.4 million, compared to \$0.8 million for the year ended December 31, 2016. The increase in interest income for 2017 compared to the 2016 reflects an increase in the average interest rate earned on invested balances and an increase in the average invested balance.

Other Income (Expense), Net

	Years ended December 31,			
	2017	2016	Change	
	Amount	Amount	Amount	%
Other income (expense), net	\$ 758	\$ 993	\$ (235)	(24%)

Other income (expense), net for the year ended December 31, 2017 was \$0.8 million, compared to \$0.9 million for the year ended December 31, 2016. Other income (expense), net included exchange losses of \$0.5 million for the year ended December 31, 2017 compared to exchange gains of \$0.1 million for the year ended December 31, 2016.

Income Taxes

	Years ended December 31,			
	2017	2016	Change	
	Amount	Amount	Amount	%
Provision for income taxes	\$ 30,780	\$ 863	\$ 29,917	3,467%

Income tax expense for 2017 was \$30.8 million, compared to \$0.9 million in 2016. The effective tax rate in 2017 was 367%, compared to 8% in 2016. The increase in the rate is primarily due to the repatriation tax, change in permanently reinvested assertion, and tax rate change on deferred tax assets described in Note 6.

Our future effective tax rate will be affected by U.S. tax reform. Effective in 2018, the U.S. statutory tax rate decreases from 35% to 21% and creates new taxes on certain foreign-sourced earnings which are referred to as the global intangible low-taxed income tax (“GILTI”).

Loss Carryforwards Available

At December 31, 2017, we have deferred tax assets of \$21.7 million resulting from foreign and state NOL carryforwards of \$120.5 million and other foreign deductible carryforwards of \$31.2 million. At December 31, 2017, we have a valuation allowance of \$12.8 million against deferred tax assets related to certain carryforwards. See Note 6 to the consolidated financial statements for more information regarding carryforwards and valuation allowances.

Comparison of the Years Ended December 31, 2016 and 2015

Revenue

	Years ended December 31,					
	2016		2015		Change	
	Amount	% of Total Revenue	Amount	% of Total Revenue	Amount	%
Revenue						
Product and license	\$ 156,057	81%	\$ 218,908	91%	\$ (62,851)	(29%)
Services and other	36,247	19%	22,535	9%	13,712	61%
Total revenue	\$ 192,304	100%	\$ 241,443	100%	\$ (49,139)	(20%)
Revenue by geographic region						
EMEA	\$ 95,897	50%	\$ 164,180	68%	\$ (68,283)	(42%)
Americas	33,204	17%	25,596	11%	7,608	30%
APAC	63,203	33%	51,667	21%	11,536	22%
Total revenue	\$ 192,304	100%	\$ 241,443	100%	\$ (49,139)	(20%)

Total revenue decreased \$49.1 million or 20% during the year ended December 31, 2016 compared to the year ended December 31, 2015. Product and license revenue decreased by \$62.9 million, or 29% during the year ended December 31, 2016. The decrease in product and license revenue was driven by a decrease in sales of hardware products, primarily products sold to Rabobank. Services and other revenue increased by \$13.7 million, or 61% during the year ended December 31, 2016. The increase was primarily due to an increase in software revenues.

Revenue generated in EMEA decreased \$68.3 million, or 42% during the year ended December 31, 2016. The decrease in revenue was primarily driven by a decrease in sales of hardware products, primarily products sold to Rabobank.

Revenue generated in the Americas increased \$7.6 million, or 30% during the year ended December 31, 2016. The increase in revenue was primarily due to increased revenues from non-hardware products, including eSignLive.

Revenue generated in the Asia Pacific region increased \$11.5 million, or 22% during the year ended December 31, 2016. The increase in revenue was due to increases in hardware products and software licenses sold.

Cost of Goods Sold and Gross Margin

	2016		2015		Change	
	Amount	Gross margin	Amount	Gross margin	Gross margin	%
Cost of goods sold						
Product and license	\$ 53,191		\$ 95,028		\$ (41,837)	(44%)
Services and other	8,456		2,875		5,581	194%
Total cost of goods sold	<u>61,647</u>		<u>97,903</u>		<u>(36,256)</u>	<u>(37%)</u>
Gross profit	\$ 130,657		\$ 143,540		\$ (12,883)	(9%)
Gross margin						
Product and license		66%		57%		
Services and other		77%		87%		
Total gross margin		68%		60%		

The cost of product and license revenue decreased \$41.8 million, or 44%, during the year ended December 31, 2016 compared to the year ended December 31, 2015. The decrease in cost of product and license revenue was primarily driven by a decline in our hardware revenue, partially offset by an increase in software licenses.

The cost of service and other revenue increased \$5.6 million, or 194%, during the year ended December 31, 2016 compared to the year ended December 31, 2015. The increase in cost of service and other revenue was primarily due to the cost of revenue associated with increased revenue related to the acquisition of eSignLive.

Gross profit decreased \$12.9 million, or 9%, during the year ended December 31, 2016 compared to the year ended December 31, 2015. Gross margin was 68% for the year ended December 31, 2016 and 60% for the year ended December 31, 2015. The increase in gross margin primarily reflects an increase in software solutions as a percentage of total revenues.

Operating Expenses

	Years ended December 31,					
	2016		2015		Change	
	Amount	% of Total Expenses	Amount	% of Total Expenses	Amount	%
Operating costs						
Sales and marketing	\$ 57,347	47%	\$ 38,199	41%	\$ 19,148	50%
Research and development	23,214	19%	17,457	19%	5,757	33%
General and administrative	31,648	26%	32,489	35%	(841)	(3%)
Amortization of purchased intangible assets	8,849	7%	4,942	5%	3,907	79%
Total operating costs	<u>\$ 121,058</u>	<u>100%</u>	<u>\$ 93,087</u>	<u>100%</u>	<u>\$ 27,971</u>	<u>30%</u>

Sales and marketing expenses increased \$19.1 million, or 50% during the year ended December 31, 2016 compared to the year ended December 31, 2015, primarily due to increased compensation expense and increased marketing initiatives, including trade shows and other marketing efforts in relation to the eSignLive acquisition. Average full-time sales, marketing, support, and operating employee headcount for year ended December 31, 2016 was 288, compared to 199 for year ended December 31, 2015. Average headcount in 2016 was 45% higher than in 2015.

Research and development expenses increased \$5.8 million, or 33% during the year ended December 31, 2016 compared to the year ended December 31, 2015, primarily due to increased compensation expense related to the eSignLive acquisition. Average full-time research and development employee headcount for year ended December 31,

2016 was 225, compared to 151 for year ended December 31, 2015. Average headcount in 2016 was 49% higher than in 2015.

General and administrative expenses decreased \$0.8 million, or 3% during the year ended December 31, 2016 compared to the year ended December 31, 2015. The decrease in general and administrative expenses for the year ended December 31, 2016 primarily reflects a decrease in professional fees and other expenses partially offset by increased general and administrative expenses from eSignLive. Average full-time general and administrative employee headcount for year ended December 31, 2016 was 82, compared to 62 for year ended December 31, 2015. Average headcount in 2016 was 32% higher than in 2015.

Amortization of purchased intangible assets expense for the year ended December 31, 2016 was \$8.8 million, compared to \$4.9 million for the year ended December 31, 2015. The increase was primarily related to the amortization of intangible assets associated with our acquisition of eSignLive in November 2015.

Interest Income

	Years ended December 31,			
	2016	2015	Change	
	Amount	Amount	Amount	%
Interest income	\$ 785	\$ 364	\$ 421	116%

Consolidated net interest income for the year ended December 31, 2016 was \$0.8 million, compared to \$0.4 million for the year ended December 31, 2015. The increase in net interest income reflected an increase in the average return on invested balances partially offset by a decrease in the average net cash balance. Our return on average net cash balances was 0.6% in 2016 compared to 0.2% in 2015. Average net cash and short term investment balances were \$134.5 million in 2016, a decrease of \$21.8 million or 14% from \$156.3 million in 2015.

Other Income (Expense), Net

	Years ended December 31,			
	2016	2015	Change	
	Amount	Amount	Amount	%
Other income (expense), net	\$ 993	\$ 38	\$ 955	2,513%

Other income (expense), net for the year ended December 31, 2016 was \$1.0 million, compared to \$0.04 million for the year ended December 31, 2015. Other income (expense), net included exchange gains of \$0.1 million for the year ended December 31, 2016 compared to exchange losses of \$1.2 million for the year ended December 31, 2015.

Income Taxes

	Years ended December 31,			
	2016	2015	Change	
	Amount	Amount	Amount	%
Provision for income taxes	\$ 863	\$ 8,704	\$ (7,841)	(90%)

Income tax expense for 2016 was \$0.9 million, compared to \$8.7 million in 2015. The effective tax rate in 2016 was 8%, a decrease of 9 percentage points from 17% in 2015. The decrease in the rate is primarily due to increase in losses in higher tax jurisdictions partially offset by the increase in the Swiss tax rate as applicable to VASCO.

Liquidity and Capital Resources

As of December 31, 2017, we had net cash balances (total cash, cash equivalents and restricted cash less bank borrowings) of \$78.7 million and short-term investments of \$79.7 million. We had no outstanding debt or restricted cash at December 31, 2017. Short term investments at December 31, 2017, consisting of high quality commercial paper with maturities of less than six months, were held by our U.S. and Swiss entities and issued by domestic and foreign corporations.

On December 22, 2017, U.S. tax reform was enacted and we recorded a tax liability for the one-time transition tax on accumulated foreign subsidiary earnings of \$18.3 million, of which \$1.2 million and \$12.8 million were presented within “income taxes payable” and “income tax payable, non-current,” respectively, on our Consolidated Balance Sheets as of December 31, 2017. As permitted by U.S. Tax Reform, we intend to pay the one-time transition tax in eight annual interest-free installments beginning in 2018.

We also recorded a tax liability for withholding tax for distributing earnings of \$7.3 million which is presented in deferred income taxes on our Consolidated Balance Sheets as of December 31, 2017.

At December 31, 2017, we had \$46.9 million of cash held by the United States and had \$108.4 million of cash held by foreign subsidiaries. The cash held by foreign subsidiaries is not subject to significant repatriation restrictions and may be subject to tax upon repatriation. However, we have provided for substantially all of the taxes as indicated above.

We believe that our financial resources are adequate to meet our operating needs over the next twelve months.

Operating Activities

Cash generated by operating activities is primarily comprised of net income, as adjusted for non-cash items, and changes in operating assets and liabilities. Non-cash adjustments consist primarily of amortization of intangible assets, depreciation of property and equipment, and stock-based compensation. We expect cash inflows from operating activities to be affected by increases or decreases in sales and timing of collections. Our primary uses of cash from operating activities have been for personnel costs. We expect cash outflows from operating activities to be affected by increases in personnel cost as we grow our business.

Cash provided by operating activities was \$17.6 million, \$28.4 million and \$68.8 million during the years ended December 31, 2017, 2016 and 2015, respectively.

Investing Activities

The changes in cash flows from investing activities primarily relate to timing of purchases, maturities and sales of investments, purchases of property and equipment, and activity in connection with acquisitions. We expect to continue to purchase property and equipment to support the continued growth of our business as well to continue to invest in our infrastructure and activity in connection with acquisitions.

Cash provided by investing activities was \$12.8 million during the year ended December 31, 2017, and used in investing activities of \$56.5 million and \$56.0 million during the years ended December 31 2016 and 2015, respectively.

Financing Activities

The changes in cash flows from financing activities primarily relate to tax payments for restricted stock issuances.

Cash used in financing activities was \$0.6 million, \$1.1 million and \$6.4 million during the years ended December 31, 2017, 2016 and 2015, respectively. In 2015, we repaid debt associated with the eSignLive acquisition.

Off-Balance Sheet Arrangements

The company has no off-balance sheet arrangements.

Contractual Obligations and Commitments

The following summarizes our contractual obligations and commitments as of December 31, 2017:

	Payments due by period				
	Total	1 year	2-3 years	4-5 years	More than 5 years
Operating lease obligations	\$ 17,183	\$ 3,487	\$ 4,984	\$ 3,107	\$ 5,605
Purchase obligations	14,985	14,985	—	—	—
Taxes payable	14,436	1,155	2,310	2,310	8,661
	<u>\$ 46,604</u>	<u>\$ 19,627</u>	<u>\$ 7,294</u>	<u>\$ 5,417</u>	<u>\$ 14,266</u>

Taxes payable represents one-time transition tax payable related to known amounts of cash taxes payable in future years as a result of U.S. tax reform. For further information, refer to Note 6.

The company had \$0.1 million and \$0.7 million of unrecognized tax benefits as of December 31, 2017 and 2016, which have been set aside in a reserve in accordance with Financial Accounting Standards Board (“FASB”) Accounting Standards Codification (“ASC”) 740 Income Taxes. These amounts are not included in the above table as the timing of payment of such obligations, if any, is not determinable.

Critical Accounting Policies and Estimates

Management’s Discussion and Analysis of Financial Condition and Results of Operations discusses our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the U.S. The preparation of these financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenue and expenses during the reporting period.

On an on-going basis, management evaluates its estimates and judgments, including those related to bad debts, net realizable value of inventory and intangible assets. Management bases its estimates and judgments on historical experience and on various other factors that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions. Management believes the following critical accounting policies affect significant judgments and estimates used in the preparation of its consolidated financial statements.

Revenue Recognition

We recognize revenue in accordance with ASC 985-605, Software – Revenue Recognition, ASC 985-605-25, Revenue Recognition – Multiple Element Arrangements and Staff Accounting Bulletin 104.

Product and License Revenue includes hardware products and software licenses. Services and Other includes software as a service (“SaaS”), maintenance and support, and professional services.

Revenue is recognized when there is persuasive evidence that an arrangement exists, delivery has occurred, the fee is fixed or determinable and collection of the revenue is probable.

In multiple-element arrangements, some of our products are accounted for under the software provisions of ASC 985-605 and others under the provisions that relate to the sale of non-software products.

In our typical multiple-element arrangement, the primary deliverables include:

1. a client component (i.e., an item that is used by the person being authenticated in the form of either a new standalone hardware device or software that is downloaded onto a device the customer already owns);
2. host system software that is installed on the customer's systems (i.e., software on the host system that verifies the identity of the person being authenticated) or licenses for additional users on the host system software if the host system software had been installed previously; and
3. post contract support (PCS) in the form of maintenance on the host system software or support.

Our multiple-element arrangements may also include other items that are usually delivered prior to the recognition of any revenue are incidental to the overall transaction such as initialization of the hardware device, customization of the hardware device itself or the packaging in which it is delivered, deployment services where we deliver the device to our customer's end-use customer or employee and, in some limited cases, professional services to assist with the initial implementation of a new customer.

In multiple-element arrangements that include a hardware client device, we allocate the selling price among all elements, delivered and undelivered, based on our internal price lists and the percentage of the selling price of that element, per the price list, to the total of the estimated selling price of all of the elements per the price list. Our internal price lists for both delivered and undelivered elements were determined to be reasonable estimates of the selling price of each element based on a comparison of actual sales made to the price list.

In multiple-element arrangements that include a software client device, we continue to account for each element under the current standards of ASC 985-605 related to software. When software client device and host software are delivered elements, we use the Residual Method for determining the amount of revenue to recognize for token and software licenses if we have vendor-specific objective evidence ("VSOE") for all of the undelivered elements. Any discount provided to the customer is applied fully to the delivered elements in such an arrangement. VSOE for undelivered elements is established using the "bell curve method." Under this method, we conclude VSOE exists when a substantial majority of PCS renewals are within a narrow range of pricing. The estimated selling price of PCS items is based on an established percentage of the user license fee attributable to the specific software. In sales arrangements where VSOE of fair value has not been established, revenue for all elements is deferred and amortized over the life of the arrangement.

For transactions other than multiple-element arrangements, we recognize revenue as follows:

1. *Product and License Revenue:* Revenue from the sale of computer security hardware or the license of software is recorded upon shipment or, if an acceptance period is allowed, at the latter of shipment or customer acceptance. No significant obligations or contingencies exist with regard to delivery, customer acceptance or rights of return at the time revenue is recognized.
2. *SaaS:* We generate SaaS revenues from our cloud services offerings. SaaS revenues include fees from customers for access to the eSignLive suite of solutions. Our standard customer arrangements generally do not provide the customer with the right to take possession of the software supporting the cloud-based application service at any time. As such, these arrangements are considered service contracts and revenue is recognized ratably over the service period of the contract.
3. *Maintenance and Support Agreements:* Maintenance and support agreements generally call for us to provide software updates and technical support, respectively, to customers. Revenue on maintenance and technical support is deferred and recognized ratably over the term of the applicable maintenance and support agreement.
4. *Professional Services:* We provide professional services to our customers. Revenue from such services is recognized during the period in which the services are performed.

We generate subscription services revenues primarily from our cloud services offerings. Subscription services revenues include subscription fees from customers for access to the eSignLive suite of solutions. Our standard customer arrangements generally do not provide the customer with the right to take possession of the software supporting the cloud-based application service at any time. As such, these arrangements are considered service contracts and revenue is recognized ratably over the service period of the contract.

We recognize revenue from sales to distributors and resellers on the same basis as sales made directly to customers. We recognize revenue when there is persuasive evidence that an arrangement exists, delivery has occurred, the fee is fixed or determinable and collection of the revenue is probable.

For large-volume transactions, we may negotiate a specific price that is based on the number of users of the software license or quantities of hardware supplied. The per unit prices for large-volume transactions are generally lower than transactions for smaller quantities and the price differences are commonly referred to as volume-purchase discounts.

All revenue is reported on a net basis, excluding any sales taxes or value added taxes.

In the first quarter of 2018, we will adopt Accounting Standards Update (“ASU”) 2014-09, Revenue from Contracts with Customers (Topic 606). ASU 2014-09, as amended, will replace most existing revenue recognition guidance in U.S. GAAP. This new guidance will require significant amounts of judgements and estimates in implementing its five-step process to be followed in determining the amount and timing of revenue recognition and related disclosures. Refer to Note 1 in the notes to the consolidated financial statements for further discussion regarding our status of adoption/implementation.

Allowance for Doubtful Accounts

We maintain allowances for doubtful accounts for estimated losses resulting from the inability of our customers to make payments for goods and services. We analyze accounts receivable, customer creditworthiness, current economic trends and changes in our customer payment terms when evaluating the adequacy of the allowance for doubtful accounts. The allowance is based on a specific review of all significant past-due accounts. If the financial condition of our customers deteriorates, resulting in an impairment of their ability to make payments, additional allowances may be required.

Net Realizable Value of Inventory

We write down inventory where it appears that the carrying cost of the inventory may not be recovered through subsequent sale of the inventory. We analyze the quantity of inventory on hand, the quantity sold in the past year, the anticipated sales volume in the form of sales to new customers as well as sales to previous customers, the expected sales price and the cost of making the sale when evaluating the valuation of our inventory. If the sales volume or sales price of a specific model declines significantly, additional write-downs may be required.

Impairment of Long-Lived and Intangible Assets

Definite-lived intangible assets include proprietary technology, customer relationships, and other intangible assets. Intangible assets other than patents with definite lives are amortized over the useful life, generally three to seven years for proprietary technology and five to twelve years for customer relationships. Patents are amortized over the life of the patent, generally 20 years in the U.S.

Long-lived assets, including property, plant and equipment, definite-lived intangible assets being amortized and capitalized software costs, are reviewed for impairment in accordance with ASC 360-10, Property, Plant and Equipment, whenever events or changes in circumstances indicate that the carrying amount of the long-lived asset group may not be recoverable. An impairment loss shall be recognized if the carrying amount of a long-lived asset group exceeds the sum of the undiscounted cash flows expected to result from the use and eventual disposition of the asset. If it is determined that an impairment loss has occurred, the loss is measured as the amount by which the carrying amount of the long-lived

asset group exceeds its fair value. Long-lived assets held for sale are reported at the lower of carrying value or fair value less cost to sell.

Goodwill and Other Intangible Assets

Intangible assets arising from business combinations, such as acquired technology, customer relationships, and other intangible assets, are originally recorded at fair value. Intangible assets other than patents with definite lives are amortized over the useful life, generally three to seven years for proprietary technology and five to twelve years for customer relationships. Patents are amortized over the life of the patent, generally 20 years in the U.S.

Goodwill represents the excess of purchase price over the fair value of net identifiable assets acquired in a business combination. We assess the impairment of goodwill each November or whenever events or changes in circumstances indicate that the carrying value may not be recoverable. The Company's impairment assessment begins with a qualitative assessment to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying value. The qualitative assessment includes comparing the overall financial performance of the reporting units against the planned results used in the last quantitative goodwill impairment test. Additionally, each reporting unit's fair value is assessed in light of certain events and circumstances, including macroeconomic conditions, industry and market considerations, cost factors, and other relevant entity- and reporting unit specific events. The selection and assessment of qualitative factors used to determine whether it is more likely than not that the fair value of a reporting unit exceeds the carrying value involves significant judgments and estimates. If it is determined under the qualitative assessment that it is more likely than not that the fair value of a reporting unit is less than its carrying value, then a two-step quantitative impairment test is performed. Under the first step, the estimated fair value of the reporting unit is compared with its carrying value (including goodwill). If the fair value of the reporting unit exceeds its carrying value, step two does not need to be performed. If the estimated fair value of the reporting unit is less than its carrying value, an indication of goodwill impairment exists for the reporting unit and the enterprise must perform step two of the impairment test (measurement). Under step two, an impairment loss is recognized for any excess of the carrying amount of the reporting unit's goodwill over the implied fair value of that goodwill. The implied fair value of goodwill is determined by allocating the fair value of the reporting unit in a manner similar to a purchase price allocation in acquisition accounting. The residual amount after this allocation is the implied fair value of the reporting unit goodwill. Fair value of the reporting unit under the two-step assessment is determined using a combination of both income and market-based valuation approaches. The inputs and assumptions to valuation methods used to estimate the fair value of reporting units involves significant judgments.

We have not recognized any impairment for the years ended December 31, 2017, 2016 or 2015.

Income Taxes

As a global company, we calculate and provide for income taxes in each tax jurisdiction in which we operate. The provision for income taxes includes the amounts payable or refundable for the current year, the effect of deferred taxes and impacts from uncertain tax positions. Our provision for income taxes is significantly affected by shifts in the geographic mix of our pre-tax earnings across tax jurisdictions, changes in tax laws and regulations, and tax planning opportunities available in each tax jurisdiction.

Deferred tax assets and liabilities are recognized for the expected future tax consequences of temporary differences between the financial statement and tax bases of our assets and liabilities and for operating losses and tax credit carryforwards. Deferred tax assets and liabilities are measured using enacted tax rates that will apply to taxable income in the years in which those differences are expected to be recovered or settled. Valuation allowances are established for deferred tax assets when it is more likely than not that a tax benefit will not be realized. We recognize the effect of a change in tax rates on deferred tax assets and liabilities and in income in the period that includes the enactment date.

We recognize tax benefits for tax positions that are more likely than not to be sustained upon examination by tax authorities. The amount recognized is measured as the largest amount of benefit that is greater than 50 percent likely to be realized upon ultimate settlement. Unrecognized tax benefits are tax benefits claimed in our income tax returns that

do not meet these recognition and measurement standards. Assumptions, judgments, and the use of estimates are required in determining whether the “more likely than not” standard has been met when developing the provision for income taxes.

We monitor for changes in tax laws and reflect the impacts of tax law changes in the period of enactment. In response to the U.S. tax reform legislation enacted on December 22, 2017, the U.S. Securities and Exchange Commission (“SEC”) issued guidance that allows us to record provisional amounts for the impacts of U.S. tax reform if the full accounting cannot be completed before we file our 2017 financial statements. For provisions of the tax law where we are unable to make a reasonable estimate of the impact, the guidance allows us to continue to apply the historical tax provisions in computing our income tax liability and deferred tax assets and liabilities as of December 31, 2017. The guidance also allows us to finalize accounting for the U.S. tax reform changes within one year of the December 22, 2017 enactment date. See Note 6 Income Taxes, for additional information on how we recorded the impacts of the U.S. tax reform

Recently Issued Accounting Pronouncements

We adopted ASU 2015-11, Inventory (Topic 330) – *Simplifying the Measurement of Inventory* as of January 1, 2017. ASU 2015-11 requires measurement of inventory at the lower of cost or net realizable value, defined as estimated selling price in the ordinary course of business, less reasonably predictable costs of completion, disposal and transportation. Adoption of ASU 2015-11 did not have a significant impact on our financial statements.

In September 2015, the FASB issued Accounting Standards Update No. 2015-16, *Simplifying the Accounting for Measurement-Period Adjustments*, (ASU 2015-16), which eliminates the requirement for an acquirer to retrospectively adjust the financial statements for measurement-period adjustments that occur in periods after a business combination is consummated. The ASU is effective for annual periods beginning after December 15, 2015 and interim periods within such annual periods and applies prospectively to adjustments to provisional amounts that occur after the effective date. We have adopted ASU 2015-16 in our consolidated financial statements as of January 1, 2016. Measurement period adjustments identified subsequent to December 31, 2015 for the eSignLive Acquisition, further described in Note 4 to the Consolidated Financial Statements, were recorded and disclosed in accordance with ASU 2015-16.

In May 2014, the FASB issued Accounting Standards Update No. 2014-09, *Revenue from Contracts with Customers* (ASU 2014-09), which supersedes nearly all existing revenue recognition guidance under U.S. GAAP. The core principle of ASU 2014-09 is to recognize revenues when promised goods or services are transferred to customers in an amount that reflects the consideration to which an entity expects to be entitled for those goods or services. The standard creates a five-step model to achieve its core principle: (i) identify the contract(s) with a customer; (ii) identify the performance obligations in the contract; (iii) determine the transaction price; (iv) allocate the transaction price to the separate performance obligations in the contract; and (v) recognize revenue when (or as) the entity satisfies a performance obligation. It also provides guidance on accounting for costs incurred to obtain or fulfill contracts with customers. In addition, entities must disclose sufficient information to enable users of financial statements to understand the nature, amount, timing, and uncertainty of revenue and cash flows arising from contracts with customers. Qualitative and quantitative disclosures are required about: (i) the nature, amount, timing and uncertainty of revenue under the entity’s contracts with customers; (ii) the significant judgments, and changes in judgments, made in applying the guidance to those contracts; and (iii) any assets recognized from the costs to obtain or fulfill a contract with a customer.

The FASB has issued numerous amendments to ASU 2014-09 from August 2015 through January 2018, which provides supplemental and clarifying guidance, as well as amend the effective date of the new standard.

The new standard is effective for us on January 1, 2018. We will adopt ASU 2014-09 on a modified-retrospective basis. Such method provides the cumulative effect from prior periods upon applying the new guidance to be recognized in our consolidated balance sheets as of the date of adoption, including an adjustment to retained earnings. Prior periods will not be retrospectively adjusted.

We expect this new guidance to have a material impact on the timing of revenue recognition for certain of our multiple element arrangements. Currently, software license revenue from term license sales (“Term Licenses”) is generally recognized ratably over the respective license term (“over time”) due to a lack of VSOE for the PCS that is provided during the Term License. Upon adoption of the new standard, we expect to recognize the portion of the transaction price allocated to the distinct Term License upon delivery of the software to the customer (“point in time”) and the non-license portion (e.g., PCS) of the transaction price over the respective PCS term (“over time”). Also, under legacy GAAP when professional services are provided in a Term License for which VSOE of PCS does not exist, the professional services fees are currently recognized over the PCS period as well, as it is typically longer than the period to deliver professional services. Under the new standard, the professional services will be considered a separate performance obligation, and we will recognize the portion of the transaction price allocated to the professional services as those services are performed. We also expect the adoption of the new standard to have a significant impact on the nature and extent of disclosures of contracts with customers and related costs.

We have determined the significant incremental costs incurred to obtain contracts with customers are sales commissions paid to our sales teams. Under legacy GAAP, we expense sales commissions as earned, and record such amounts as a component of Sales and marketing operating costs in our consolidated statements of operations. We recognized sales commission expense of \$4,250 in the 2017. Under the new guidance, we expect to capitalize portions of our sales commissions as an asset, and amortize the benefit to expense over an amortization period that will include the expected contract renewals, which we currently estimate may be up to 7 years. However, we will apply the practical expedient to expense commissions as incurred when the amortization period is one year or less. In addition, we will allocate the costs of obtaining a contract in each contract to the performance obligations in the contract and amortize the allocated cost commensurate with the transfer of control of each respective performance obligation. This will generally result in a large portion of the capitalized cost of obtaining the contract to be recognized when software licenses or hardware is delivered to the customer, usually at the outset of the arrangement. At the date of the adoption of this new guidance, we expect to record an asset in our consolidated balance sheets for the amount of unamortized sales commissions for prior periods, as calculated under the new standard. We are finalizing the impact of this adjustment upon adoption of the new standard.

We continue to execute our implementation plan, which will continue through the filing of our consolidated interim financial statements for the period ended March 31, 2018. We are completing our stand-alone selling price analyses for certain goods and services, the evaluation of material rights in certain customer contracts, the income tax effect on our transition adjustments, and our evaluation of the new disclosure requirements. We are also finalizing on our newly developed processes and internal controls over revenue recognition and continue to implement system changes and enhancements.

We are in the process of evaluating all contracts not completed as of January 1, 2018, and we expect to record a material impact to retained earnings from the adoption of the new standard primarily due to the effect of Term License arrangements discussed above that would have been recognized as revenue in 2018 and beyond. During 2017, recognized revenue associated with term licenses represented 6% of 2017 revenues. At December 31, 2017, these term arrangements had remaining license periods ranging and up to four years scheduled. For fiscal year 2018, we expect the financial impact of adoption of the new standard, which has the effect of reducing our 2018 revenue that would have been recognized under legacy GAAP, to be offset by the recognition of Term License revenue from newly executed contracts post-adoption that would have been deferred and recognized over multiple periods under legacy GAAP. However, our assessment of the foregoing is ongoing and subject to finalization, such that the actual impact of the adoption may differ materially from the discussion above.

In February 2016, the FASB issued ASU No. 2016-02, *Leases (Topic 842)*. The new standard will replace most existing lease guidance in U.S. GAAP. The core principle of the ASU is the requirement for lessees to report a right to use asset and a lease payment obligation on the balance sheet but recognize expenses on their income statements in a manner similar to today’s accounting, and for lessors the guidance remains substantially similar to current U.S. GAAP. The ASU is effective for annual reporting periods, including interim periods within those annual periods, beginning after December 15, 2018. However, early adoption is permitted. Entities are required to use a modified retrospective approach for leases that exist or are entered into after the beginning of the earliest comparative period in the financial statements.

We are in the process of evaluating the impact this standard will have on our consolidated financial statements and related disclosures.

In January 2016, the FASB issued ASU 2016-01, *Financial Instruments - Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities*, which addresses certain aspects of recognition, measurement, presentation, and disclosure of financial instruments. Such guidance will impact how we account for our investments reported under the cost method of accounting as follows: Equity investments (except those accounted for under the equity method of accounting or those that result in consolidation of the investee) will be required to be measured at fair value with changes in fair value recognized in net earnings. However, an entity may choose to measure equity investments that do not have readily determinable fair values at cost minus impairment, if any, plus or minus changes resulting from observable price changes in orderly transactions for the identical or a similar investment of the same issuer. The impairment assessment of equity investments without readily determinable fair values will require a qualitative assessment to identify impairment. When a qualitative assessment indicates that impairment exists, an entity is required to measure the investment at fair value. We are currently evaluating the impact on our consolidated financial statements and related disclosures.

On March 30, 2016, the FASB issued ASU 2016-09, *Improvements to Employee Share-Based Payment Accounting*, to improve accounting for share-based payment transactions as part of the FASB's simplification initiative. The ASU changes certain aspects of accounting for share-based payment award transactions, including: (1) recognition of excess tax benefits and tax deficiencies as income tax expense or benefit instead of additional paid-in capital; (2) classification of excess tax benefits on the statement of cash flows, and (3) accounting for forfeitures. The other provisions of ASU 2016-09 are immaterial to the Company. ASU 2016-09 is effective for fiscal years beginning after December 15, 2016. Early adoption is permitted. We have early adopted ASU 2016-09 in our consolidated financial statements as of January 1, 2016 and applicable aspects described were adopted prospectively. Prior periods were not retrospectively adjusted.

The adoption of ASU 2016-09 resulted in an increase to the tax provision of \$169 that would have otherwise been debited to additional paid in capital. Similarly, as a result of the adoption of ASU 2016-09, cash flows from operating activities decreased \$169 and cash flows from financing activities decreased by the same amount. The Company also elected to begin accounting for forfeitures when they occur. The impact of this policy change was immaterial to our consolidated financial statements. The impact of this ASU on future periods is dependent on our stock price at the time restricted stock awards vest.

In August 2016, the FASB issued ASU No. 2016-15, *Statement of Cash Flows (ASC 230) – Classification of Certain Cash Receipts and Cash Payments*. This guidance clarifies eight specific cash flow issues in an effort to reduce diversity in practice in how certain transactions are classified within the statement of cash flows. This ASU is effective for the Company January 1, 2018, with early adoption permitted. Upon adoption, the ASU requires a retrospective application unless it is determined that it is impractical to do so in which case it must be retrospectively applied at the earliest date practical. The Company is currently evaluating the effect, if any, that the ASU will have on our consolidated financial statements and related disclosures.

In October 2016, the FASB issued ASU 2016-16, *Income Taxes: Intra-Entity Transfers of Assets Other Than Inventory*. The new guidance is intended to simplify the accounting for intercompany asset transfers. The core principle requires an entity to immediately recognize the tax consequences of intercompany asset transfers. The ASU is effective for annual reporting periods, including interim periods within those annual periods, beginning after December 15, 2017. The Company will adopt this standard on January 1, 2018. The Company anticipates the adoption in the effective period and we are currently evaluating the effect, if any, that the ASU will have on our consolidated financial statements and related disclosures.

In January 2017, the FASB issued ASU No. 2017-01, *Business Combinations – Clarifying the Definition of a Business*. This standard changes the definition of a business by requiring that at least one substantive process exist in the acquired entity. It also states that if substantially all of the fair value of the gross assets acquired is concentrated in a single identifiable asset or group of similar identifiable assets, then the set of transferred assets and activities is not a business. The guidance is effective for the Company beginning in the first quarter of 2018, and should be applied

prospectively. Early adoption is permitted. The adoption of this standard is not expected to have a significant impact on our consolidated financial statements.

In January 2017, the FASB issued ASU 2017-04, *Intangibles-Goodwill and Other (Topic 350) – Simplifying the Test for Goodwill Impairment*. This standard eliminates the requirement to calculate the implied fair value of goodwill to measure a goodwill impairment charge (i.e. Step 2 of the current guidance), instead measuring the impairment charge as the excess of the reporting unit's carrying amount over its fair value (i.e. Step 1 of the current guidance). The guidance is effective for us beginning in the first quarter of 2020, and should be applied prospectively. Early adoption is permitted for impairment testing dates after January 1, 2017. The Company is currently evaluating the effect, if any, that the ASU will have on our consolidated financial statements and related disclosures.

In March 2017, the FASB issued ASU No. 2017-07, *Compensation - Retirement Benefits (ASC 715) - Improving the Presentation of Net Periodic Pension Costs and Net Periodic Postretirement Benefit Cost*. The new guidance will improve the presentation of pension cost by providing additional guidance on the presentation of net benefit cost in the income statement and on the components eligible for capitalization in assets. The core principle of the ASU is to provide more transparency in the presentation of these costs by requiring the service cost component to be reported in the same line item as other compensation costs arising from services rendered by the pertinent employees during the period. The other components of net benefit cost are required to be presented separately from the service cost component and outside a subtotal of income from operations. The amendments require that the Consolidated Statements of Income impacts be applied retrospectively, while Balance Sheet changes should be applied prospectively.

The ASU is effective for annual reporting periods, including interim periods within those annual periods, beginning after December 15, 2017. The Company will adopt the newly issued ASU as of January 1, 2018. The Company is currently evaluating the effect, if any, that the ASU will have on our consolidated financial statements and related disclosures.

In September 2015, the FASB issued Accounting Standards Update No. 2015-16, *Simplifying the Accounting for Measurement-Period Adjustments*, (ASU 2015-16), which eliminates the requirement for an acquirer to retrospectively adjust the financial statements for measurement-period adjustments that occur in periods after a business combination is consummated. The ASU is effective for annual periods beginning after December 15, 2015 and interim periods within such annual periods and applies prospectively to adjustments to provisional amounts that occur after the effective date. We have adopted ASU 2015-16 in our consolidated financial statements as of January 1, 2016. Measurement period adjustments identified subsequent to December 31, 2015 for the eSignLive Acquisition, further described in Note 4 to the Consolidated Financial Statements, were recorded and disclosed in accordance with ASU 2015-16.

In May 2014, the FASB issued Accounting Standards Update No. 2014-09, *Revenue from Contracts with Customers* (ASU 2014-09), which supersedes nearly all existing revenue recognition guidance under U.S. GAAP. The core principle of ASU 2014-09 is to recognize revenues when promised goods or services are transferred to customers in an amount that reflects the consideration to which an entity expects to be entitled for those goods or services. The standard creates a five-step model to achieve its core principle: (i) identify the contract(s) with a customer; (ii) identify the performance obligations in the contract; (iii) determine the transaction price; (iv) allocate the transaction price to the separate performance obligations in the contract; and (v) recognize revenue when (or as) the entity satisfies a performance obligation. It also provides guidance on accounting for costs incurred to obtain or fulfill contracts with customers. In addition, entities must disclose sufficient information to enable users of financial statements to understand the nature, amount, timing, and uncertainty of revenue and cash flows arising from contracts with customers. Qualitative and quantitative disclosures are required about: (i) the nature, amount, timing and uncertainty of revenue under the entity's contracts with customers; (ii) the significant judgments, and changes in judgments, made in applying the guidance to those contracts; and (iii) any assets recognized from the costs to obtain or fulfill a contract with a customer.

The FASB has issued numerous amendments to ASU 2014-09 from August 2015 through January 2018, which provides supplemental and clarifying guidance, as well as amend the effective date of the new standard.

The new standard is effective for us on January 1, 2018. We will adopt ASU 2014-09 on a modified-retrospective basis. Such method provides the cumulative effect from prior periods upon applying the new guidance to be recognized in our consolidated balance sheets as of the date of adoption, including an adjustment to retained earnings. Prior periods will not be retrospectively adjusted.

We expect this new guidance to have a material impact on the timing of revenue recognition for certain of our multiple element arrangements. Currently, software license revenue from term license sales (“Term Licenses”) is generally recognized ratably over the respective license term (“over time”) due to a lack of VSOE for the PCS that is provided during the Term License. Upon adoption of the new standard, we expect to recognize the portion of the transaction price allocated to the distinct Term License upon delivery of the software to the customer (“point in time”) and the non-license portion (e.g., PCS) of the transaction price over the respective PCS term (“over time”). During 2017, revenue recognized associated with term licenses, and related PCS, represented approximately 6% of 2017 consolidated revenues. At December 31, 2017, these term arrangements had remaining license periods ranging up to four years. Also, under legacy GAAP when professional services are provided in a Term License for which VSOE of PCS does not exist, the professional services fees are currently recognized over the PCS period as well, as it is typically longer than the period to deliver professional services. Under the new standard, the professional services will be considered a separate performance obligation, and we will recognize the portion of the transaction price allocated to the professional services as those services are performed. We also expect the adoption of the new standard to have a significant impact on the nature and extent of disclosures of contracts with customers and related costs.

We have determined the significant incremental costs incurred to obtain contracts with customers are sales commissions paid to our sales teams. Under legacy GAAP, we expense sales commissions as earned, and record such amounts as a component of Sales and marketing operating costs in our consolidated statements of operations. We recognized sales commission expense of \$4,250 in the 2017. Under the new guidance, we expect to capitalize portions of our sales commissions as an asset, and amortize the benefit to expense over an amortization period that will include the expected contract renewals, which we currently estimate may be up to 7 years. However, we will apply the practical expedient to expense commissions as incurred when the amortization period is one year or less. In addition, we will allocate the costs of obtaining a contract in each contract to the performance obligations in the contract and amortize the allocated cost commensurate with the transfer of control of each respective performance obligation. This will generally result in a large portion of the capitalized cost of obtaining the contract to be recognized when software licenses or hardware is delivered to the customer front, which is usually at the outset of the arrangement. At the date of the adoption of this new guidance, we expect to record an asset in our consolidated balance sheets for the amount of unamortized sales commissions for prior periods, as calculated under the new standard. We are finalizing the impact of this adjustment upon adoption of the new standard.

We continue to execute our implementation plan, which will continue through the filing of our consolidated interim financial statements for the period ended March 31, 2018. We are completing our stand-alone selling price analyses for certain goods and services, the evaluation of material rights in certain customer contracts, the income tax effect on our transition adjustments, and our evaluation of the new disclosure requirements. We are also finalizing on our newly developed processes and internal controls over revenue recognition and continue to implement system changes and enhancements.

We are in the process of evaluating all contracts not completed as of January 1, 2018, and we expect to record a material reduction to retained earnings from the adoption of the new standard primarily due to the effect of Term License arrangements discussed above that would have been recognized as revenue in 2018 and beyond. For fiscal year 2018, we expect the financial impact of adoption of the new standard, which has the effect of reducing our 2018 revenue that would have been recognized under legacy GAAP, to be offset by the recognition of Term License revenue from newly executed contracts post-adoption that would have been deferred and recognized over multiple periods under legacy GAAP. However, our assessment of the foregoing is ongoing and subject to finalization, such that the actual impact of the adoption may differ materially from the discussion above.

In February 2016, the FASB issued ASU No. 2016-02, *Leases (Topic 842)*. The new standard will replace most existing lease guidance in U.S. GAAP. The core principle of the ASU is the requirement for lessees to report a right to use asset and a lease payment obligation on the balance sheet but recognize expenses on their income statements in a

manner similar to today's accounting, and for lessors the guidance remains substantially similar to current U.S. GAAP. The ASU is effective for annual reporting periods, including interim periods within those annual periods, beginning after December 15, 2018. However, early adoption is permitted. Entities are required to use a modified retrospective approach for leases that exist or are entered into after the beginning of the earliest comparative period in the financial statements. We are in the process of evaluating the impact this standard will have on our consolidated financial statements and related disclosures.

In January 2016, the FASB issued ASU 2016-01, *Financial Instruments - Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities*, which addresses certain aspects of recognition, measurement, presentation, and disclosure of financial instruments. Such guidance will impact how we account for our investments reported under the cost method of accounting as follows: Equity investments (except those accounted for under the equity method of accounting or those that result in consolidation of the investee) will be required to be measured at fair value with changes in fair value recognized in net earnings. However, an entity may choose to measure equity investments that do not have readily determinable fair values at cost minus impairment, if any, plus or minus changes resulting from observable price changes in orderly transactions for the identical or a similar investment of the same issuer. The impairment assessment of equity investments without readily determinable fair values will require a qualitative assessment to identify impairment. When a qualitative assessment indicates that impairment exists, an entity is required to measure the investment at fair value. We are currently evaluating the impact on our consolidated financial statements and related disclosures.

On March 30, 2016, the FASB issued ASU 2016-09, *Improvements to Employee Share-Based Payment Accounting*, to improve accounting for share-based payment transactions as part of the FASB's simplification initiative. The ASU changes certain aspects of accounting for share-based payment award transactions, including: (1) recognition of excess tax benefits and tax deficiencies as income tax expense or benefit instead of additional paid-in capital; (2) classification of excess tax benefits on the statement of cash flows, and (3) accounting for forfeitures. The other provisions of ASU 2016-09 are immaterial to the Company. ASU 2016-09 is effective for fiscal years beginning after December 15, 2016. Early adoption is permitted. We have early adopted ASU 2016-09 in our consolidated financial statements as of January 1, 2016 and applicable aspects described were adopted prospectively. Prior periods were not retrospectively adjusted.

The adoption of ASU 2016-09 resulted in an increase to the tax provision of \$169 that would have otherwise been debited to additional paid in capital. Similarly, as a result of the adoption of ASU 2016-09, cash flows from operating activities decreased \$169 and cash flows from financing activities decreased by the same amount. The Company also elected to begin accounting for forfeitures when they occur. The impact of this policy change was immaterial to our consolidated financial statements. The impact of this ASU on future periods is dependent on our stock price at the time restricted stock awards vest.

In August 2016, the FASB issued ASU No. 2016-15, *Statement of Cash Flows (ASC 230) – Classification of Certain Cash Receipts and Cash Payments*. This guidance clarifies eight specific cash flow issues in an effort to reduce diversity in practice in how certain transactions are classified within the statement of cash flows. This ASU is effective for the Company January 1, 2018, with early adoption permitted. Upon adoption, the ASU requires a retrospective application unless it is determined that it is impractical to do so in which case it must be retrospectively applied at the earliest date practical. The Company is currently evaluating the effect, if any, that the ASU will have on our consolidated financial statements and related disclosures.

In October 2016, the FASB issued ASU 2016-16, *Income Taxes: Intra-Entity Transfers of Assets Other Than Inventory*. The new guidance is intended to simplify the accounting for intercompany asset transfers. The core principle requires an entity to immediately recognize the tax consequences of intercompany asset transfers. The ASU is effective for annual reporting periods, including interim periods within those annual periods, beginning after December 15, 2017. The Company will adopt this standard on January 1, 2018. We are currently evaluating the effect, if any, that the ASU will have on our consolidated financial statements and related disclosures.

In January 2017, the FASB issued ASU No. 2017-01, *Business Combinations – Clarifying the Definition of a Business*. This standard changes the definition of a business by requiring that at least one substantive process exist in the

acquired entity. It also states that if substantially all of the fair value of the gross assets acquired is concentrated in a single identifiable asset or group of similar identifiable assets, then the set of transferred assets and activities is not a business. The guidance is effective for the Company beginning in the first quarter of 2018, and should be applied prospectively. Early adoption is permitted. The adoption of this standard is not expected to have a significant impact on our consolidated financial statements.

In January 2017, the FASB issued ASU 2017-04, *Intangibles-Goodwill and Other (Topic 350) – Simplifying the Test for Goodwill Impairment*. This standard eliminates the requirement to calculate the implied fair value of goodwill to measure a goodwill impairment charge (i.e. Step 2 of the current guidance), instead measuring the impairment charge as the excess of the reporting unit's carrying amount over its fair value (i.e. Step 1 of the current guidance). The guidance is effective for us beginning in the first quarter of 2020, and should be applied prospectively. Early adoption is permitted for impairment testing dates after January 1, 2017. The Company is currently evaluating the effect, if any, that the ASU will have on our consolidated financial statements and related disclosures.

In March 2017, the FASB issued ASU No. 2017-07, *Compensation - Retirement Benefits (ASC 715) - Improving the Presentation of Net Periodic Pension Costs and Net Periodic Postretirement Benefit Cost*. The new guidance will improve the presentation of pension cost by providing additional guidance on the presentation of net benefit cost in the income statement and on the components eligible for capitalization in assets. The core principle of the ASU is to provide more transparency in the presentation of these costs by requiring the service cost component to be reported in the same line item as other compensation costs arising from services rendered by the pertinent employees during the period. The other components of net benefit cost are required to be presented separately from the service cost component and outside a subtotal of income from operations. The amendments require that the Consolidated Statements of Income impacts be applied retrospectively, while Balance Sheet changes should be applied prospectively.

The ASU is effective for annual reporting periods, including interim periods within those annual periods, beginning after December 15, 2017. However, early adoption is permitted as of the beginning of an annual period for which financial statements (interim or annual) have not been issued or made available for issuance. The Company will adopt the newly issued ASU as of January 1, 2018. The Company is currently evaluating the effect, if any, that the ASU will have on our consolidated financial statements and related disclosures.

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

Item 7A - Quantitative and Qualitative Disclosures about Market Risk (In thousands)

Foreign Currency Exchange Risk – In 2017, approximately 72% of our business was conducted outside the United States, primarily in Europe, Latin America and Asia/Pacific. A significant portion of our business operations is transacted in foreign currencies. As a result, we have exposure to foreign exchange fluctuations. We are affected by both foreign currency translation and transaction adjustments. Translation adjustments result from the conversion of the foreign subsidiaries' balance sheets and income statements to U.S. Dollars at year-end exchange rates and weighted average exchange rates, respectively. Translation adjustments resulting from this process are recorded directly into stockholders' equity. Transaction adjustments result from currency exchange movements when one of our companies transacts business in a currency that differs from its local currency. These adjustments are recorded as gains or losses in our statements of operations. Our business transactions are spread across numerous countries and currencies. This geographic diversity reduces the risk to our operating results. As noted in Management's Discussion and Analysis above, we attempt to minimize the net impact of currency on operating earnings by denominating an amount of billings in a currency such that it would provide a hedge against the operating expenses being incurred in that currency.

Interest Rate Risk – We have minimal interest rate risk. We had no debt outstanding at December 31, 2017. Our cash, cash equivalents, and short term investments are invested in short-term instruments at current market rates. If rates were to increase or decrease by one percentage point, the company's interest income would increase or decrease approximately \$1.6 million annually.

Impairment Risk – At December 31, 2017, we had goodwill of \$56.3 million and other intangible assets of \$37.9 million, primarily from acquisitions including eSignLive in 2015, Risk IDS in 2014, CRONTO in 2013, and other prior acquisitions. We assess the recoverability of goodwill at least annually, and the recoverability of other intangible assets whenever events or circumstances change indicating the carrying value may not be recoverable. For the twelve months ended December 31, 2017, 2016, and 2015, we did not incur any impairments however, we may incur impairment charges in future periods.

Item 8 - Financial Statements and Supplementary Data

The information in response to this item is included in our consolidated financial statements, together with the report thereon of KPMG LLP, appearing on pages F-1 through F-29 of this Form 10-K, and in Item 7 under the heading Management’s Discussion and Analysis of Financial Condition and Results of Operations.

Item 9 - Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None.

Item 9A - Controls and Procedures

Evaluation of Disclosure Controls and Procedures

We conducted an evaluation as of December 31, 2017, under the supervision and with the participation of our management, including our Chief Executive Officer (“CEO”) and Chief Financial Officer (“CFO”), of the effectiveness of the design and operation of our 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”). Based upon that evaluation, our CEO and CFO have concluded that the Company’s disclosure controls and procedures are effective, to give reasonable assurance that the information required to be disclosed by us in reports filed under the Exchange Act, is recorded, processed, summarized and reported within the time period specified in the rules and forms of the SEC, and is accumulated and communicated to management, including our principal executive officer and principal financial officer, as appropriate, to allow timely decisions regarding required disclosure.

Management’s Annual Report on Internal Control over Financial Reporting

The management of VASCO Data Security International, Inc. is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is defined in Rule 13a-15(f) and 15d-15(f) promulgated under the Exchange Act as a process designed by, or under the supervision of, the company’s principal executive and principal financial officers and effected by the company’s board of directors, management and other personnel, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles and includes those policies and procedures that:

- Pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of the assets of the company;
- Provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and
- Provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the company’s assets that could have a material effect on the financial statements.

Our management, led by our Chief Executive Officer and Chief Financial Officer, assessed the effectiveness of internal control over financial reporting as of December 31, 2017 using the criteria set forth in Internal Control-Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission.

Management's evaluation of our internal control over financial reporting determined that the Company's internal control over financial reporting was effective based on those criteria as of December 31, 2017.

KPMG LLP, an independent registered public accounting firm, has audited the Company's financial statements in this Annual Report on Form 10-K and issued its report on the effectiveness of the Company's internal control over financial reporting as of March 8, 2018, included on page 55 of this annual report.

Changes in Internal Control over Financial Reporting

Management has evaluated, with the participation of our Chief Executive Officer and Chief Financial Officer, whether any changes in our internal control over financial reporting that occurred during our last fiscal quarter affected, or are reasonably likely to materially affect, our internal control over financial reporting.

During the three months ended December 31, 2017, the Company finalized its remediation plan related to the material weakness that was identified in 2016. The deficiencies that constituted a material weakness in our internal control over financial reporting as of December 31, 2016 were as follows:

- We did not maintain sufficiently trained resources with knowledge of accounting for complex multiple element software revenue arrangements at Silanis Technology, Inc. and as a result did not conduct an effective risk assessment process to design and implement effective process level control activities to account for revenue from such customer arrangements under ASC 985-605 and ASC 605-25.
- We did not maintain sufficiently trained resources with knowledge of internal control over financial reporting as it relates to accounting for business combinations and as a result did not design and implement effective process level control activities over the review of significant inputs and assumptions used to value acquired assets and assumed liabilities in the acquisition of Silanis Technology, Inc.
- We did not design and implement effective monitoring controls related to the integration of Silanis Technology, Inc. subsequent to its acquisition.

The Company has finalized its remediation plan in the three months ended December 31, 2017, which consisted of the following measures and we are satisfied that the material weakness in internal control over financial reporting identified as of December 31, 2016 has been remediated:

- Hired additional accounting personnel with the requisite technical accounting and internal control over financial reporting knowledge, specifically with respect to revenue recognition, business combinations, and unusual transactions;
- Expanded the training of our existing personnel on internal control over financial reporting and accounting for revenue recognition, business combinations, and unusual transactions;
- Designed and implemented effective process level control activities to account for complex multiple element software revenue arrangements under ASC 985-605 and ASC 605-25 at Silanis Technology, Inc.;
- Designed and implemented effective process level control activities over the review of significant inputs and assumptions used to value acquired assets and assumed liabilities; and
- Designed and implemented effective monitoring controls over changes in the business, including the integration of future acquisitions.

We also implemented a change in internal control over financial reporting during the quarter ended December 31, 2017 related to the review of defined benefit obligations in certain international locations in which we operate. Specifically, we enhanced our communication process and the design and effectiveness of controls over identifying, communicating, and evaluating the impact of local laws and regulations on the accounting for our defined benefit obligations. This change was implemented to remediate a material weakness in the Company's information and communication controls, which led to ineffectively designed controls over the identification, accounting, and disclosure of defined benefit obligations. This material weakness, which arose in prior periods and was identified in the quarter ended December 31, 2017, resulted in immaterial errors, certain of which were corrected in previously issued financial statements as disclosed in note 1 to the 2017 consolidated financial statements.

Other than as discussed above, there have been no other changes in the Company's internal control over financial reporting in the most recent fiscal quarter that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

Limitations on the Effectiveness of Controls

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 will 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, this 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 and procedures may deteriorate.

Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders
VASCO Data Security International, Inc.:

Opinion on Internal Control Over Financial Reporting

We have audited VASCO Data Security International, Inc. and subsidiaries' (the Company) internal control over financial reporting as of December 31, 2017, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2017, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2017 and 2016, the related consolidated statements of operations, comprehensive income (loss), stockholders' equity, and cash flows for each of the years in the three-year period ended December 31, 2017, and the related notes (and financial statement Schedule II – Valuation and Qualifying Accounts) (collectively, the consolidated financial statements), and our report dated March 8, 2018 expressed an unqualified opinion on those consolidated financial statements.

Basis for Opinion

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

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

Definition and Limitations of Internal Control Over Financial Reporting

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

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become

inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ KPMG LLP
Chicago, Illinois
March 8, 2018

PART III

Item 10 - Directors, Executive Officers and Corporate Governance

All information in response to this Item is incorporated by reference to the “Directors and Executive Officers” and “Section 16(a) Beneficial Ownership Compliance” sections of VASCO’s Proxy Statement for the 2018 Annual Meeting of Stockholders.

Item 11 - Executive Compensation

The information in response to this Item is incorporated by reference to the “Executive Compensation” section of VASCO’s Proxy Statement for the 2018 Annual Meeting of Stockholders.

Item 12 - Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

The information in response to this Item is incorporated by reference to the “Security Ownership of Certain Beneficial Owners, Directors and Management” section of VASCO’s Proxy Statement for the 2018 Annual Meeting of Stockholders.

Item 13 - Certain Relationships and Related Transactions, and Director Independence

The information in response to this Item is incorporated by reference to the “Directors and Executive Officers” and “Transactions with Related Persons” sections of VASCO’s Proxy Statement for the 2018 Annual Meeting of Stockholders.

Item 14 - Principal Accounting Fees and Services

The information in response to this Item is incorporated by reference to the “Report of the Audit Committee” section of VASCO’s Proxy Statement for the 2018 Annual Meeting of Stockholders.

PART IV

Item 15 - Exhibits and Financial Statement Schedules

(a) The following documents are filed as part of this Form 10-K.

(1) The following consolidated financial statements and notes thereto, and the related independent auditors’ report, are included on pages F-1 through F-29 of this Form 10-K:

Report of Independent Registered Public Accounting Firm

Consolidated Balance Sheets as of December 31, 2017 and 2016

Consolidated Statements of Operations for the Years Ended December 31, 2017, 2016 and 2015

Consolidated Statements of Comprehensive Income for the Years Ended December 31, 2017, 2016 and 2015

Consolidated Statements of Stockholders’ Equity for the Years Ended December 31, 2017, 2016 and 2015

Consolidated Statements of Cash Flows for the Years Ended December 31, 2017, 2016 and 2015

Notes to Consolidated Financial Statements

(2) The following consolidated financial statement schedule of the company is included on page F-36 of this Form 10-K:

Schedule II – Valuation and Qualifying Accounts

All other financial statement schedules are omitted because such schedules are not required or the information required has been presented in the aforementioned consolidated financial statements.

(3) The following exhibits are filed with this Form 10-K or incorporated by reference as set forth at the end of the list of exhibits:

Exhibit Number	Description
2.1	IP Purchase Agreement between VASCO Data Security International GmbH and DigiNotar Technologie B.V., DigiNotar Notariaat B.V., DigiNotar B.V., and DigiNotar Holding B.V. dated January 10, 2011. (Incorporated by reference - Form 8K filed January 14, 2011.)
2.2	Share Sale and Purchase Agreement between VASCO Data Security International GmbH and DigiNotar Holding B.V., DigiNotar B.V., and DigiNotar Notariaat B.V. dated January 10, 2011. (Incorporated by reference - Form 8K filed January 14, 2011.)
2.3	Agreement between VASCO Data Security International GmbH and D.B.A. ten Burg Holding B.V. and Bosco Holding B.V. dated January 10, 2011. (Incorporated by reference - Form 8K filed January 14, 2011.)
2.4	Agreement for the Sale and Purchase of the Entire Issued Capital of Cronto Limited dated May 20, 2013. (Incorporated by reference – Form 8K filed May 23, 2013.)
2.5	Arrangement Agreement, dated October 6, 2015, among VASCO Data Security International, Inc., 685102 N.B. Inc., Silanis Technology Inc., Silanis International Limited, Silanis Canada Inc., and Silanis Agent Inc. (incorporated by reference – Form 8-K filed October 13, 2015.)
3.1	Certificate of Incorporation of Registrant, as amended. (Incorporated by reference to the Registrant’s Registration Statement on Form S-4, as amended (Registration No. 333-35563), originally filed on September 12, 1997.)
3.2	Bylaws of Registrant, as amended and restated December 12, 2007. (Incorporated by reference - Form 8-K filed on December 18, 2007.)
4.1	Specimen of Registrant’s Common Stock Certificate. (Incorporated by reference to the Registrant’s Registration Statement on Form S-4, as amended (Registration No. 333-35563), originally filed on September 12, 1997.)
4.2*	Form of Award Agreement for Stock Option Grant under the VASCO Data Security International, Inc. 1997 Stock Compensation Plan, as Amended and Restated. (Incorporated by reference - Form 10-K filed March 14, 2008.)
4.3*	Form of Award Agreement for Restricted Shares under the VASCO Data Security International, Inc. 1997 Stock Compensation Plan, as Amended and Restated (time-based vesting) with respect to awards granted on January 9, 2008. (Incorporated by reference - Form 8-K/A filed January 16, 2008.)
4.4*	Form of Award Agreement for Restricted Shares under the VASCO Data Security International, Inc. 1997 Stock Compensation Plan as Amended and Restated (performance-based vesting) with respect to awards granted on January 9, 2008. (Incorporated by reference - Form 8-K/A filed January 16, 2008.)
4.5*	Form of Award Agreement for Deferred Stock under the VASCO Data Security International, Inc. 1997 Stock Compensation Plan, as Amended and Restated (performance-based vesting). (Incorporated by reference - Form 10-K filed March 14, 2008.)

Exhibit Number	Description
4.6*	Form of Award Agreement for Restricted Shares under the VASCO Data Security International, Inc. 1997 Stock Compensation Plan, as Amended and Restated (time-based vesting) with respect to awards granted on or after January 8, 2009. (Incorporated by reference - Form 8K filed January 14, 2009.)
4.7*	Form of Award Agreement for Restricted Shares under the VASCO Data Security International, Inc. 1997 Stock Compensation Plan as Amended and Restated (performance-based vesting) with respect to awards granted on or after January 8, 2009. (Incorporated by reference - Form 8-K filed January 14, 2009.)
4.8*	Form of Option Agreement under the VASCO Data Security International, Inc. 1997 Stock Compensation Plan as Amended and Restated with respect to awards granted prior to January 9, 2008. (Incorporated by reference to the Registrant's Registration Statement on Form S-4, as amended (Registration No. 333-35563), originally filed with the Securities and Exchange Commission on September 12, 1997.)
4.9*	Form of Award Agreement for Deferred Stock under the VASCO Data Security International, Inc. 2009 Equity Incentive Plan. (Incorporated by reference - Form 10-K filed March 16, 2010.)
4.10*	Form of Award Agreement for Restricted Shares under the VASCO Data Security International, Inc. 2009 Equity Incentive Plan. (Incorporated by reference - Form 10-K filed March 16, 2010.)
4.11*	Form of Award Agreement for Performance Shares under the VASCO Data Security International, Inc. 2009 Equity Incentive Plan with respect to awards granted in 2010. (Incorporated by reference - Form 10-K filed March 16, 2010.)
4.12*	Form of Award Agreement for Performance Shares under the VASCO Data Security International, Inc. 2009 Equity Incentive Plan with respect to awards granted in 2011. (Incorporated by reference - Form 10-K filed March 11, 2011.)
4.13*	Form of Award Agreement for Performance Shares under VASCO Data Security International, Inc. 2009 Equity Incentive Plan with respect to awards granted in 2012. (Incorporated by reference - Form 10-K filed March 9, 2012.)
4.14*	Form of Award Agreement for Performance Shares under VASCO Data Security International, Inc. 2009 Equity Incentive Plan with respect to awards granted in 2013. (Incorporated by reference - Form 10-K filed March 8, 2013.)
4.15*	Form of Award Agreement for Performance Shares under VASCO Data Security International, Inc. 2009 Equity Incentive Plan with respect to awards granted in 2014. (Incorporated by reference - Form 10-K filed March 12, 2014.)
4.16*	Form of Award Agreement for Performance Shares under VASCO Data Security International, Inc. 2009 Equity Incentive Plan with respect to awards granted in 2015. (Incorporated by reference - Form 10-K filed March 13, 2015.)
4.17*	Award Agreement for Restricted Shares under VASCO Data Security International, Inc. 2009 Equity Incentive Plan made as of October 5, 2015 between VASCO Data Security International, Inc. and Mark Stephen Hoyt. (Incorporated by reference - Form 8-K filed October 5, 2015.)
4.18*	Form of Award Agreement for Performance Shares under VASCO Data Security International, Inc. 2009 Equity Incentive Plan with respect to awards granted in 2016. (Incorporated by reference - Form 10-K filed February 29, 2016.)
4.19*	Fiscal Year 2016 Form of Award Agreement for Deferred Stock under the VASCO Data Security International, Inc. 2009 Equity Incentive Plan. (Incorporated by reference - Form 10-K filed February 29, 2016.)

Exhibit Number	Description
4.20*	Form of Award Agreement for Restricted Shares under the VASCO Data Security International, Inc. 2009 Equity Incentive Plan with respect to awards granted January 5, 2017. (Incorporated by reference – Form 10-K filed March 10, 2017.)
4.21*	Form of Award Agreement for Performance Shares under VASCO Data Security International, Inc. 2009 Equity Incentive Plan with respect to awards granted January 5, 2017. (Incorporated by reference – Form 10-K filed March 10, 2017.)
4.22*	Fiscal Year 2017 Form of Award Agreement for Deferred Stock under the VASCO Data Security International, Inc. 2009 Equity Incentive Plan. (Incorporated by reference – Form 10-K filed March 10, 2017.)
4.23*	Form of Award Agreement for Restricted Shares under the VASCO Data Security International, Inc. 2009 Equity Incentive Plan with respect to awards granted January 4, 2018.
4.24*	Form of Award Agreement for Performance Shares under VASCO Data Security International, Inc. 2009 Equity Incentive Plan with respect to awards granted January 4, 2018.
4.25*	Fiscal Year 2018 Form of Award Agreement for Deferred Stock under the VASCO Data Security International, Inc. 2009 Equity Incentive Plan.
10.4	Share Sale and Purchase Agreement by and among VASCO Data Security International, Inc., A.O.S. Holding B.V., Filipan Beheer B.V., Mr. Mladen Filipan and Pijnenburg Beheer N.V., dated February 4, 2005 (Incorporated by reference - Form 8-K filed February 8, 2005.)
10.5*	Employment Agreement by and between VASCO Data Security International, Inc. and Jan Valcke effective as of January 1, 2005. (Incorporated by reference - Form 8-K filed July 1, 2005.)
10.6*	Letter agreement dated February 26, 2007, supplementing the Employment Agreement dated January 1, 2003, between the company and Clifford K. Bown. (Incorporated by reference - Form 8K filed March 2, 2007.)
10.7*	Letter agreement dated January 8, 2009, supplementing the Employment Agreement dated January 1, 2003, between the company and Clifford K. Bown. (Incorporated by reference - Form 8K filed January 14, 2009.)
10.9*	Employment Agreement Amendment, dated December 31, 2008 by and between VASCO Data Security International, Inc. and Clifford K. Bown (Incorporated by reference - Form 8-K filed January 14, 2009.)
10.10*	Amendment to the VASCO Data Security International, Inc. 1997 Stock Compensation Plan, dated December 19, 2008. (Incorporated by reference - Form 8-K filed January 14, 2009.)
10.11*	VASCO Data Security International, Inc. 2009 Equity Incentive Plan, effective December 19, 2008. (Incorporated by reference to the Registrant’s Definitive Proxy Statement pursuant to Schedule 14A, filed with the SEC on April 30, 2009.)
10.12*	VASCO Data Security International, Inc. Executive Incentive Compensation Plan, effective December 19, 2008. (Incorporated by reference to the Registrant’s Definitive Proxy Statement pursuant to Schedule 14A, filed with the SEC on April 30, 2009.)
10.13*	Amended and Restated Employment Agreement effective as of January 1, 2011 between VASCO Data Security International, Inc. and T. Kendall Hunt. (Incorporated by reference - Form 8-K filed December 21, 2010.)
10.14*	Letter Agreement dated February 15, 2011, by and between VASCO Data Security International, Inc. and T. Kendall Hunt. (Incorporated by reference - Form 8-K filed February 22, 2011.)

Exhibit Number	Description
10.15*	First Amendment dated April 23, 2014, to Amended and Restated Employment Agreement effective January 1, 2011 between VASCO Data Security International, Inc. and T. Kendall Hunt. (Incorporated by reference - Form 8-K filed April 28, 2014.)
10.16*	Second Amendment dated November 24, 2014, to Amended and Restated Employment Agreement effective January 1, 2011 between VASCO Data Security International, Inc. and T. Kendall Hunt. (Incorporated by reference - Form 8-K filed November 25, 2014.)
10.17*	Retention Agreement dated March 16, 2015 between VASCO Data Security International, Inc. and Clifford K. Bown. (Incorporated by reference – Form 8-K filed March 16, 2015.)
10.18*	Employment Agreement, effective October 5, 2015, by and between VASCO Data Security International, Inc. and Mark Stephen Hoyt. (Incorporated by reference – Form 8-K filed October 5, 2015)
10.19*	Third Amendment dated November 20, 2015, to Amended and Restated Employment Agreement effective January 1, 2011 between VASCO Data Security International, Inc. and T. Kendall Hunt. (Incorporated by reference - Form 8-K filed November 20, 2015.)
10.20*	Fourth Amendment dated August 2, 2016, to Amended and Restated Employment Agreement effective January 1, 2011 between VASCO Data Security International, Inc. and T. Kendall Hunt. (Incorporated by reference - Form 10-Q filed August 4, 2016.)
10.21*	Employment Agreement, dated August 2, 2016, by and between VASCO Data Security International GmbH and T. Kendall Hunt. (Incorporated by reference – Form 10-Q filed August 4, 2016)
10.22*	Employment Agreement, dated December 1, 2015, by and between VASCO Data Security International, Inc. and Scott Clements, and Amendment No. 1 to Employment Agreement effective as of November 15, 2016. (Incorporated by reference – Form 8-K filed November 15, 2016)
10.23*	Amendment No. 2 to Employment Agreement effective as of July 28, 2017, by and between VASCO Data Security International, Inc. (the “Company”), and Scott Clements further amending Employment Agreement entered into December 1, 2015 and first amended on November 15, 2016. (Incorporated by reference – Form 8-K filed July 28, 2017)
10.24*	Fifth Amendment to Amended and Restated Employment Agreement, effective as of July 28, 2017, by and between VASCO Data Security International, Inc., a Delaware corporation (the “Company”), and T. Kendall Hunt (“Employee”) further amending that certain Amended and Restated Employment Agreement, effective as of January 1, 2011, as amended by the First Amendment to Amended and Restated Employment Agreement, dated as of April 23, 2014, the Second Amendment to Amended and Restated Employment Agreement, dated November 24, 2014, the Third Amendment to Amended and Restated Employment Agreement, dated November 20, 2015, and the Fourth Amendment to Amended and Restated Employment Agreement, dated September 24, 2016. (Incorporated by reference – Form 8-K filed July 28, 2017)
14.3	Amended Corporate Governance Guidelines of the Board of Directors of VASCO Data Security International, Inc. and Subsidiaries. (Incorporated by reference - Form 8-K filed June 21, 2013 and Form 8-K/A filed July 30, 2013.)
14.4	Code of Conduct of VASCO Data Security International, Inc. and Subsidiaries.
21	Subsidiaries of Registrant.
23	Consent of KPMG LLP.
24	Power of Attorney (contained on Signature Page hereto)

Exhibit Number	Description
31.1	Rule 13a-14(a)/15d-14(a) Certification of Principal Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002, dated March 8, 2018.
31.2	Rule 13a-14(a)/15d-14(a) Certification of Principal Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002, dated March 8, 2018.
32.1	Section 1350 Certification of Principal Executive Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, dated March 8, 2018.
32.2	Section 1350 Certification of Principal Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, dated March 8, 2018.
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document

* Management contract or compensatory plan or arrangement required to be filed as an exhibit to this Annual Report on Form 10-K.

VASCO Data Security International, Inc. will furnish any of the above exhibits to stockholders upon written request addressed to the Secretary at the address given on the cover page of this Form 10-K. The charge for furnishing copies of the exhibits is \$0.25 per page, plus postage.

VASCO Data Security International, Inc.
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Financial Statement Schedule

The following consolidated financial statement schedule is included herein:

Schedule II – Valuation and Qualifying Accounts	F-37
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All other financial statement schedules are omitted because they are not applicable or the required information is shown in the consolidated financial statements or notes thereto.

Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders
VASCO Data Security International, Inc.:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of VASCO Data Security International, Inc. and subsidiaries (the Company) as of December 31, 2017 and 2016, the related consolidated statements of operations, comprehensive income (loss), stockholders' equity, and cash flows for each of the years in the three-year period ended December 31, 2017, and the related notes (and financial statement Schedule II – Valuation and Qualifying Accounts) (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2017 and 2016, and the results of their operations and their cash flows for each of the years in the three-year period ended December 31, 2017, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2017, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated March 8, 2018 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our 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 consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the consolidated 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 consolidated 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 consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ KPMG LLP

We have served as the Company's auditor since 1996.

Chicago, Illinois
March 8, 2018

VASCO Data Security International, Inc.
CONSOLIDATED BALANCE SHEETS
(in thousands, except per share data)

	December 31,	
	2017	2016
ASSETS		
Current assets		
Cash and equivalents	\$ 78,661	\$ 49,345
Short term investments	79,733	94,856
Accounts receivable, net of allowance for doubtful accounts of \$520 in 2017 and \$535 in 2016	48,126	36,693
Inventories, net	12,040	17,420
Prepaid expenses	3,876	3,249
Foreign sales tax receivable	836	186
Other current assets	4,665	5,410
Total current assets	227,937	207,159
Property and equipment:		
Furniture and fixtures	5,655	5,547
Office equipment	13,084	13,028
	18,739	18,575
Accumulated depreciation	(13,963)	(15,294)
Property and equipment, net	4,776	3,281
Goodwill	56,332	54,409
Intangible assets, net of accumulated amortization	37,888	46,549
Deferred income taxes	5,460	11,116
Other assets	5,229	4,756
Total assets	\$ 337,622	\$ 327,270
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities		
Accounts payable	\$ 8,144	\$ 8,915
Deferred revenue	33,295	36,364
Accrued wages and payroll taxes	11,643	10,894
Short-term income taxes payable	3,673	4,594
Other accrued expenses	7,746	5,464
Deferred compensation	1,652	1,729
Total current liabilities	66,153	67,960
Other long-term liabilities	12,938	5,709
Long-term income taxes payable	12,848	—
Deferred income taxes	7,753	439
Total liabilities	99,692	74,108
Stockholders' equity		
Preferred stock: 500 shares authorized, none issued and outstanding at December 31, 2017 and 2016	—	—
Common stock: \$.001 par value per share, 75,000 shares authorized; 40,086 and 40,097 issued and outstanding at December 31, 2017 and 2016, respectively	40	40
Additional paid-in capital	90,307	87,481
Accumulated income	156,151	178,551
Accumulated other comprehensive loss	(8,568)	(12,910)
Total stockholders' equity	237,930	253,162
Total liabilities and stockholders' equity	\$ 337,622	\$ 327,270

See accompanying notes to consolidated financial statements.

VASCO Data Security International, Inc.
CONSOLIDATED STATEMENTS OF OPERATIONS
(in thousands, except per share data)

	<u>For the years ended December 31,</u>		
	<u>2017</u>	<u>2016</u>	<u>2015</u>
Revenue			
Product and license	\$ 147,257	\$ 156,057	\$ 218,908
Services and other	46,034	36,247	22,535
Total revenue	<u>193,291</u>	<u>192,304</u>	<u>241,443</u>
Cost of goods sold			
Product and license	48,333	53,191	95,028
Services and other	10,444	8,456	2,875
Total cost of goods sold	<u>58,777</u>	<u>61,647</u>	<u>97,903</u>
Gross profit	<u>134,514</u>	<u>130,657</u>	<u>143,540</u>
Operating costs:			
Sales and marketing	58,994	57,347	38,199
Research and development	23,119	23,214	17,457
General and administrative	37,400	31,648	32,489
Amortization of purchased intangible assets	8,809	8,849	4,942
Total operating costs	<u>128,322</u>	<u>121,058</u>	<u>93,087</u>
Operating income	6,192	9,599	50,453
Interest income, net	1,431	785	364
Other income (expense), net	<u>758</u>	<u>993</u>	<u>38</u>
Income from continuing operations before income taxes	8,381	11,377	50,855
Provision for income taxes	<u>30,780</u>	<u>863</u>	<u>8,704</u>
Net income (loss)	<u>\$ (22,399)</u>	<u>\$ 10,514</u>	<u>\$ 42,151</u>
Net income (loss) per share			
Basic	<u>\$ (0.56)</u>	<u>\$ 0.27</u>	<u>\$ 1.07</u>
Diluted	<u>\$ (0.56)</u>	<u>\$ 0.27</u>	<u>\$ 1.06</u>
Weighted average common shares outstanding:			
Basic	<u>39,802</u>	<u>39,719</u>	<u>39,568</u>
Diluted	<u>39,802</u>	<u>39,782</u>	<u>39,736</u>

See accompanying notes to consolidated financial statements.

VASCO Data Security International, Inc.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
(in thousands)

	<u>For the years ended December 31,</u>		
	<u>2017</u>	<u>2016</u>	<u>2015</u>
Net income (loss)	\$ (22,399)	\$ 10,514	\$ 42,151
Other comprehensive income (loss):			
Cumulative translation adjustment, net	4,029	(2,488)	(3,292)
Pension adjustment, net of tax of \$53 in 2017, \$509 in 2016, and \$70 in 2015	313	(1,736)	(552)
Comprehensive income (loss)	<u>\$ (18,057)</u>	<u>\$ 6,290</u>	<u>\$ 38,307</u>

See accompanying notes to consolidated financial statements.

VASCO Data Security International, Inc.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(in thousands)

Description	Common Stock		Additional Paid-In Capital	Accumulated Income	Accumulated Other Comprehensive Income (Loss)	Total Stockholders' Equity
	Shares	Amount				
Balance at January 1, 2015	39,660	\$ 40	\$ 82,450	\$ 125,885	\$ (4,842)	\$ 203,533
Net income (loss)	—	—	—	42,151	—	42,151
Foreign currency translation adjustment , net	—	—	—	—	(3,292)	(3,292)
Restricted stock awards	448	—	3,835	—	—	3,835
Tax payments for stock issuances	—	—	(837)	—	—	(837)
Tax benefits of stock based compensation	—	—	318	—	—	318
Pension adjustment, net of tax of \$70	—	—	—	—	(552)	(552)
Balance at December 31, 2015	40,108	40	85,766	168,036	(8,686)	245,156
Net income (loss)	—	—	—	10,514	—	10,514
Foreign currency translation adjustment, net	—	—	—	—	(2,488)	(2,488)
Restricted stock awards	(11)	—	2,766	—	—	2,766
Tax payments for stock issuances	—	—	(1,051)	—	—	(1,051)
Pension adjustment, net of tax of \$509	—	—	—	—	(1,736)	(1,736)
Balance at December 31, 2016	40,097	40	87,481	178,550	(12,910)	253,161
Net income (loss)	—	—	—	(22,399)	—	(22,399)
Foreign currency translation adjustment	—	—	—	—	4,029	4,029
Restricted stock awards	(11)	—	3,466	—	—	3,466
Tax payments for stock issuances	—	—	(640)	—	—	(640)
Pension adjustment, net of tax of \$53	—	—	—	—	313	313
Balance at December 31, 2017	40,086	\$ 40	\$ 90,307	\$ 156,151	\$ (8,568)	\$ 237,930

See accompanying notes to consolidated financial statements.

VASCO Data Security International, Inc.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)

	For the years ended December 31,		
	2017	2016	2015
Cash flows from operating activities:			
Net income (loss) from operations	\$ (22,399)	\$ 10,514	\$ 42,151
Adjustments to reconcile net income (loss) from operations to net cash provided by operations:			
Depreciation and amortization	10,601	10,777	6,302
Loss on disposal of assets	185	14	—
Deferred tax expense (benefit)	13,053	(4,936)	(691)
Stock-based compensation	3,466	2,766	3,835
Changes in assets and liabilities, net of effect of acquisitions:			
Accounts receivable, net	(8,428)	(8,106)	2,860
Inventories, net	5,380	3,198	13,257
Foreign sales tax receivable	(692)	336	49
Other current assets	(1,574)	(410)	(358)
Accounts payable	(1,013)	163	(6,645)
Income taxes payable	11,926	(582)	2,946
Accrued expenses	2,514	4	1,351
Current deferred compensation	(77)	226	697
Deferred revenue	3,704	14,396	2,996
Other long-term liabilities	981	55	42
Net cash provided by operating activities	17,627	28,415	68,792
Cash flows from investing activities:			
Purchase of short term investments	(178,658)	(184,690)	(109,747)
Maturities of short term investments	195,000	134,775	129,725
Purchase of eSignLive, net of cash acquired	—	—	(74,486)
Additions to property and equipment	(3,088)	(2,043)	(1,362)
Additions to intangible assets	(107)	(144)	(89)
Other	(349)	(4,394)	3
Net cash provided by (used in) investing activities	12,798	(56,496)	(55,956)
Cash flows from financing activities:			
Repayment of debt	—	—	(5,925)
Tax payments for restricted stock issuances	(640)	(1,051)	(837)
Tax benefit of stock-based compensation	—	—	318
Net cash used in financing activities	(640)	(1,051)	(6,444)
Effect of exchange rate changes on cash	(469)	(45)	(311)
Net increase (decrease) in cash	29,316	(29,177)	6,081
Cash and equivalents, beginning of period	49,345	78,522	72,441
Cash and equivalents, end of period	\$ 78,661	\$ 49,345	\$ 78,522
Supplemental cash flow disclosures:			
Cash paid for income taxes	\$ 6,427	\$ 5,982	\$ 6,781
Cash paid for interest	\$ —	\$ —	\$ —

See accompanying notes to consolidated financial statements.

VASCO Data Security International, Inc.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(amounts in thousands, except per share data)

Unless otherwise noted, references in this Annual Report on Form 10-K to “VASCO”, “company”, “we”, “our” and “us” refer to VASCO Data Security International, Inc. and its subsidiaries.

Note 1 – Summary of Significant Accounting Policies

Nature of Operations

VASCO Data Security International, Inc. and its wholly owned subsidiaries design, develop, market and support hardware and software security systems that manage and secure access to information assets. VASCO has operations in Austria, Australia, Belgium, Brazil, Canada, China, France, Japan, The Netherlands, Singapore, Switzerland, the United Arab Emirates, the United Kingdom (U.K.), and the United States (U.S.).

In accordance with ASC 280, Segment Reporting, our operations are reported as a single operating segment.

Revision of Previously Issued Financial Statements

We have revised amounts reported in previously issued financial statements for periods presented in the Annual Report on Form 10-K related to immaterial errors associated with previously unrecorded net unfunded pension obligations, accumulated other comprehensive income and the related deferred tax impacts related to defined benefit plans maintained in our Belgium and Switzerland legal entities. We evaluated the aggregate effects of the errors to our previously issued financial statements in accordance with SEC Staff Accounting Bulletins No. 99 and No. 108 and, based upon quantitative and qualitative factors, determined that the errors were not material to the previously issued financial statements and disclosures included in our Annual Report on Form 10-K as of December 31, 2016 or for the years ended December 31, 2016 and 2015, or for any quarterly periods included therein or through our most recent Quarterly Report on Form 10-Q. As part of this evaluation, we considered a number of qualitative factors, including, among others, that the errors did not change total revenue, had an immaterial impact to operating income in every period, and did not mask a change in earnings or other trends when considering the overall competitive and economic environment within the industry during the period.

The following tables present the effects of the aforementioned revisions on our consolidated balance sheet as of December 31, 2016, our consolidated statements of comprehensive income for the years ended December 31, 2016 and 2015, and our consolidated statements of stockholders' equity for the years ended December 31, 2016 and 2015. The effects of the errors were inconsequential to our previously issued consolidated statements of operations and cash flows the years ended December 31, 2016 and 2015, therefore no revisions to those financial statements were recorded.

Consolidated Balance Sheet

	As of December 31, 2016		
	As previously Reported	Adjustment	Corrected
Other long-term liabilities	\$ 1,878	\$ 3,831	\$ 5,709
Deferred income taxes	853	(414)	439
Total liabilities	70,691	\$ 3,417	74,108
Accumulated other comprehensive Income (loss)	(9,493)	\$ (3,417)	(12,910)
Total stockholders' equity	256,579	(3,417)	253,162
Total liabilities and stockholders' equity	\$ 327,270	\$ —	\$ 327,270

VASCO DATA SECURITY INTERNATIONAL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS – (Continued)
(amounts in thousands, except per share data)

Consolidated Statements of Comprehensive Income (Loss)	For the year ended December 31, 2016		
	As previously Reported	Adjustment	Corrected
Net income (loss)	\$ 10,514	\$ —	\$ 10,514
Other comprehensive income (loss):			
Cumulative translation adjustment, net	(2,488)	—	(2,488)
Pension adjustment, net	(1,211)	(525)	(1,736)
Comprehensive income (loss)	<u>\$ 6,815</u>	<u>\$ (525)</u>	<u>\$ 6,290</u>

Consolidated Statements of Comprehensive Income (Loss)	For the year ended December 31, 2015		
	As previously Reported	Adjustment	Corrected
Net income (loss)	\$ 42,151	\$ —	\$ 42,151
Other comprehensive income (loss):			
Cumulative translation adjustment, net	(3,292)	—	(3,292)
Pension adjustment, net	—	(552)	(552)
Comprehensive income (loss)	<u>\$ 38,859</u>	<u>\$ (552)</u>	<u>\$ 38,307</u>

Consolidated Statements of Stockholders' Equity

Consolidated Statements of Stockholders' Equity	Accumulated Other Comprehensive Income		
	As previously Reported	Adjustment	Corrected
Balance at January 1, 2015	\$ (2,502)	\$ (2,340)	\$ (4,842)
Foreign currency translation adjustment, net	(3,292)	—	(3,292)
Pension adjustment, net of tax of \$70	—	(552)	(552)
Balance at December 31, 2015	(5,794)	(2,892)	(8,686)
Foreign currency translation adjustment, net	(2,488)	—	(2,488)
Pension adjustment, net of tax of \$509	(1,211)	(525)	(1,736)
Balance at December 31, 2016	<u>\$ (9,493)</u>	<u>\$ (3,417)</u>	<u>\$ (12,910)</u>

Consolidated Statements of Stockholders' Equity	Total Stockholders' Equity		
	As previously Reported	Adjustment	Corrected
Balance at January 1, 2015	\$ 205,873	\$ (2,340)	\$ 203,533
Net income	42,151		42,151
Foreign currency translation adjustment, net	(3,292)		(3,292)
Restricted stock	3,835		3,835
Tax payments for stock issuances	(837)		(837)
Tax benefits of stock based compensation	318		318
Pension adjustment, net of tax of \$70	—	(552)	(552)
Balance at December 31, 2015	248,048	(2,892)	245,156
Net income	10,514		10,514
Foreign currency translation adjustment, net	(2,488)		(2,488)
Restricted stock	2,766		2,766
Tax payments for stock issuances	(1,051)		(1,051)
Pension adjustment, net of tax of \$509	(1,211)	(525)	(1,736)
Balance at December 31, 2016	<u>\$ 256,578</u>	<u>\$ (3,417)</u>	<u>\$ 253,161</u>

Financial information presented in the accompanying notes to these consolidated financial statements reflect the correction of these errors (see Note 6 and Note 11). Periods not presented herein will be revised, as applicable, as included in future filings.

VASCO DATA SECURITY INTERNATIONAL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS – (Continued)
(amounts in thousands, except per share data)

Principles of Consolidation

The consolidated financial statements include the accounts of VASCO Data Security International, Inc. and its wholly owned subsidiaries. Intercompany accounts and transactions have been eliminated in consolidation.

Reclassifications

Certain amounts from prior years have been reclassified to conform to current year presentation.

Estimates and Assumptions

The preparation of financial statements in conformity with accounting principles generally accepted in the U.S. requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting period. Actual results could differ from those estimates.

Foreign Currency Translation and Transactions

The financial position and results of the operations of the majority of the company's foreign subsidiaries are measured using the local currency as the functional currency. Accordingly, assets and liabilities are translated into U.S. Dollars using current exchange rates as of the balance sheet date. Revenues and expenses are translated at average exchange rates prevailing during the year. Translation adjustments arising from differences in exchange rates are charged or credited to other comprehensive income (loss). Gains or (losses) resulting from foreign currency transactions were \$464, \$111, and (\$1,247) in 2017, 2016, and 2015, respectively, and are included in other income, net in the consolidated statements of operations.

The financial position and results of our operations in Canada, Singapore, and Switzerland are measured in U.S. Dollars. For these subsidiaries, gains and losses that result from foreign currency transactions are included in the consolidated statements of operations in other income, net.

Revenue Recognition

We recognize revenue in accordance with Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC) 985 605, Software – Revenue Recognition, ASC 605 25, Revenue Recognition – Multiple Element Arrangements and Staff Accounting Bulletin 104.

Product and License Revenue includes hardware products and software licenses. Services and Other includes software as a service (“SaaS”), maintenance and support, and professional services.

Revenue is recognized when there is persuasive evidence that an arrangement exists, delivery has occurred, the fee is fixed or determinable and collection of the revenue is probable.

In multiple-element arrangements, some of our products are accounted for under the software provisions of ASC 985 605 and others under the provisions that relate to the sale of non-software products.

VASCO DATA SECURITY INTERNATIONAL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS – (Continued)
(amounts in thousands, except per share data)

In our typical multiple-element arrangement, the primary deliverables include:

- a client component (i.e., an item that is used by the person being authenticated in the form of either a new standalone hardware device or software that is downloaded onto a device the customer already owns),
- host system software that is installed on the customer's systems (i.e., software on the host system that verifies the identity of the person being authenticated) or licenses for additional users on the host system software if the host system software had been installed previously,
- post contract support ("PCS") in the form of maintenance on the host system software or support.

Our multiple-element arrangements may also include other items that are usually delivered prior to the recognition of any revenue and incidental to the overall transaction such as initialization of the hardware device, customization of the hardware device itself or the packaging in which it is delivered, deployment services where we deliver the device to our customer's end-user customer or employee and, in some cases, professional services to assist with the initial implementation of a new customer.

In multiple-element arrangements that include a hardware client device, we allocate the selling price among all elements, delivered and undelivered, based on our internal price lists and the percentage of the selling price of that element, per the price list, to the total of the estimated selling price of all of the elements per the price list. Our internal price lists for both delivered and undelivered elements were determined to be reasonable estimates of the selling price of each element based on a comparison of actual sales made to the price list.

In multiple-element arrangements that include a software client device, we account for each element under the standards of ASC 985 605 related to software. When software client devices and host software are delivered elements, we use the Residual Method for determining the amount of revenue to recognize for token and software licenses if we have vendor-specific objective evidence (VSOE) for all of the undelivered elements. Any discount provided to the customer is applied fully to the delivered elements in such an arrangement. VSOE for undelivered elements is established using the "bell curve method." Under this method, we conclude VSOE exists when a substantial majority of PCS renewals are within a narrow range of pricing. The estimated selling price of PCS items is based on an established percentage of the user license fee attributable to the specific software. In sales arrangements where VSOE of fair value has not been established, revenue for all elements is deferred and amortized over the life of the arrangement.

For transactions other than multiple-element arrangements, we recognize revenue as follows:

1. *Product and License Revenue:* Revenue from the sale of computer security hardware or the license of software is recorded upon shipment or, if an acceptance period is allowed, at the latter of shipment or customer acceptance. No significant obligations or contingencies exist with regard to delivery, customer acceptance or rights of return at the time revenue is recognized.
2. *SaaS:* We generate SaaS revenues from our cloud services offerings. SaaS revenues include fees from customers for access to the eSignLive suite of solutions. Our standard customer arrangements generally do not provide the customer with the right to take possession of the software supporting the cloud-based application service at any time. As such, these arrangements are considered service contracts and revenue is recognized ratably over the service period of the contract.
3. *Maintenance and Support Agreements:* Maintenance and support agreements generally call for us to provide software updates and technical support, respectively, to customers. Revenue on maintenance and technical support is deferred and recognized ratably over the term of the maintenance and support agreement.

VASCO DATA SECURITY INTERNATIONAL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS – (Continued)
(amounts in thousands, except per share data)

4. *Professional Services:* We provide professional services to our customers. Revenue from such services is recognized during the period in which the services are performed.

We recognize revenue from sales to distributors and resellers on the same basis as sales made directly to customers. We recognize revenue when there is persuasive evidence that an arrangement exists, delivery has occurred, the fee is fixed or determinable and collection of the revenue is probable.

For large-volume transactions, we may negotiate a specific price based on the number of users of the software license or quantities of hardware supplied. The per unit prices for large-volume transactions are generally lower than transactions for smaller quantities.

All revenue is reported on a net basis, excluding any sales or value added taxes.

Cash and Cash Equivalents

Cash and cash equivalents are stated at cost plus accrued interest, which approximates fair value. Cash equivalents are high-quality short term money market instruments and commercial paper with maturities at acquisition of three months or less. Cash and cash equivalents are held by a number of U.S. and non-U.S. commercial banks and money market investment funds.

Short Term Investments

Short term investments are stated at cost plus accrued interest, which approximates fair value. Short term investments are high-quality commercial paper and bank certificates of deposit with maturities at acquisition of more than three months and less than twelve months.

Accounts Receivable and Allowance for Doubtful Accounts

The credit worthiness of customers is reviewed prior to shipment. A reasonable assurance of collection is a requirement for revenue recognition. Verification of credit and the establishment of credit limits are part of the customer contract administration process. Credit limit adjustments for existing customers may result from the periodic review of outstanding accounts receivable. The company records trade accounts receivable at invoice values, which are generally equal to fair value.

We maintain allowances for doubtful accounts for estimated losses resulting from the inability of our customers to make payments for goods and services. We analyze accounts receivable balances, customer credit-worthiness, current economic trends and changes in our customer payment timing when evaluating the adequacy of the allowance for doubtful accounts. The allowance is based on a specific review of all significant past-due accounts. If the financial condition of our customers deteriorates, resulting in an impairment of their ability to make payments, additional allowances may be required. Generally, accounts are charged off when decision is taken to no longer pursue collection.

Inventories

Inventories, consisting principally of hardware and component parts, are stated at the lower of cost or market. Cost is determined using the first-in-first-out (FIFO) method. We write down inventory where it appears that the carrying cost of the inventory may not be recovered through subsequent sale of the inventory. We analyze the quantity of inventory on hand, the quantity sold in the past year, the anticipated sales volume in the form of sales to new customers as well as sales to previous customers, the expected sales price and the cost of making the sale when evaluating the valuation of our inventory. If the sales volume or sales price of a specific model declines significantly, additional write downs may be required.

VASCO DATA SECURITY INTERNATIONAL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS – (Continued)
(amounts in thousands, except per share data)

Property and Equipment

Property and equipment is stated at cost. Depreciation is computed using the straight-line method over the estimated useful lives of the related assets ranging from three to seven years. Additions and improvements are capitalized, while expenditures for maintenance and repairs are charged to operations as incurred. Gains or losses resulting from sales or retirements are recorded as incurred, at which time related costs and accumulated depreciation are removed from the accounts. Depreciation expense for the years ended December 31, 2017, 2016, and 2015 of \$1,792, \$1,928, and \$1,345, respectively, is included in operating expenses.

Long Term Investments

Included in Other Assets are minority equity investments in companies we believe may be beneficial in executing our strategy. At December 31, 2017 and 2016, investments were \$4,361 and \$4,073, respectively. In accordance with ASC 325, the investments are recorded at cost, which approximates fair value, and are evaluated for impairment annually or whenever events or changes in circumstances indicate that the carrying value may not be recoverable.

Cost of Goods Sold

Included in product and license cost of goods sold are direct product costs. Cost of goods sold related to services and other revenues are primarily costs related to SaaS solutions, including personnel and equipment costs, and personnel costs of employees providing professional services and maintenance and support.

Research and Development Costs

Costs for research and development, principally the design and development of hardware, and the design and development of software prior to the determination of technological feasibility, are expensed as incurred on a project-by-project basis.

Software Development Costs

We capitalize software development costs in accordance with ASC 985-20, *Costs of Software to be Sold, Leased, or Marketed*. Research costs and software development costs, prior to the establishment of technological feasibility, determined based upon the creation of a working model, are expensed as incurred. Our software capitalization policy currently defines technological feasibility as a functioning beta test prototype with confirmed manufacturability (a working model), within a reasonably predictable range of costs. Additional criteria include receptive customers, or potential customers, as evidenced by interest expressed in a beta test prototype, at some suggested selling price. Our policy is to amortize capitalized costs by the greater of (a) the ratio that current gross revenue for a product bear to the total of current and anticipated future gross revenue for that product or (b) the straight-line method over the remaining estimated economic life of the product, generally two to five years, including the period being reported on. No software development costs were capitalized in any of the years ended December 31, 2017, 2016, or 2015.

Income Taxes

Our provision for income taxes includes amounts payable or refundable for the current year, the effects of deferred taxes and impacts from uncertain tax positions. We recognize deferred tax assets and liabilities for the expected future tax consequences of temporary differences between the financial statement and tax basis of our assets and liabilities, operating loss carryforwards and tax credit carryforwards. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply in the years in which those differences are expected to reverse.

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The realization of certain deferred tax assets is dependent on generating sufficient taxable income in the appropriate jurisdiction prior to the expiration of the carryforward periods. Deferred tax assets are reduced by a valuation allowance if it is more likely than not that some portion, or all, of the deferred tax assets will not be realized. When assessing the need for a valuation allowance, we consider any carryback potential, future reversals of existing taxable temporary differences (including liabilities for unrecognized tax benefits), future taxable income and tax planning strategies.

We have significant net operating loss and other deductible carryforwards in certain jurisdictions available to reduce the liability on future taxable income. A valuation allowance has been provided to offset some of these future benefits because we have not determined that their realization is more likely than not.

We recognize tax benefits in our financial statements from uncertain tax positions only if it is more likely than not that the tax position will be sustained based on the technical merits of the position. The amount we recognize is measured as the largest amount of benefit that is greater than 50 percent likely of being realized upon resolution. Future changes related to the expected resolution of uncertain tax positions could affect tax expense in the period when the change occurs.

We monitor changes in tax laws and reflect the impacts in the period of enactment. In response to the U.S. tax reform legislation enacted on December 22, 2017 (“Tax Reform”), the U.S. Securities and Exchange Commission (“SEC”) issued guidance (“SAB 118”) allowing provisional amounts for recording the impacts of Tax Reform. For provisions of Tax Reform where we are unable to make a reasonable estimate of the impact, the guidance allows continued application of historical tax provisions in computing our income tax liability and deferred tax assets and liabilities as of December 31, 2017. The guidance requires final accounting for Tax Reform within one year of the December 22, 2017 enactment date. See Note 6, Income Taxes, for additional information on the impacts of the Tax Reform.

Fair Value of Financial Instruments

At December 31, 2017, and 2016, our financial instruments were cash and equivalents, short term investments, accounts receivable, accounts payable and accrued liabilities. The estimated fair value of our financial instruments has been determined by using available market information and appropriate valuation methodologies, as defined in ASC 820, Fair Value Measurements. The fair values of the financial instruments were not materially different from their carrying amounts at December 31, 2017 and 2016.

Accounting for Leases

All of our leases are operating leases. Rent expense on facility leases is charged evenly over the life of the lease, regardless of the timing of actual payments.

Goodwill and Other Intangibles

Intangible assets arising from business combinations, such as acquired technology, customer relationships, and other intangible assets, are originally recorded at fair value. Intangible assets other than patents with definite lives are amortized over the useful life, generally three to seven years for proprietary technology and five to twelve years for customer relationships. Patents are amortized over the life of the patent, generally 20 years in the U.S.

Goodwill represents the excess of purchase price over the fair value of net identifiable assets acquired in a business combination. We assess the impairment of goodwill each November 30 or whenever events or changes in circumstances indicate that the carrying value may not be recoverable. The Company’s impairment assessment begins with a qualitative assessment to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying value. The qualitative assessment includes comparing the overall financial performance of the reporting unit against the planned results used in the last quantitative goodwill impairment test. Additionally, the reporting unit’s

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fair value is assessed in light of certain events and circumstances, including macroeconomic conditions, industry and market considerations, cost factors, and other relevant entity- and reporting unit specific events. The selection and assessment of qualitative factors used to determine whether it is more likely than not that the fair value of the reporting unit exceeds the carrying value involves significant judgments and estimates. If it is determined under the qualitative assessment that it is more likely than not that the fair value of the reporting unit is less than its carrying value, then a two-step quantitative impairment test is performed. Under the first step, the estimated fair value of the reporting unit is compared with its carrying value (including goodwill). If the fair value of the reporting unit exceeds its carrying value, step two does not need to be performed. If the estimated fair value of the reporting unit is less than its carrying value, an indication of goodwill impairment exists for the reporting unit and the enterprise must perform step two of the impairment test (measurement). Under step two, an impairment loss is recognized for any excess of the carrying amount of the reporting unit's goodwill over the implied fair value of that goodwill. The implied fair value of goodwill is determined by allocating the fair value of the reporting unit in a manner similar to a purchase price allocation in acquisition accounting. The residual amount after this allocation is the implied fair value of the reporting unit goodwill. Fair value of the reporting unit under the two-step assessment is determined using a combination of both income and market-based valuation approaches. The inputs and assumptions to valuation methods used to estimate the fair value of the reporting unit involves significant judgments.

During the third quarter of 2017, we determined certain events and circumstances resulted in a change in the composition of our reporting units. Previously, we considered the Company to be two reporting units, the operations of eSignLive and the remainder of our operations. Due to the continued integration of eSignLive operations and changes in management, we now consider the Company to be a single reporting unit. The change in the composition of our reporting units was reflected in our annual impairment test performed as of November 30.

Our qualitative assessment of our reporting unit did not indicate an impairment. Accordingly, we did not recognize any impairment for the year ended December 31, 2017.

Stock-Based Compensation

We have stock-based employee compensation plans, which are described more fully in Note 8. ASC 718, Compensation-Stock Compensation requires us to estimate the fair value of restricted stock granted to employees, directors and others and to record compensation expense equal to the estimated fair value. Compensation expense is recorded on a straight-line basis over the vesting period for time-based awards and on a graded basis for performance-based awards. Forfeitures are recorded as incurred.

Retirement Benefits

We record annual expenses relating to its pension defined benefit plans based on calculations which include various actuarial assumptions, including discount rates, assumed asset rates of return, compensation increases, and turnover rates. We review our actuarial assumptions on an annual basis and makes modifications to the assumptions based on current rates and trends. The effects of gains, losses, and prior service costs and credits are amortized over the average service life. The funded status, or projected benefit obligation less plan assets, for each plan, is reflected in our consolidated balance sheets using a December 31 measurement date.

Warranty

Warranties are provided on the sale of certain of our products and an accrual for estimated future claims is recorded at the time revenue is recognized. We estimate the cost based on past claims experience, sales history and other considerations. We regularly assess the adequacy of our estimates and adjust the amounts as necessary. Our standard practice is to provide a warranty on our hardware products for either a one or two year period after the date of purchase. Customers may purchase extended warranties covering periods from one to four years after the standard warranty period. We defer the revenue associated with the extended warranty and recognize it into income on a straight-line basis over the extended warranty period. We have historically experienced minimal actual claims over the warranty period.

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Recently Issued Accounting Pronouncements

We adopted ASU 2015-11, Inventory (Topic 330) – *Simplifying the Measurement of Inventory* as of January 1, 2017. ASU 2015-11 requires measurement of inventory at the lower of cost or net realizable value, defined as estimated selling price in the ordinary course of business, less reasonably predictable costs of completion, disposal and transportation. Adoption of ASU 2015-11 did not have a significant impact on our financial statements.

In September 2015, the FASB issued Accounting Standards Update No. 2015-16, *Simplifying the Accounting for Measurement-Period Adjustments*, (ASU 2015-16), which eliminates the requirement for an acquirer to retrospectively adjust the financial statements for measurement-period adjustments that occur in periods after a business combination is consummated. The ASU is effective for annual periods beginning after December 15, 2015 and interim periods within such annual periods and applies prospectively to adjustments to provisional amounts that occur after the effective date. We have adopted ASU 2015-16 in our consolidated financial statements as of January 1, 2016. Measurement period adjustments identified subsequent to December 31, 2015 for the eSignLive Acquisition, further described in Note 4 to the Consolidated Financial Statements, were recorded and disclosed in accordance with ASU 2015-16.

In May 2014, the FASB issued Accounting Standards Update No. 2014-09, *Revenue from Contracts with Customers* (ASU 2014-09), which supersedes nearly all existing revenue recognition guidance under U.S. GAAP. The core principle of ASU 2014-09 is to recognize revenues when promised goods or services are transferred to customers in an amount that reflects the consideration to which an entity expects to be entitled for those goods or services. The standard creates a five-step model to achieve its core principle: (i) identify the contract(s) with a customer; (ii) identify the performance obligations in the contract; (iii) determine the transaction price; (iv) allocate the transaction price to the separate performance obligations in the contract; and (v) recognize revenue when (or as) the entity satisfies a performance obligation. It also provides guidance on accounting for costs incurred to obtain or fulfill contracts with customers. In addition, entities must disclose sufficient information to enable users of financial statements to understand the nature, amount, timing, and uncertainty of revenue and cash flows arising from contracts with customers. Qualitative and quantitative disclosures are required about: (i) the nature, amount, timing and uncertainty of revenue under the entity's contracts with customers; (ii) the significant judgments, and changes in judgments, made in applying the guidance to those contracts; and (iii) any assets recognized from the costs to obtain or fulfill a contract with a customer.

The FASB has issued numerous amendments to ASU 2014-09 from August 2015 through January 2018, which provides supplemental and clarifying guidance, as well as amend the effective date of the new standard.

The new standard is effective for us on January 1, 2018. We will adopt ASU 2014-09 on a modified-retrospective basis. Such method provides the cumulative effect from prior periods upon applying the new guidance to be recognized in our consolidated balance sheets as of the date of adoption, including an adjustment to retained earnings. Prior periods will not be retrospectively adjusted.

We expect this new guidance to have a material impact on the timing of revenue recognition for certain of our multiple element arrangements. Currently, software license revenue from term license sales ("Term Licenses") is generally recognized ratably over the respective license term ("over time") due to a lack of VSOE for the PCS that is provided during the Term License. Upon adoption of the new standard, we expect to recognize the portion of the transaction price allocated to the distinct Term License upon delivery of the software to the customer ("point in time") and the non-license portion (e.g., PCS) of the transaction price over the respective PCS term ("over time"). During 2017, revenue recognized associated with term licenses, and related PCS, represented approximately 6% of 2017 consolidated revenues. At December 31, 2017, these term arrangements had remaining license periods ranging up to four years. Also, under legacy GAAP when professional services are provided in a Term License for which VSOE of PCS does not exist, the professional services fees are currently recognized over the PCS period as well, as it is typically longer than the period to deliver professional services. Under the new standard, the professional services will be considered a separate performance obligation, and we will recognize the portion of the transaction price allocated to the professional services as those services are performed. We also expect the adoption of the new standard to have a significant impact on the nature and extent of disclosures of contracts with customers and related costs.

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We have determined the significant incremental costs incurred to obtain contracts with customers are sales commissions paid to our sales teams. Under legacy GAAP, we expense sales commissions as earned, and record such amounts as a component of Sales and marketing operating costs in our consolidated statements of operations. We recognized sales commission expense of \$4,250 in the 2017. Under the new guidance, we expect to capitalize portions of our sales commissions as an asset, and amortize the benefit to expense over an amortization period that will include the expected contract renewals, which we currently estimate may be up to 7 years. However, we will apply the practical expedient to expense commissions as incurred when the amortization period is one year or less. In addition, we will allocate the costs of obtaining a contract in each contract to the performance obligations in the contract and amortize the allocated cost commensurate with the transfer of control of each respective performance obligation. This will generally result in a large portion of the capitalized cost of obtaining the contract to be recognized when software licenses or hardware is delivered to the customer, usually at the outset of the arrangement. At the date of the adoption of this new guidance, we expect to record an asset in our consolidated balance sheets for the amount of unamortized sales commissions for prior periods, as calculated under the new standard. We are finalizing the impact of this adjustment upon adoption of the new standard.

We continue to execute our implementation plan, which will continue through the filing of our consolidated interim financial statements for the period ended March 31, 2018. We are completing our stand-alone selling price analyses for certain goods and services, the evaluation of material rights in certain customer contracts, the income tax effect on our transition adjustments, and our evaluation of the new disclosure requirements. We are also finalizing on our newly developed processes and internal controls over revenue recognition and continue to implement system changes and enhancements.

We are in the process of evaluating all contracts not completed as of January 1, 2018, and we expect to record a material impact to retained earnings from the adoption of the new standard primarily due to the effect of Term License arrangements discussed above that would have been recognized as revenue in 2018 and beyond. For fiscal year 2018, we expect the financial impact of adoption of the new standard, which has the effect of reducing our 2018 revenue that would have been recognized under legacy GAAP, to be offset by the recognition of Term License revenue from newly executed contracts post-adoption that would have been deferred and recognized over multiple periods under legacy GAAP. However, our assessment of the foregoing is ongoing and subject to finalization, such that the actual impact of the adoption may differ materially from the discussion above.

In February 2016, the FASB issued ASU No. 2016-02, *Leases (Topic 842)*. The new standard will replace most existing lease guidance in U.S. GAAP. The core principle of the ASU is the requirement for lessees to report a right to use asset and a lease payment obligation on the balance sheet but recognize expenses on their income statements in a manner similar to today's accounting, and for lessors the guidance remains substantially similar to current U.S. GAAP. The ASU is effective for annual reporting periods, including interim periods within those annual periods, beginning after December 15, 2018. However, early adoption is permitted. Entities are required to use a modified retrospective approach for leases that exist or are entered into after the beginning of the earliest comparative period in the financial statements. We are in the process of evaluating the impact this standard will have on our consolidated financial statements and related disclosures.

In January 2016, the FASB issued ASU 2016-01, *Financial Instruments - Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities*, which addresses certain aspects of recognition, measurement, presentation, and disclosure of financial instruments. Such guidance will impact how we account for our investments reported under the cost method of accounting as follows: Equity investments (except those accounted for under the equity method of accounting or those that result in consolidation of the investee) will be required to be measured at fair value with changes in fair value recognized in net earnings. However, an entity may choose to measure equity investments that do not have readily determinable fair values at cost minus impairment, if any, plus or minus changes resulting from observable price changes in orderly transactions for the identical or a similar investment of the same issuer. The impairment assessment of equity investments without readily determinable fair values will require a qualitative assessment to identify impairment. When a qualitative assessment indicates that impairment exists, an entity

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is required to measure the investment at fair value. We are currently evaluating the impact on our consolidated financial statements and related disclosures.

On March 30, 2016, the FASB issued ASU 2016-09, *Improvements to Employee Share-Based Payment Accounting*, to improve accounting for share-based payment transactions as part of the FASB's simplification initiative. The ASU changes certain aspects of accounting for share-based payment award transactions, including: (1) recognition of excess tax benefits and tax deficiencies as income tax expense or benefit instead of additional paid-in capital; (2) classification of excess tax benefits on the statement of cash flows, and (3) accounting for forfeitures. The other provisions of ASU 2016-09 are immaterial to the Company. ASU 2016-09 is effective for fiscal years beginning after December 15, 2016. Early adoption is permitted. We have early adopted ASU 2016-09 in our consolidated financial statements as of January 1, 2016 and applicable aspects described were adopted prospectively. Prior periods were not retrospectively adjusted.

The adoption of ASU 2016-09 resulted in an increase to the tax provision of \$169 that would have otherwise been debited to additional paid in capital. Similarly, as a result of the adoption of ASU 2016-09, cash flows from operating activities decreased \$169 and cash flows from financing activities decreased by the same amount. The Company also elected to begin accounting for forfeitures when they occur. The impact of this policy change was immaterial to our consolidated financial statements. The impact of this ASU on future periods is dependent on our stock price at the time restricted stock awards vest.

In August 2016, the FASB issued ASU No. 2016-15, *Statement of Cash Flows (ASC 230) – Classification of Certain Cash Receipts and Cash Payments*. This guidance clarifies eight specific cash flow issues in an effort to reduce diversity in practice in how certain transactions are classified within the statement of cash flows. This ASU is effective for the Company January 1, 2018, with early adoption permitted. Upon adoption, the ASU requires a retrospective application unless it is determined that it is impractical to do so in which case it must be retrospectively applied at the earliest date practical. The Company is currently evaluating the effect, if any, that the ASU will have on our consolidated financial statements and related disclosures.

In October 2016, the FASB issued ASU 2016-16, *Income Taxes: Intra-Entity Transfers of Assets Other Than Inventory*. The new guidance is intended to simplify the accounting for intercompany asset transfers. The core principle requires an entity to immediately recognize the tax consequences of intercompany asset transfers. The ASU is effective for annual reporting periods, including interim periods within those annual periods, beginning after December 15, 2017. The Company will adopt this standard on January 1, 2018. We are currently evaluating the effect, if any, that the ASU will have on our consolidated financial statements and related disclosures.

In January 2017, the FASB issued ASU No. 2017-01, *Business Combinations – Clarifying the Definition of a Business*. This standard changes the definition of a business by requiring that at least one substantive process exist in the acquired entity. It also states that if substantially all of the fair value of the gross assets acquired is concentrated in a single identifiable asset or group of similar identifiable assets, then the set of transferred assets and activities is not a business. The guidance is effective for the Company beginning in the first quarter of 2018, and should be applied prospectively. Early adoption is permitted. The adoption of this standard is not expected to have a significant impact on our consolidated financial statements.

In January 2017, the FASB issued ASU 2017-04, *Intangibles-Goodwill and Other (Topic 350) – Simplifying the Test for Goodwill Impairment*. This standard eliminates the requirement to calculate the implied fair value of goodwill to measure a goodwill impairment charge (i.e. Step 2 of the current guidance), instead measuring the impairment charge as the excess of the reporting unit's carrying amount over its fair value (i.e. Step 1 of the current guidance). The guidance is effective for us beginning in the first quarter of 2020, and should be applied prospectively. Early adoption is permitted for impairment testing dates after January 1, 2017. The Company is currently evaluating the effect, if any, that the ASU will have on our consolidated financial statements and related disclosures.

In March 2017, the FASB issued ASU No. 2017-07, *Compensation - Retirement Benefits (ASC 715) - Improving the Presentation of Net Periodic Pension Costs and Net Periodic Postretirement Benefit Cost*. The new

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guidance will improve the presentation of pension cost by providing additional guidance on the presentation of net benefit cost in the income statement and on the components eligible for capitalization in assets. The core principle of the ASU is to provide more transparency in the presentation of these costs by requiring the service cost component to be reported in the same line item as other compensation costs arising from services rendered by the pertinent employees during the period. The other components of net benefit cost are required to be presented separately from the service cost component and outside a subtotal of income from operations. The amendments require that the Consolidated Statements of Income impacts be applied retrospectively, while Balance Sheet changes should be applied prospectively.

The ASU is effective for annual reporting periods, including interim periods within those annual periods, beginning after December 15, 2017. The Company will adopt the newly issued ASU as of January 1, 2018. The Company is currently evaluating the effect, if any, that the ASU will have on our consolidated financial statements and related disclosures.

Note 2 – Inventories

Inventories, consisting principally of hardware and component parts, are stated at the lower of cost or market.

Inventory is comprised of the following:

	December 31,	
	2017	2016
Component parts	\$ 4,691	\$ 8,360
Work-in-process and finished goods	7,349	9,060
Total	<u>\$ 12,040</u>	<u>\$ 17,420</u>

Note 3 – Acquisition of eSignLive

On November 25, 2015, we acquired Silanis Technology, Inc. (“eSignLive”), a privately-held provider of electronic signature and digital transaction solutions used to sign, send, and manage documents. Pursuant to the arrangement agreement, we acquired all of the issued and outstanding shares of eSignLive for an aggregate purchase price of \$75,000 subject to further adjustment as provided in the arrangement agreement.

Upon acquisition, eSignLive became our wholly-owned subsidiary. The acquisition is accounted for as a business combination using the acquisition method accounting in accordance with FASB ASC Topic No. 805, *Business Combinations*, whereby the net assets acquired are recognized based on their estimated fair values on the acquisition date.

The results of operations of eSignLive subsequent to the acquisition date have been included in the Consolidated Statements of Operations. eSignLive revenue and net income (loss) included in the results of operations for the year ended December 31, 2015 were \$541 and \$(2,168), respectively.

Acquisition-related expense recognized during 2015 of approximately \$2,374 is recorded in general and administrative expenses in the Consolidated Statements of Operations.

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Aggregate Purchase Price Allocation

Purchase consideration has been allocated to assets and liabilities based on estimated acquisition-date fair values and are summarized in the following table:

	As initially reported on December 31, 2015	Measurement period Adjustments	As adjusted
Tangible assets and liabilities			
Cash	\$ 514	\$ 96	\$ 610
Accounts receivable, net	4,471	(615)	3,856
Other current assets	4,234	(19)	4,215
Property and equipment	416	24	440
Current liabilities	(16,896)	1,576	(15,320)
Other non-current liabilities	(8,070)	5,731	(2,339)
Intangible assets	30,000	17,400	47,400
Goodwill	60,331	(24,419)	35,912
Net assets acquired	<u>\$ 75,000</u>	<u>\$ (226)</u>	<u>\$ 74,774</u>

The excess of purchase consideration over net assets assumed was recorded as goodwill, which represents the strategic value assigned to eSignLive, including expected benefits from synergies resulting from the acquisition, as well as the knowledge and experience of the workforce in place. In accordance with applicable accounting standards, goodwill is not amortized and will be tested for impairment at least annually, or more frequently, if certain indicators are present. Goodwill and intangible assets related to this acquisition are not deductible for tax purposes.

The effect of measurement period adjustments recorded in the current period have been determined as if such adjustments had been accounted for at the acquisition date. Excluding prior measurement period adjustments reducing liabilities and goodwill each by \$9,146, all measurement period adjustments were recorded in the fourth quarter of 2016 and resulted in a credit to the tax provision of \$2,344.

The following table summarizes acquired intangible assets, as well as the respective amortization periods:

Identifiable Intangible Assets	Estimated Fair Value	Amortization Period (Years)
Tradenames	\$ 2,400	10
Technology	10,000	5
Non-compete agreements	8,000	5
Customer Relationships	27,000	12
	<u>\$ 47,400</u>	

Unaudited Pro Forma Financial Information

The following unaudited pro forma financial information presents the results of operations as if the acquisition had taken place on January 1, 2015. These amounts were prepared in accordance with the acquisition method of accounting under existing standards and are not necessarily indicative of the results of operations that would have occurred if the acquisition had been completed on the first day of 2015, nor are they indicative of our future operating results.

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Income tax impacts resulting from pro forma adjustments were calculated utilizing the statutory income tax rate of 35% for the year ended December 31, 2015.

These unaudited pro forma amounts include the following adjustments to historical results shown net of tax;

- To reflect estimated amortization of acquired identifiable intangible assets of \$6,060 for the year ended December 31, 2015.
- To reflect estimated amortization of fair value adjustment of acquired deferred revenue of \$(4,000) for the year ended December 31, 2015.
- To reverse benefit of certain refundable tax credits of \$1,021 for the year ended December 31, 2015.

	<u>December 31,</u> <u>2015</u>
Revenue	\$ 256,416
Net income	\$ 22,247

Note 4 – Goodwill

Goodwill activity for the two years ended December 31, 2017 consisted of the following:

Net balance at December 31, 2015	\$ 80,853
eSignLive measurement period adjustments	(24,419)
Net foreign currency translation	(2,025)
Net balance at December 31, 2016	\$ 54,409
Additions	—
Net foreign currency translation	1,923
Net balance at December 31, 2017	<u>\$ 56,332</u>

There were no impairment losses in 2017, 2016, or 2015.

Certain portions of goodwill are denominated in local currencies and are subject to currency fluctuations.

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Note 5 – Intangible Assets

Intangible asset activity for the two years ended December 31, 2017 is detailed in the following table;

	<u>Acquired Technology</u>	<u>Customer Relationships</u>	<u>Other</u>	<u>Total Intangible Assets</u>
Net balance at December 31, 2015	\$ 34,632	\$ 828	\$ 2,510	\$ 37,970
Additions-eSignLive	(19,000)	26,600	9,800	17,400
Additions-Other	—	—	143	143
Net foreign currency translation	(58)	(57)	—	(115)
Amortization expense	(4,182)	(2,597)	(2,070)	(8,849)
Net balance at December 31, 2016	11,392	24,774	10,383	46,549
Additions-Other	—	—	151	151
Disposals-Other	—	—	(32)	(32)
Net foreign currency translation	16	13	—	29
Amortization expense	(4,462)	(2,243)	(2,104)	(8,809)
Net balance at December 31, 2017	<u>\$ 6,946</u>	<u>\$ 22,544</u>	<u>\$ 8,398</u>	<u>\$ 37,888</u>
December 31, 2017 balance at cost	\$ 37,294	\$ 27,831	\$ 13,381	\$ 78,506
Accumulated amortization	(30,348)	(5,287)	(4,983)	(40,618)
Net balance at December 31, 2017	<u>\$ 6,946</u>	<u>\$ 22,544</u>	<u>\$ 8,398</u>	<u>\$ 37,888</u>

Additions - eSignLive refers to intangible assets acquired in the acquisition of eSignLive described in Note 3 including capitalized technology, trademarks, customer relationships and non-compete agreements. Certain intangible assets are denominated in local currencies and are subject to currency fluctuations. Expected amortization of the intangible assets for the years ended:

December 31, 2018	\$ 7,324
December 31, 2019	6,213
December 31, 2020	5,878
December 31, 2021	2,578
December 31, 2022	2,578
Thereafter	12,218
Subject to amortization	36,789
Trademarks	1,099
Total intangible assets	<u>\$ 37,888</u>

Note 6 – Income Taxes

On December 22, 2017, U.S. Tax Reform (“Tax Reform”) was enacted including a broad range of complex provisions impacting the taxation of businesses. Effective in 2018, Tax Reform reduces the U.S. statutory tax rate from 35% to 21% and creates new taxes on certain foreign-sourced earnings which are referred to as the global intangible low-taxed income tax (“GILTI”). In addition, in 2017 we were subject to a one-time transition tax on accumulated foreign subsidiary earnings not previously subject to U.S. income tax.

Due to the timing of the enactment and the complexity involved in applying the provisions of Tax Reform, we have made reasonable estimates of the effects and recorded provisional amounts in our financial statements as of December 31, 2017. As we collect and prepare necessary data, and interpret Tax Reform and any additional guidance issued by the U.S. Treasury Department, the IRS, and other standard-setting bodies, we may make adjustments to the provisional amounts. Those adjustments may materially impact our provision for income taxes and effective tax rate in the period in which the adjustments are made. The accounting for the tax effects of Tax Reform will be completed in 2018.

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Provisional amounts for the following income tax effects of Tax Reform have been recorded as of December 31, 2017 and are subject to change during 2018.

Tax Reform provides a taxable one-time deemed mandatory repatriation of post-1986 undistributed foreign subsidiary earnings and profits through December 31, 2017. Our undistributed earnings and profits of our foreign subsidiaries of approximately \$187 million is subject to the repatriation tax. Accordingly, we provided a provisional amount of \$18,246 of income tax expense in the fourth quarter ended December 31, 2017. After the utilization of existing tax credits, we expect to pay U.S. federal taxes of approximately \$14,436 over eight years related to the repatriation tax.

As a result of Tax Reform, earnings of all foreign subsidiaries have been designated as available for distribution. Previously, earnings of certain foreign subsidiaries were deemed permanently reinvested. During the fourth quarter of 2017, we provisionally provided deferred income tax expense of \$7,281 for foreign taxes on distributions from foreign subsidiaries previously designated as permanently reinvested. However, we do not have the necessary information gathered, prepared and analyzed to make a reasonable estimate of the impact of any remaining outside basis differences inherent in our foreign subsidiaries. We will gather the information necessary and compute the outside basis differences for those subsidiaries where we are no longer indefinitely reinvested and record any new deferred taxes as reasonable estimates are available.

Beginning in 2018, Tax Reform reduces the maximum U.S. corporate income tax rate from 35% to 21%. Accordingly, we have remeasured our deferred taxes as of December 31, 2017 to reflect the reduced rate that will apply in future periods when these deferred taxes are settled or realized. We recognized a deferred tax expense of \$2,339 to reflect the reduced U.S. tax rate of Tax Reform. Although the tax rate reduction is known, we have not collected the necessary data to complete our analysis of the effect of Tax Reform on the underlying deferred taxes and as such, the amounts recorded as of December 31, 2017 are provisional.

The GILTI provisions require the Company to include in its U.S. income tax return foreign subsidiary earnings in excess of an allowable return on the foreign subsidiary's tangible assets. The Company expects that it will be subject to incremental U.S. tax on GILTI income beginning in 2018. FASB Topic 740 allows the company to treat GILTI as either a deferred tax asset or liability or to account for the impacts in the period in which it is incurred. The Company has not yet decided how to account for GILTI tax, and therefore has not provided any deferred tax impacts of GILTI in its consolidated financial statements for the year ended December 31, 2017.

Income before income taxes was generated in the following jurisdictions:

	For the year ended December 31,		
	2017	2016	2015
Domestic	\$ (1,877)	\$ (11,170)	\$ (5,007)
Foreign	10,258	22,547	55,862
Total	<u>\$ 8,381</u>	<u>\$ 11,377</u>	<u>\$ 50,855</u>

For the year ended December 31, 2017, 2016, and 2015, domestic income excludes taxable intercompany dividend income of \$0, \$8,825, and \$10,000, respectively.

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The provision for income taxes consists of the following:

	For the year ended December 31,		
	2017	2016	2015
Current:			
Federal	\$ 14,299	\$ (90)	\$ —
State	141	5	1
Foreign	3,287	5,915	9,140
Total current	17,727	5,830	9,141
Deferred:			
Federal	6,043	(2,985)	338
State	(200)	115	(135)
Foreign	7,210	(2,097)	(640)
Total deferred	13,053	(4,967)	(437)
Total	\$ 30,780	\$ 863	\$ 8,704

The U.S. federal corporate tax rate varies with taxable income. Our U.S. statutory rate for 2017 was 35%. For 2016 and 2015, our U.S. statutory rate was 34%. The differences between the income tax provisions computed using the statutory federal income tax rate and the provisions for income taxes reported in the consolidated statements of operations are as follows:

	For the year ended December 31,		
	2017	2016	2015
Expected tax at statutory rate	\$ 2,933	\$ 3,884	\$ 17,305
Foreign taxes at other rates	(3,139)	(7,512)	(12,487)
US tax on foreign earnings, net of foreign tax credits	(226)	(405)	1,968
Valuation allowances on NOL carryforwards	3,997	3,816	469
US tax reform - deemed repatriation	18,472	—	—
US tax reform - changes in indefinite reinvestment assertion	7,281	—	—
US tax reform - deferred tax expense from tax rate change	2,339	—	—
State income taxes, net of federal benefit	(59)	83	26
Disallowed expenses and other	(818)	997	1,423
Total	\$ 30,780	\$ 863	\$ 8,704

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS – (Continued)
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Significant components of our deferred tax assets and liabilities are as follows:

	<u>As of December 31,</u>	
	<u>2017</u>	<u>2016</u>
Deferred tax assets:		
U.S. foreign tax credit	\$ —	\$ 7,027
Stock and long-term compensation plans	1,855	2,304
Foreign NOL & other carryforwards	20,864	16,340
US state NOL carryforwards	823	803
US alternative minimum tax	—	357
Deferred revenue	1,278	358
Pension liability, net	974	1,038
Reserve for uncertain tax issues	—	(445)
Amortization and depreciation	753	708
Accrued expenses and other	1,246	523
Total gross deferred tax assets	27,793	29,013
Less: Valuation allowance	(12,805)	(6,274)
Net deferred income tax assets	<u>\$ 14,988</u>	<u>\$ 22,739</u>
Deferred tax liabilities:		
Accruals	\$ 506	\$ 691
US tax on unremitted foreign earnings	—	424
Foreign tax on unremitted foreign earnings	7,434	—
Intangible assets	9,341	10,947
Deferred tax liabilities	<u>\$ 17,281</u>	<u>\$ 12,062</u>
Net deferred tax assets (liabilities)	<u>\$ (2,293)</u>	<u>\$ 10,677</u>

Deferred tax assets and liabilities are netted by tax jurisdiction.

For the year ended December 31, 2015, a portion of tax benefits related to certain restricted stock and stock options of \$318 was credited to additional paid-in capital. Consistent with the adoption of ASU 2016-09, the tax impact for 2017 and 2016 of \$46 and \$169 was recorded as an increase to the tax provision.

VASCO DATA SECURITY INTERNATIONAL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS – (Continued)
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At December 31, 2017, we had foreign and state net operating loss (NOL) carryforwards and other foreign deductible carryforwards as shown in the following table:

	<u>Carryforward</u>	<u>Expiration</u>
NOL Carryforward		
Canada	\$ 48,622	2024-2037
Other foreign	14,451	None
Canada province	46,424	2024-2037
U.S. states	10,960	2019-2028
	<u>120,457</u>	
Other Carryforwards		
Canada	7,902	None
Canada province	22,033	None
Other foreign	1,226	2018
	<u>31,161</u>	
	<u>\$ 151,618</u>	

The net change in the valuation allowance for the year ended December 31, 2017 was an increase of \$6,531 and decreases for the years ended December 31, 2016 and 2015 of \$7,445 and \$11,219, respectively. Valuation allowances are reviewed on a regular basis and adjustments made as appropriate. The increase in the valuation allowance in 2017 reflects NOLs for which the realization is not more likely than not. The change in the valuation allowance also reflects other factors including, but not limited to, changes in our assessment of our ability to use existing NOLs and other deduction carryforwards, changes in currency rates, and adjustments to reflect differences between the actual returns filed and the estimates we made at financial reporting dates. The company expects to generate taxable income to realize deferred tax assets net of valuation allowance in each jurisdiction.

Our policy is to record interest and penalties on income taxes as income tax expense. For the year ended December 31, 2017, 2016, and 2015 we provided \$0, \$51, and \$0, respectively.

ASC 740, Income Taxes sets a “more likely than not” criterion for recognizing the tax benefit of uncertain tax positions. As of December 31, 2017, 2016, and 2015, we had a reserve of \$107, \$662, and \$560, respectively.

	<u>As of year ended December 31,</u>		
	<u>2017</u>	<u>2016</u>	<u>2015</u>
Reserve at beginning of year	\$ 662	\$ 560	\$ 560
Increases related to prior year tax positions	7	217	—
Lapse of statute of limitations	(562)	(115)	—
Total	<u>\$ 107</u>	<u>\$ 662</u>	<u>\$ 560</u>

Based on the possible expiration of the statute of limitations, it is reasonably possible that the liability for uncertain tax positions will change within the next twelve months. The associated tax impact on the effective tax rate is estimated to be a tax benefit of \$107.

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Our primary tax jurisdictions and the earliest tax year subject to audit are presented in the following table.

Australia	2009
Austria	2011
Belgium	2015
Canada	2013
Netherlands	2012
Singapore	2012
Switzerland	2016
United States	2014

Note 7 – Deferred Warranty Revenue and Warranty Reserve

Our standard practice is to provide a warranty on our DIGIPASS hardware for one to two years after the date of purchase. Customers may purchase extended warranties covering periods from one to four years after the standard warranty period. We defer the revenue associated with the extended warranty and recognize it into income on a straight-line basis over the extended warranty period. The estimated cost of providing warranty services during the extended warranty period is less than the revenue related to such warranty service.

Deferred warranty revenue at December 31, 2017 will be recognized as revenue as follows:

Year	Amount
2018	\$ 12
2019	3
Total	\$ 15

We maintain a reserve for the potential cost of future warranty claims related to products sold and recognized in revenue. The reserve is included in accrued expenses. Activity in the warranty reserve account during the three years ended December 31, 2017 was as follows:

	<u>For the year ended December 31,</u>		
	<u>2017</u>	<u>2016</u>	<u>2015</u>
Balance, beginning of period	\$ 153	\$ 43	\$ 85
Provision for warranty claims	80	165	165
Product or cash issued to settle claims	(139)	(55)	(207)
Balance, end of period	<u>\$ 94</u>	<u>\$ 153</u>	<u>\$ 43</u>

Note 8 – Stock Compensation Plans

In June 2009, our stockholders approved and in June 2014 our stockholders reapproved the VASCO Data Security International, Inc. 2009 Equity Incentive Plan (the “2009 Equity Plan”). The 2009 Equity Plan permits the issuance of awards in a variety of forms, including (1) shares of our common stock, (2) nonqualified and incentive stock options for the purchase of our common stock, (3) stock appreciation rights, (4) deferred stock, (5) other stock-based awards (including restricted shares, performance shares, performance units and other stock unit awards), and (6) cash incentive awards.

The 2009 Equity Plan may provide performance incentives to employees and non-employee directors, consultants and other key persons of the company. The plan are administered by the Compensation Committee as appointed by the Board of Directors and is intended to be a non-qualified plan.

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As of December 31, 2017, the remaining number of shares allowed to be issued under the 2009 Equity Plan was 6,108 shares of the company's common stock, representing 15.2% of the issued and outstanding shares of the company as of such date.

The following table summarizes compensation expense recorded under the two plans.

	For the year ended December 31,		
	2017	2016	2015
Restricted stock	\$ 3,466	\$ 2,766	\$ 3,835
Long-term compensation plan	1,906	2,105	1,815
Total Compensation	\$ 5,372	\$ 4,871	\$ 5,650

Time-Based Restricted Stock

Time-based restricted stock awards granted to non-employee directors vest on the first anniversary date of the grant. Awards granted to an executive officer in 2017 vest in equal semi-annual installments over four years. Shares are subject to forfeiture if the service period requirement is not met. Compensation expense equal to the market value of the stock on the grant date is recorded on a straight-line basis over the vesting period as required by ASC 718 *Compensation-Stock Compensation*. Compensation expense was \$2,148, \$2,177, and \$1,356 for 2017, 2016, and 2015, respectively. The following table summarizes the time-based restricted stock activity for the year ended December 31, 2017:

	Shares	Weighted average remaining term (years)	Aggregate intrinsic value
Outstanding at January 1, 2017	276	1.95	\$ 3,767
Shares vested	(110)		1,513
Shares awarded	120		1,717
Shares forfeited	(18)		337
Outstanding at December 31, 2017	269	1.58	\$ 3,736

The unamortized future compensation expense for time-based restricted stock awards was \$2,734 at December 31, 2017.

Performance-Based Restricted Stock

Performance-based restricted stock awards granted to executive officers in 2017 were subject to achievement of three year performance targets established by the Board of Directors. Earned shares related to three-year targets vest upon completion of the three-year period. Shares are subject to forfeiture if the service period requirement is not met.

Compensation expense, equal to the market value of the stock on the grant date, is recorded on a graded basis over the vesting period at the performance level deemed probable, as required by ASC 718. Compensation expense in 2017, 2016, and 2015 was \$1,318, \$589, and \$2,479. Unamortized future compensation expense for performance-based restricted stock was \$892 at December 31, 2017.

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS – (Continued)
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The following table summarizes activity related to unvested performance restricted stock shares during 2017:

	Total Unvested Shares	Weighted average remaining term (years)	Aggregate intrinsic value
Outstanding at January 1, 2017	170	1.71	\$ 2,321
Shares vested	(25)		363
Shares awarded	171		2,573
Shares forfeited	(81)		1,190
Outstanding at December 31, 2017	<u>236</u>	1.85	\$ 3,276

At December 31, 2017, total unvested shares consists of 34 earned shares and 202 unearned shares.

Note 9 – Earnings per Common Share

Basic earnings per share is based on the weighted average number of shares outstanding and excludes the dilutive effect of unvested common stock equivalents (45 shares in 2017). Diluted earnings per share is based on the weighted average number of shares outstanding and includes the dilutive effect of unvested common stock equivalents to the extent they are not anti-dilutive. A reconciliation of the shares included in the basic and fully diluted earnings per share calculations is as follows:

	For the year ended December 31,		
	2017	2016	2015
Net income	\$ (22,399)	\$ 10,514	\$ 42,151
Weighted average common shares outstanding:			
Basic	39,802	39,719	39,568
Incremental shares with dilutive effect:			
Restricted stock awards	—	63	168
Diluted	<u>39,802</u>	<u>39,782</u>	<u>39,736</u>
Basic income (loss) per share:			
Total net income (loss) per share	\$ (0.56)	\$ 0.27	\$ 1.07
Diluted income (loss) per share:			
Total net income (loss) per share	<u>\$ (0.56)</u>	<u>\$ 0.27</u>	<u>\$ 1.06</u>

Note 10 – Employee Benefit Plans

U.S. Plan

We maintain a defined contribution pension plan for U.S. employees established pursuant to Section 401(k) of the Internal Revenue Code. The plan allows voluntary employee contributions and discretionary employer contributions. For the years ended December 31, 2017, 2016, and 2015, we expensed contributions of \$191, \$167, and \$110, respectively.

Non-U.S. Plan

We are subject to national mandatory pension systems and other compulsory plans, or make contributions to social pension funds based on local regulations. When our obligation is limited to the payment of the contribution into these plans or funds, the recognition of such liabilities is not required.

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In addition, we have, in some countries, defined benefit plans consisting of final retirement salary and committed pension payments.

In Switzerland, the pension plan is a cash balance plan where contributions are expressed as a percentage of the pensionable salary. Contributions to Swiss plans are paid by the employees and the employer. The pension plan guarantees the amount accrued on the members' savings accounts, as well as a minimum interest on those savings accounts. The plan assets are held in guaranteed investment contracts.

We also maintain a pension plan for our Belgian employees, in compliance with Belgian law. Contributions to Belgium plans are paid by the employees and the employer. Certain features of the plans require them to be categorized as defined benefit plans under ASC 715 due to Belgian social legislation, which prescribed a minimum annual return of 1.6% on employer contributions and 1.6% for employee contributions. The plan assets are held in guaranteed investment contracts.

Components of net periodic pension cost:

	<u>Year ended December 31,</u>		
	<u>2017</u>	<u>2016</u>	<u>2015</u>
Service cost (gross)	\$ 1,397	\$ 783	\$ 601
Interest cost	188	243	261
Expected return on plan assets	(199)	(157)	(162)
Amortization of unrecognized actuarial gain	45	—	—
Net periodic pension cost	<u>\$ 1,431</u>	<u>\$ 869</u>	<u>\$ 700</u>

The net unfunded status of the Non-U.S. pension plans is as follows:

	<u>As of December 31,</u>	
	<u>2017</u>	<u>2016</u>
Fair value of plan assets	\$ 12,390	\$ 11,024
Projected benefit obligation	(18,308)	(16,690)
Net unfunded benefit obligation	<u>\$ (5,918)</u>	<u>\$ (5,666)</u>

Net unfunded benefit obligation is recorded as other long-term liabilities in our consolidated balance sheets.

The change in the fair value of plan assets is as follows:

	<u>Year ended December 31,</u>	
	<u>2017</u>	<u>2016</u>
Fair value of plan assets at January 1	\$ 11,024	\$ 9,264
Employee contributions	530	458
Actual return on plan assets	91	63
Benefits (paid), net of transfers	(1,277)	752
Employer contributions	992	832
Foreign exchange adjustment	1,030	(345)
Fair value of plan assets at December 31	<u>\$ 12,390</u>	<u>\$ 11,024</u>

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The change in benefit obligations is as follows:

	<u>Year ended December 31,</u>	
	<u>2017</u>	<u>2016</u>
Benefit obligations at January 1	\$ 16,690	\$ 12,674
Gross service cost	1,397	783
Interest cost	188	243
Employee contributions	530	458
Actuarial losses	30	2,296
Plan amendment	(356)	—
Benefits (paid), net of transfers	(1,277)	752
Foreign exchange adjustment	1,106	(516)
Benefit obligations at December 31	<u>\$ 18,308</u>	<u>\$ 16,690</u>

Our investment policy meets our responsibility under local social legislation and aligns plan assets with liabilities, while minimizing risk. For the years ended December 31, 2017 and 2016, plan assets are invested in guaranteed investment contracts. Fair value of guaranteed investment contracts is surrender value. Fair value is determined using Level 3 inputs as defined by ASC 820, Fair Value Measurements.

The net periodic cost for 2018 will include the amortization of prior service cost and unrecognized actuarial gains, currently included in Accumulated other comprehensive loss, of \$89.

The accumulated benefit obligation for the plans were \$7,984 and \$8,247 as of December 31, 2017 and 2016, respectively.

Actuarial Assumptions

Certain actuarial assumptions such as the discount rate and the long-term rate of return on plan assets have a significant effect on the amounts reported for net periodic cost and the benefit obligation. The assumed discount rates reflect the prevailing market rates of a universe of high-quality, non-callable, corporate bonds currently available that, if the obligation were settled at the measurement date, would provide the necessary future cash flows to pay the benefit obligation when due. In determining the long-term return on plan assets, the Company considers long-term rates of return of comparable low risk investments, such as Euro AA bonds.

The following weighted average assumptions were utilized in pension calculations:

	<u>As of December 31, 2017</u>	
	<u>2017</u>	<u>2016</u>
	(%)	
Discount rates	0.7 - 1.5	0.7 - 1.6
Inflation	1.0 - 1.8	1.0 - 1.8
Expected return on plan assets	1.3 - 2.0	1.3 - 2.0
Rate of salary increases	2.0 - 2.8	2.0 - 2.8

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Project future pension benefits as of December 31, 2017:

2018	\$ 529
2019	460
2020	478
2021	742
2022	1,169
Beyond	4,044

Note 11 – Geographic, Customer and Supplier Information

In prior years, we classified our sales by our customers' locations in four geographic regions: 1) EMEA, which included Europe, the Middle East and Africa; 2) the United States, which for our purposes included sales in Canada; 3) Asia Pacific Rim; and 4) Other Countries, including Australia, Latin America and India. In 2017, we reorganized this structure into three groups by eliminating the other countries category. United States has been renamed the Americas and now includes Latin America and Canada. Australia and India are now included with Asia/Pacific. Data for 2015 and 2016 have been adjusted to agree to the new structure. Information regarding geographic areas for the years ended December 31, 2017, 2016, and 2015 is as follows:

	Europe, Middle East, Africa (EMEA)	Americas	Asia Pacific	Total
2017				
Revenue	\$ 92,859	\$ 52,981	\$ 47,451	\$ 193,291
Gross profit	61,506	41,491	31,517	134,514
Long-lived assets	8,437	897	68	9,401
2016				
Revenue	\$ 95,897	\$ 33,204	\$ 63,203	\$ 192,304
Gross profit	67,008	21,519	42,130	130,657
Long-lived assets	7,013	634	74	7,721
2015				
Revenue	\$ 164,180	\$ 25,596	\$ 51,667	\$ 241,443
Gross profit	92,916	18,416	32,207	143,540
Long-lived assets	2,778	620	63	3,461

For the years 2017, 2016, and 2015, our top 10 customers contributed 27%, 36% and 50%, respectively, of total worldwide revenue. In 2015, one customer accounted for approximately 30%, of total revenue. The majority of our products are manufactured by four independent vendors, headquartered in Hong Kong and Macau. Our hardware DIGIPASSES are assembled at facilities in mainland China.

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Note 12 – Commitments and Contingencies

The company leases office space and automobiles under operating lease agreements. Future minimum rental payments required under non-cancelable leases are as follows:

Year	Amount
2018	\$ 3,487
2019	2,803
2020	2,181
2021	1,748
2022	1,359
Thereafter	5,605
Total	\$ 17,183

Rent expense under operating leases aggregated \$3,806, \$3,384 and \$2,998 for the years ended December 31, 2017, 2016, and 2015, respectively. Rent expense is recorded on a straight-line basis over the life of the lease agreement.

At December 31, 2017, we have inventory purchase obligations of \$14,985. We expect all purchase obligations will be consummated within twelve months.

We include various types of indemnification clauses in our agreements. These indemnifications may include, but are not limited to, infringement claims related to our intellectual property, direct damages and consequential damages. The type and amount of such indemnifications vary substantially based on our assessment of risk and reward associated with each agreement. We believe the estimated fair value of these indemnification clauses is minimal, and we cannot determine the maximum amount of potential future payments, if any, related to such indemnification provisions. We have no liabilities recorded for these clauses as of December 31, 2017.

During the second quarter of 2015, our management became aware that certain of our products which were sold by our European subsidiary to a third-party distributor may have been resold by the distributor to parties in Iran, potentially including parties whose property and interests in property may be blocked pursuant to Executive Order 13224, Executive Order 13382 or that may be identified under Section 560.304 of 31 C.F.R. Part 560 as the “Government of Iran”.

We ceased shipping to such distributor. In addition, the Audit Committee of the Company’s Board of Directors initiated an internal review of this matter with the assistance of outside counsel. As a precautionary matter, concurrent initial notices of voluntary disclosure were submitted on June 25, 2015 to each of the U.S. Department of the Treasury, Office of Foreign Assets Control (“OFAC”), and the U.S. Department of Commerce, Bureau of Industry and Security (“BIS”).

The Audit Committee with the assistance of outside counsel completed their review in 2015. On December 15, 2015, we filed a letter with BIS (Office of Export Enforcement) with the conclusion that the products supplied to the distributor were not subject to United States Export Control jurisdiction. The Office of Export Enforcement issued a “no action” letter, concluding the voluntary self-disclosure process under the Export Administration Regulations.

In addition, on January 13, 2016, we filed a letter with OFAC, with the conclusions that VASCO and its subsidiaries made no direct sales to Iran or any party listed by OFAC as a Specially Designated National over the five-year period under review (i.e., June 1, 2010 to June 30, 2015). The letter further noted that the investigation did not identify any involvement on the part of senior management officials of VASCO, and to the contrary, noted that VASCO executive management officials had sought to implement procedures and provided notices to VASCO’s sales personnel to prevent the diversion of VASCO products to unauthorized destinations and end users.

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We have not received any response to the letter to OFAC and we cannot predict when OFAC will conclude their review of our voluntary self-disclosures. Based upon the OFAC guidelines for monetary penalties, in the fourth quarter of 2015, we accrued \$900 for potential penalties if they are assessed by OFAC. Ultimately no penalty may be assessed or the penalty may be less or greater than the accrual, but in any event we do not believe that the final settlement will have a material adverse impact on our business.

On January 10, 2011, we purchased our wholly-owned subsidiary, DigiNotar B.V., a private company organized and existing in The Netherlands from the shareholders (“Sellers”). On September 19, 2011, DigiNotar B.V. filed a bankruptcy petition under Article 4 of the Dutch Bankruptcy Act in the Haarlem District Court, The Netherlands. On September 20, 2011, the court declared DigiNotar B.V. bankrupt and appointed a bankruptcy trustee and a bankruptcy judge to manage all affairs of DigiNotar B.V. through the bankruptcy process. The trustee took over management of DigiNotar B.V.’s business activities and is responsible for the administration and liquidation of DigiNotar B.V. In connection with the bankruptcy of DigiNotar B.V., subsequent to September 20, 2011, a number of claims and counter-claims were filed with the courts in The Netherlands (collectively, the “Court”) related to discontinued assets and discontinued liabilities and other available remedies. In November 2014, all matters with the Sellers related to the sale of DigiNotar B.V. were settled.

In January 2015, we received a notice of potential claim by the trustee against all of the individuals who served as Directors of DigiNotar, both before and after our acquisition of DigiNotar. T. Kendall Hunt, Jan Valcke, and Clifford K. Bown were the Directors of DigiNotar following its purchase by VASCO. The basis for the potential claim from the trustee appears to be based primarily on the same arguments that VASCO presented in its case against the sellers, which were adjudicated in VASCO’s favor. While we believe that we have strong defenses against the claim, we have also notified our provider of director and officer insurance and we are pursuing a settlement of the matter. We do not expect the resolution of the potential claim to have a material adverse effect on our business, financial condition or results of operations. VASCO is indemnifying Messrs. Hunt, Valcke, and Bown for this matter.

On July 28, 2015 a putative class action complaint was filed in the United States District Court for the Northern District of Illinois, captioned Linda J. Rossbach v. Vasco Data Security International, Inc., et al., case number 1:15-cv-06605, naming VASCO and certain of its current and former executive officers as defendants and alleging violations under the Securities Exchange Act of 1934, as amended. The suit was purportedly filed on behalf of a putative class of investors who purchased VASCO securities between April 28, 2015 and July 28, 2015, and seeks to recover damages allegedly caused by the defendants’ alleged violations of the federal securities laws and to pursue remedies under Sections 10(b) and 20(a) of the Securities Exchange Act of 1934 and Rule 10b-5 promulgated thereunder. The complaint seeks certification as a class action and unspecified compensatory damages plus interest and attorneys’ fees. Pursuant to a September 1, 2015 scheduling order entered by the court, the lead plaintiff, once appointed, will have sixty days to file an amended complaint or notify the defendants that the lead plaintiff intends to rely on the current complaint. On January 30, 2017, the appointed lead plaintiff filed an amended complaint in which the allegations regarding OFAC related matters were dropped and replaced with allegations regarding public disclosures made by the defendants in April 2015 as compared to public statements made in July 2015, generally regarding the strength of the Company’s business and its future prospects. This case is now referred to by the name of the new lead plaintiff, Bunk. The defendants filed a motion to dismiss the Bunk complaint on March 31, 2017. A decision from the court on such motion has not been issued to date. Although the ultimate outcome of litigation cannot be predicted with certainty, the Company believes that this lawsuit is without merit and intends to defend against the action vigorously. VASCO is indemnifying its officers and directors for this matter.

On October 9, 2015, a derivative complaint was filed in the United States District Court for the Northern District of Illinois, captioned Elizabeth Herrera v. Hunt, et al., case number 1:15-cv-08937, naming VASCO’s Board of Directors and certain of its current and former executive officers as individual defendants and the Company as a nominal defendant. Two additional complaints, captioned Beth Seltzer v. Hunt, et al., case number 2015-ch-15541, and William Hooper v. Hunt, et al., case number 2016-ch-04054, were filed on October 22, 2015 and March 22, 2016, respectively, in the Circuit Court of Cook County, Illinois naming the same defendants.

VASCO DATA SECURITY INTERNATIONAL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS – (Continued)
(amounts in thousands, except per share data)

The complaints assert, among other things, that the individual defendants breached their fiduciary duties by making material misstatements in, and omitting material information from, the Company's public disclosures and by failing to maintain adequate internal controls and properly manage the Company. Among other things, the complaints seek unspecified compensatory damages and injunctive relief.

On October 29, 2015, a defendant removed the Seltzer action to the United States District Court for the Northern District of Illinois. Thereafter, the plaintiff filed a motion to remand the action back to the Circuit Court of Cook County, Illinois, which was denied on February 3, 2016. On February 9, 2016, the court granted an agreed motion for voluntary dismissal of the Seltzer action, which dismissed the action with prejudice as to the named plaintiff's individual claims. As for the Hooper action, the court granted a stay on June 8, 2016 and on July 18, 2017, the plaintiff in Hooper amended the complaint to largely mirror the amended complaint in Bunk.

On July 19, 2017, a derivative complaint was filed in the Circuit Court of Cook County, Illinois, captioned Fancesco D'Angelo v. Hunt, et. al., naming VASCO's Board of Directors and certain former officers as individual defendants and the Company as a nominal defendant. This complaint largely follows the allegations in the Bunk case. The D'Angelo case has been consolidated with the Hooper case and remains subject to stay.

In February 2017, we learned an integrated reseller and certain end customers, were named as defendants in a patent infringement lawsuit in Japan related to our CRONTO technology. We have indemnification obligations in favor of our reseller and end customers and are working with them to defend such suit. In December 2017 the Japan Patent Office ruled the plaintiff's patent is invalid. In February 2018, a trial court decision declared the plaintiff's patent to be invalid. The decision is subject to appeal. We believe there are strong grounds to argue the plaintiff's patent is invalid.

On March 14, 2017, a complaint was filed in the United States District Court for the District of Massachusetts, captioned StrikeForce Technologies, Inc. v. Vasco Data Security International, Inc., et al., claiming VASCO infringed on certain patent rights of the plaintiff. On May 8, 2017, VASCO answered the complaint denying the allegations of patent infringement. The parties then engaged in motion practice and discovery in the case. The plaintiff has also brought suit against various other companies in the cybersecurity industry. In one such suit in the federal district court for the Central District of California, on December 1, 2017, the court granted defendant's motion to dismiss, finding that the StrikeForce asserted claims are invalid. StrikeForce is in the process of appealing such decision. In light of such ruling, on December 20, 2017, the court in the Company's case granted a stay of the proceedings pending the appeal in the related case. Although the ultimate outcome of litigation cannot be predicted with certainty, the Company believes that this lawsuit is without merit and intends to defend itself vigorously.

On February 14, 2018, a complaint was filed in the United States District Court for the District of Delaware, captioned Vortex Pathway LLC (a Texas non-practicing entity) v. VASCO Data Security International, Inc. et. al. claiming one of VASCO's hardware authenticators infringes on certain patent rights of the plaintiff. The Company will analyze this recent complaint in the ordinary course and intends to defend itself vigorously.

From time to time, we have been involved in litigation incidental to the conduct of our business. Excluding matters disclosed above, we are not a party to any lawsuit or proceeding that, in management's opinion, is likely to have a material adverse effect on its business, financial condition or results of operations.

VASCO DATA SECURITY INTERNATIONAL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS – (Continued)
(amounts in thousands, except per share data)

Note 13 – Quarterly Results of Operations (unaudited)

The quarterly results of operations are as follows:

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
<u>2017</u>				
Total revenues	\$ 41,965	45,694	51,126	54,506
Gross profit	29,912	32,048	36,646	35,908
Operating costs	29,610	32,448	31,534	34,730
Operating income (loss)	302	(400)	5,112	1,178
Net income (loss)	573	110	2,755	(25,837)
Net income/(loss) per share:				
Basic	\$ 0.01	\$ 0.00	\$ 0.07	\$ (0.65)
Diluted	\$ 0.01	\$ 0.00	\$ 0.07	\$ (0.65)
<u>2016</u>				
Total revenues	\$ 46,767	\$ 54,293	\$ 43,648	\$ 47,597
Gross profit	32,104	36,551	30,050	31,954
Operating costs	28,990	33,165	29,138	29,765
Operating income	3,115	3,386	912	2,186
Net income (loss)	2,199	2,825	478	5,012
Net income/(loss) per share:				
Basic	\$ 0.06	\$ 0.07	\$ 0.01	\$ 0.13
Diluted	\$ 0.06	\$ 0.07	\$ 0.01	\$ 0.13

The fourth quarter of 2017 Net loss includes a significant change due to the impact of Tax Reform, see Note 6.

Note 14 – Related Party

In August 2017, Able N.V. (“Able”), a wholly-owned subsidiary, was sold to an employee of Able for a de minimis amount. The operating results of Able through the date of sale are included in the consolidated financial statements and are not significant to our consolidated results. In addition, our results for the third quarter include a loss on sale of approximately \$227, recorded within general and administrative expenses.

Concurrent with the sale, we provided Able an unsecured line of credit of 1,500 Euro (\$1,770 at an exchange rate of \$1.18 dollars per Euro). Interest accrues at the rate of 2% per annum. Beginning in August 2017, Able may take advances against the line of credit for a period of eighteen months followed by twelve quarterly repayments. As of December 31, 2017, no amounts have been advanced. In addition, we entered into a transition services agreement with Able whereby we agreed to provide certain administrative services for a period of three months and Able agreed to provide office space and consulting services for an agreed upon periodic fee as long as the services are provided.

SCHEDULE II
VASCO DATA SECURITY INTERNATIONAL, INC.
VALUATION AND QUALIFYING ACCOUNTS

Allowance for doubtful accounts for trade receivables.

<u>For the year ended December 31,</u>	<u>Beginning Balance</u>	<u>Provision for Bad Debts</u>	<u>Chargeoffs</u>	<u>Foreign Currency Translation</u>	<u>Ending Balance</u>
2017	\$ 535	120	(137)	2	\$ 520
2016	\$ 621	(85)	—	(1)	\$ 535
2015	\$ 223	686	(293)	5	\$ 621

See accompanying independent auditors' report.

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, on March 8, 2018.

VASCO Data Security International, Inc.

/s/ Scott Clements

Scott Clements
President and Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this Report has been signed by the following persons on behalf of the Registrant in the capacities indicated on March 8, 2018.

POWER OF ATTORNEY

Each of the undersigned, in his capacity as an officer or director, or both, as the case may be, of VASCO Data Security International, Inc. does hereby appoint Scott Clements, and each of them severally, his true and lawful attorneys or attorney to execute in his name, place and stead, in his capacity as director or officer, or both, as the case may be, this Annual Report on Form 10-K for the fiscal year ended December 31, 2017 and any and all amendments thereto and to file the same with all exhibits thereto and other documents in connection therewith with the Securities and Exchange Commission. Each of said attorneys shall have power to act hereunder with or without the other attorney and shall have full power and authority to do and perform in the name and on behalf of each of said directors or officers, or both, as the case may be, every act whatsoever requisite or necessary to be done in the premises, as fully and to all intents and purposes as to which each of said officers or directors, or both, as the case may be, might or could do in person, hereby ratifying and confirming all that said attorneys or attorney may lawfully do or cause to be done by virtue hereof.

<u>SIGNATURE</u>	<u>TITLE</u>
<u>/s/ Scott Clements</u> Scott Clements	President, Chief Executive Officer, and Director (Principal Executive Officer)
<u>/s/ Mark S. Hoyt</u> Mark S. Hoyt	Chief Financial Officer (Principal Financial and Accounting Officer)
<u>/s/ T. Kendall Hunt</u> T. Kendall Hunt	Chairman
<u>/s/ Michael P. Cullinane</u> Michael P. Cullinane	Director
<u>/s/ Jean K. Holley</u> Jean K. Holley	Director
<u>/s/ John N. Fox, Jr.</u> John N. Fox, Jr.	Director
<u>/s/ Matthew Moog</u> Matthew Moog	Director
<u>/s/ Arthur W. Gilliland</u> Arthur W. Gilliland	Director

**AWARD AGREEMENT FOR RESTRICTED SHARES
UNDER THE
VASCO DATA SECURITY INTERNATIONAL, INC.
2009 EQUITY INCENTIVE PLAN**

THIS AWARD AGREEMENT FOR RESTRICTED SHARES (this “**Agreement**”) is made as of January 4, 2018 (the “**Effective Date**”), between VASCO DATA SECURITY INTERNATIONAL, INC. (the “**Company**”) and the individual identified on the signature page and Exhibit A hereto (the “**Grantee**”).

WHEREAS, the Company maintains the VASCO Data Security International, Inc. 2009 Equity Incentive Plan (as amended, the “**Plan**”) for the benefit of its employees, directors, consultants, and other individuals who provide services to the Company; and

WHEREAS, to induce Grantee to become an employee of the Company, compensate the Grantee for his service to the Company and to further align the Grantee’s personal financial interests with those of the Company’s shareholders, the Company wishes to award the Grantee a number of shares of Common Stock (as defined below), subject to the restrictions and on the terms and conditions contained in the Plan and this Agreement.

NOW, THEREFORE, in consideration of these premises and the agreements set forth herein, the parties, intending to be legally bound hereby, agree as follows:

1. Grant of Restricted Shares. The Company hereby grants to the Grantee an award of the shares set forth on Exhibit A hereto (the “**Awarded Shares**”) of the Company’s common stock, par value of \$0.001 per share (the “**Common Stock**”), subject to the terms and conditions set forth in this Agreement and in the Plan. The terms of the Plan are hereby incorporated into this Agreement by this reference, as though fully set forth herein. Capitalized terms used but not defined in this Agreement have the meanings set forth in the Plan.

2. Vesting of Awarded Shares. Subject to Section 11, the Awarded Shares are subject to forfeiture to the Company until they become vested in accordance with this Section 2.

(a) Subject to Section 11, Awarded Shares will become vested in accordance with the following schedule, provided that on each vesting date, the Grantee has, from the date hereof, continuously provided services to the Company or a subsidiary:

(i) 12.5% of the Awarded Shares will vest on the six month anniversary date of the Effective Date;

(ii) An additional 12.5% of the Awarded Shares will vest on the first annual anniversary date of the Effective Date;

(iii) An additional 12.5% of the Awarded Shares will vest on the eighteen month anniversary date of the Effective Date;

- (iv) An additional 12.5% of the Awarded Shares will vest on the second annual anniversary date of the Effective Date;
 - (v) An additional 12.5% of the Awarded Shares will vest on the thirty month anniversary date of the Effective Date;
 - (vi) An additional 12.5% of the Awarded Shares will vest on the third annual anniversary date of the Effective Date;
 - (vii) An additional 12.5% of the Awarded Shares will vest on the forty-second month anniversary date of the Effective Date; and
 - (viii) The final 12.5% of the Awarded Shares will vest on the fourth annual anniversary date of the Effective Date.
- (b) If contemporaneous with or within 18 months after a Change in Control that occurred during the Employment Period, (a) the Company terminates the Executive's employment without Cause, or (b) Executive terminates his employment for Good Reason, 100% of the Awarded Shares will become vested upon such termination of employment. "**Good Reason**" shall be defined for this purpose as defined in the Employment Agreement, dated as of the Effective Date, between Grantee and the Company.
- (c) If the Grantee's service with the Company ceases by reason of the Grantee's death or Disability, 100% of the Awarded Shares will become vested immediately prior to (and contingent on) the occurrence of such death or Disability. Notwithstanding the foregoing, a Disability will not qualify if it is the result of (A) a willfully self-inflicted injury or willfully self-induced sickness; or (B) an injury or disease contracted, suffered, or incurred while participating in a criminal offense. The determination of Disability will be made by the Committee. The determination of Disability for purposes of this Agreement shall not be construed to be an admission of disability for any other purpose.
- (d) Except as provided in Sections 2(b) and 2(c), upon cessation of the Grantee's service with the Company for any reason or for no reason (and whether such cessation is initiated by the Company, the Grantee or otherwise): (i) any Awarded Shares that have not, prior to such cessation, become vested will immediately and automatically, without any action on the part of the Company, be forfeited, and (ii) the Grantee shall have no further rights with respect to those Awarded Shares.
- (e) Solely for purposes of this Agreement, service with the Company shall be deemed to include service with any subsidiary of the Company (for only so long as such entity remains a subsidiary).
- (f) For purposes of this Agreement, "**Cause**" and "**Wrongful Act**" mean:
- (i) Grantee materially breaches Grantee's obligations under any employment, consulting, or other agreement between the Grantee (or any entity of which Grantee is an affiliate) and the Company (each, a "**Company Agreement**");

- (ii) Grantee materially breaches Grantee's obligations under the Company's Code of Ethics and Conduct (or any successor thereto) or an established policy of the Company;
- (iii) Grantee engages in conduct prohibited by law (other than minor violations), commits an act of dishonesty, fraud, or serious or willful misconduct in connection with Grantee's job duties, or engages in unethical or immoral conduct that, in the reasonable judgment of the Committee, could injure the integrity, character or reputation of Company;
- (iv) Grantee fails or refuses to perform, or habitually neglects, Grantee's duties and responsibilities under any Company Agreement (other than on account of Disability), and continues such failure, refusal or neglect after having been given written notice by the Company that specifies what duties Grantee failed to perform and an opportunity to cure of 30 days;
- (v) Use or disclosure by Grantee of confidential information or trade secrets other than in the furtherance of the Company's (or its subsidiaries') business interests, or other violation of a fiduciary duty to the Company (including, without limitation, entering into any transaction or contractual relationship causing diversion of business opportunity from the Company (other than with the prior written consent of the Board)); or
- (vi) Grantee fails to reasonably cooperate with any audit or investigation involving the Company or its business practices after having been given written notice by the Company that specifies Grantee's failure to cooperate and an opportunity to cure of 10 days.

3. **Escrow of Shares.**

- (a) Certificates evidencing the Awarded Shares issued under this Agreement shall be held in escrow by the Secretary of the Company or his or her designee (the "**Escrow Holder**") (or, if the Awarded Shares are not certificated, shall be entered in the stock record books of the Company as held in escrow by the Escrow Holder) until such Awarded Shares are vested in accordance with Section 2, at which time, the Escrow Holder shall deliver such certificates representing the Awarded Shares to the Grantee (or, if the Awarded Shares are not certificated, the Awarded Shares shall be entered in the stock record books of the Company as held and owned by the Grantee); provided, however, that no certificates for Awarded Shares will be delivered to the Grantee (or, if the Awarded Shares are not certificated, no transfer of the Awarded Shares will be entered in the stock record books of the Company) until appropriate arrangements have been made with the Company for the withholding or payment of any taxes that may be due with respect to such Awarded Shares.
- (b) If any of the Awarded Shares are forfeited by the Grantee under Section 2, upon request by the Company, the Escrow Holder will deliver any stock certificate(s) evidencing those Awarded Shares to the Company (or, if the Awarded Shares are not certificated, such

forfeiture will be entered in the stock record books of the Company), and the Company will then have the right to retain and transfer those Awarded Shares to its own name free and clear of any rights of the Grantee under this Agreement or otherwise.

(c) The Escrow Holder is hereby directed to permit transfer of the Awarded Shares only in accordance with this Agreement or in accordance with instructions signed by both parties hereto. In the event further instructions are reasonably desired by the Escrow Holder, he or she will be entitled to conclusively rely upon directions executed by a majority of the members of the Board. The Escrow Holder will have no liability for any act or omissions hereunder while acting in good faith in the exercise of his or her own judgment.

4. **Stock Splits, etc.** If, while any of the Awarded Shares remain subject to vesting under Section 2, there occurs any merger, consolidation, reorganization, reclassification, recapitalization, stock split, stock dividend, or other similar change in the Common Stock, then any and all new, substituted or additional securities or other consideration to which the Grantee is entitled by reason of the Grantee's ownership of the Awarded Shares will be immediately subject to the escrow contemplated by Section 3, deposited with the Escrow Holder and will thereafter be included in the term "Awarded Shares" for all purposes of the Plan and this Agreement.

5. **Dividends and Distributions During Restricted Period.** The Grantee will have the right to receive dividends and distributions with respect to the Awarded Shares; provided, however, that any cash dividends or distributions paid in respect of the Awarded Shares while those Shares remain subject to forfeiture will become vested and delivered to the Grantee only if and when the Awarded Shares giving rise to such dividends or distributions become vested under Section 2.

6. **Tax Consequences.** The Grantee acknowledges that the Company has not advised the Grantee regarding the Grantee's income tax liability in connection with the grant, receipt or vesting of the Awarded Shares. The Grantee has reviewed with the Grantee's own tax advisors the federal, state, local and foreign tax consequences of this investment and the transactions contemplated by this Agreement. The Grantee is relying solely on such advisors and not on any statements or representations of the Company or any of its agents. The Grantee understands that the Grantee (and not the Company) will be responsible for the Grantee's own tax liability that may arise as a result of the transactions contemplated by this Agreement.

7. **Restrictions on Unvested Awarded Shares.** Except for the escrow described in Section 3 or the forfeiture of Awarded Shares to the Company described in Section 2, the Grantee may not sell, pledge, assign, encumber, hypothecate, gift, transfer, bequeath, devise, donate or otherwise dispose of, in any way or manner whatsoever, whether voluntary or involuntary, any legal or beneficial interest in any of the Awarded Shares until the Awarded Shares become vested in accordance with Section 2; provided, however, that the restrictions of this Section 7 shall not apply to any transfer i) pursuant to applicable laws of descent and distribution or (ii) among Grantee's family group; provided that such restrictions will continue to be applicable to the Awarded Shares after any such transfer and the transferees of such Awarded Shares have agreed in writing to be bound by the provisions of this Agreement. Grantee's "family group" means Grantee's spouse and descendants (whether natural or adopted) and any trust solely for the benefit of Grantee and/or Grantee's spouse and/or descendants during Grantee's lifetime.

8. **Legend.** Share certificates evidencing Awarded Shares will bear the following legend to be placed on all certificates evidencing any Awarded Shares (in addition to any other legends that may be required to be placed on such certificates pursuant to the Plan, applicable law or otherwise):

THE TRANSFERABILITY OF THIS CERTIFICATE AND THE SHARES REPRESENTED HEREBY ARE SUBJECT TO THE TERMS AND CONDITIONS (INCLUDING FORFEITURE) OF THE VASCO DATA SECURITY INTERNATIONAL, INC. 2009 EQUITY INCENTIVE PLAN AND AN AGREEMENT ENTERED INTO BETWEEN THE REGISTERED OWNER AND VASCO DATA SECURITY INTERNATIONAL, INC. COPIES OF SUCH PLAN AND AGREEMENT ARE ON FILE IN THE PRINCIPAL OFFICES OF VASCO DATA SECURITY INTERNATIONAL, INC. AND WILL BE MADE AVAILABLE TO ANY SHAREHOLDER WITHOUT CHARGE UPON REQUEST TO THE SECRETARY OF THE COMPANY.

Upon request by the Grantee, following vesting of the Awarded Shares pursuant to Section 2, the Company will remove the legend from the certificates evidencing such vested Awarded Shares.

9. **Rights of Grantee.** Prior to the Awarded Shares becoming vested in accordance with Section 2, with respect to the Awarded Shares, Grantee will have all of the rights of a shareholder of the Company, including the right to vote the Awarded Shares and the right to receive any distributions or dividends payable on Shares, subject to the reinvestment and forfeiture provisions of the Plan and to Sections 4 and 5.

10. **Securities Laws.** The Company may from time to time impose any conditions on the Awarded Shares as it deems necessary or advisable to ensure that the Plan satisfies the conditions of Rule 16b-3 adopted under the Securities and Exchange Act of 1934 and otherwise complies with applicable rules and laws.

11. **Recoupment of Awarded Shares.** Notwithstanding anything in this Agreement to the contrary, if the Company determines that the Grantee's Wrongful Act was a significant contributing factor to the Company or a subsidiary having to restate all or a portion of its financial statements, all outstanding Awarded Shares will immediately and automatically be forfeited and the Grantee shall promptly repay to the Company any Common Stock, cash or other property paid in respect of any Awarded Share during the Recoupment Period.

12. **General Provisions**

(a) This Agreement, together with the Plan, represent the entire agreement between the parties with respect to the purchase of the Awarded Shares and may only be modified or amended in a writing signed by both parties.

(b) Any notice, demand or request required or permitted to be given by either the Company or the Grantee pursuant to the terms of this Agreement must be in writing and will be deemed given (i) on the date and at the time delivered via personal, courier or recognized overnight delivery service, (ii) if sent via telecopier on the date and at the time

teletyped with confirmation of delivery, (iii) if sent via email or other electronic delivery and receipt is confirmed, on the date and at the time received, or (iv) if mailed, on the date five days after the date of the mailing (which must be by registered or certified mail). Delivery of a notice by telecopy (with confirmation) or by email or other electronic delivery (with confirmation or receipt) will be permitted and will be considered delivery of a notice notwithstanding that it is not an original that is received. Any notice to Grantee under this Agreement will be made to Grantee at the address (or telecopy number, email or other electronic address, as the case may be) listed in the Company's personnel files. If directed to the Company, any such notice, demand or request will be sent to the Chairman of the Committee at the Company's principal executive office, or to such other address or person as the Company may hereafter specify in writing. Any notice to the Escrow Holder will be sent to the Company's address, with a copy to the other party not sending the notice.

(c) The Company may condition delivery of certificates for Awarded Shares (or, if the Awarded Shares are not certificated, the entry in the stock record books of the Company of the transfer to the Grantee of the Awarded Shares) upon the prior receipt from Grantee of any undertakings which it may determine are required to assure that the certificates are being issued in compliance with federal and state securities laws.

(d) The Grantee has received a copy of the Plan, has read the Plan and is familiar with its terms, and hereby accepts the Awarded Shares subject to all of the terms and provisions of the Plan, as amended from time to time. Pursuant to the Plan, the Board and the Committee are authorized to interpret the Plan and to adopt rules and regulations not inconsistent with the Plan as they deem appropriate. The Grantee hereby agrees to accept as binding, conclusive and final all decisions or interpretations of the Board or the Committee upon any questions arising under the Plan.

(e) Neither this Agreement nor any rights or interest hereunder will be assignable by the Grantee, the Grantee's beneficiaries or legal representatives, and any purported assignment in violation hereof will be null and void.

(f) Either party's failure to enforce any provision or provisions of this Agreement will not in any way be construed as a waiver of any such provision or provisions, nor prevent that party thereafter from enforcing each and every other provision of this Agreement. The rights granted both parties herein are cumulative and will not constitute a waiver of either party's right to assert all other legal remedies available to it under the circumstances.

(g) The grant of Awarded Shares hereunder does not confer upon the Grantee any right to continue in service with the Company or any of its subsidiaries.

(h) The Awarded Shares and any related dividends or distributions are intended to be exempt from the requirements of Internal Revenue Code Section 409A.

(i) This Agreement shall be governed by, and enforced in accordance with, the laws of the State of Delaware, without regard to the application of the principles of conflicts or choice of laws.

(j) This Agreement may be executed in one or more counterparts, each of which shall be deemed an original, and all of which together shall be deemed to be one and the same instrument. In the event that any signature to this Agreement is delivered by facsimile transmission or by e-mail delivery of a “.pdf” format data file or picture format data file, such signature shall create a valid and binding obligation of the party executing (or on whose behalf such signature is executed) with the same force and effect as if such electronic facsimile signature page were an original thereof. The parties confirm that it is their wish that this Agreement may be executed by means of electronic signature.

[Signature Page Follows]

IN WITNESS WHEREOF, the parties have duly executed this Award Agreement intending it to be effective as of the first date written above.

VASCO DATA SECURITY INTERNATIONAL, INC.

By: _____

Its: _____

GRANTEE

Name: _____

Signature: _____

EXHIBIT A

Grantee	Target \$	Grant Date Price	# of Awarded Shares

**AWARD AGREEMENT FOR PERFORMANCE SHARES
UNDER THE
VASCO DATA SECURITY INTERNATIONAL, INC.
2009 EQUITY INCENTIVE PLAN**

THIS AWARD AGREEMENT FOR RESTRICTED SHARES (this “**Agreement**”) is made as of January 4, 2018 (the “**Effective Date**”), between VASCO DATA SECURITY INTERNATIONAL, INC. (the “**Company**”) and the individual identified on the signature page and Exhibit A hereto (the “**Grantee**”).

WHEREAS, the Company maintains the VASCO Data Security International, Inc. 2009 Equity Incentive Plan (as amended, the “**Plan**”) for the benefit of its employees, directors, consultants, and other individuals who provide services to the Company; and

WHEREAS, to compensate the Grantee for his service to the Company and to further align the Grantee’s personal financial interests with those of the Company’s shareholders, the Company wishes to award the Grantee a number of shares of Common Stock (as defined below), subject to the restrictions, terms and conditions contained in the Plan and this Agreement.

NOW, THEREFORE, in consideration of these premises and the agreements set forth herein, the parties, intending to be legally bound hereby, agree as follows:

1. Grant of Restricted Shares. The Company hereby grants to the Grantee an award of the shares set forth on Exhibit A hereto (the “**Awarded Shares**”) of the Company’s common stock, par value of \$0.001 per share (the “**Common Stock**”), subject to the terms and conditions set forth in this Agreement and in the Plan. The terms of the Plan are hereby incorporated into this Agreement by this reference, as though fully set forth herein. Capitalized terms used but not defined in this Agreement have the meanings set forth in the Plan.

2. Vesting of Awarded Shares. Subject to Section 11, the Awarded Shares are subject to forfeiture to the Company until they become vested in accordance with this Section 2.

(a) Performance Period. The number of Awarded Shares that are earned and thereafter subject to vesting (the “**Earned Shares**”) shall be determined by the Compensation Committee, in its sole and absolute discretion, in accordance with Exhibit A, based upon the Company’s achievement relative to the applicable Performance Targets for the Awarded Shares (the “**Three Year Awarded Shares**”) during the period commencing on January 1, 2017 and ending on December 31, 2019 (the “**Performance Period**”). Upon the determination that some number of the Three Year Awarded Shares are Earned Shares, subject to Section 11, all of the Earned Shares that are Three Year Awarded Shares shall be vested. For the avoidance of doubt, the Three Year Awarded shall be automatically forfeited in their entirety if the Performance Target is not achieved at least at the minimum threshold level.

(b) [reserved]

(c) In the event of the occurrence of a Change in Control that is a Company Transaction prior to the expiration of the Performance Period, any remaining Awarded Shares outstanding as of the date of the Change in Control shall be prorated (based on the ratio of (x) the number of days that have elapsed in the Performance Period to (y) the total number of days in the Performance Period) at the target (100%) payout level up to and including the date of such Change in Control (the “**Prorated Shares**”) and the Grantee shall be vested in the Prorated Shares immediately prior to (and contingent on) the Change in Control; provided, however, that if the Company Transaction is a sale of assets or otherwise does not result in direct receipt of consideration by the holders of Common Stock, the Grantee shall receive, in exchange for and in lieu of the Prorated Shares, a cash payment equal to the product of (1) the value of the deemed per share consideration received by the Company in the Company Transaction, in each case as determined by the Compensation Committee, multiplied by (2) such prorated amount of shares.

(d) In the event of (i) the occurrence of a Change in Control that is a Company Transaction during any Time Vesting Period and (ii) the Grantee’s termination of employment for reasons other than (A) voluntary resignation without Good Reason or (B) termination for Cause, during the one-year period following the Change in Control, 100% of any Earned Shares that are then subject to the Time Vesting Period, will become vested immediately prior to (and contingent upon) such termination of employment.

(e) If the Grantee’s service with the Company ceases by reason of the Grantee’s death or Disability prior to the expiration of the Performance Period, 100% of the Awarded Shares based upon the target (100%) payout level will become vested immediately prior to (and contingent on) the occurrence of such death or Disability. If the Grantee’s service with the Company ceases by reason of the Grantee’s death or Disability during the Time Vesting Period, 100% of the Earned Shares that are then subject to the Time Vesting Period, will become vested immediately prior to (and contingent on) the occurrence of such death or Disability. Notwithstanding the foregoing, a Disability will not qualify if it is the result of (A) a willfully self-inflicted injury or willfully self-induced sickness; or (B) an injury or disease contracted, suffered, or incurred while participating in a criminal offense. The determination of Disability will be made by the Committee. The determination of Disability for purposes of this Agreement shall not be construed to be an admission of disability for any other purpose.

(f) Except as provided in Sections 2(c), 2(d) and 2(e), upon cessation of the Grantee’s service with the Company for any reason or for no reason (and whether such cessation is initiated by the Company, the Grantee or otherwise): (i) any Awarded Shares that have not, prior to such cessation, become vested will immediately and automatically, without any action on the part of the Company, be forfeited, and (ii) the Grantee shall have no further rights with respect to those Awarded Shares.

(g) Solely for purposes of this Agreement, service with the Company shall be deemed to include service with any subsidiary of the Company (for only so long as such entity remains a subsidiary).

- (h) For purposes of this Agreement, “Cause” and “Wrongful Act” mean:
- (i) Grantee materially breaches Grantee’s obligations under any employment, consulting, or other agreement between the Grantee (or any entity of which Grantee is an affiliate) and the Company (each, a “Company Agreement”);
 - (ii) Grantee materially breaches Grantee’s obligations under the Company’s Code of Ethics and Conduct (or any successor thereto) or an established policy of the Company;
 - (iii) Grantee engages in conduct prohibited by law (other than minor violations), commits an act of dishonesty, fraud, or serious or willful misconduct in connection with Grantee’s job duties, or engages in unethical or immoral conduct that, in the reasonable judgment of the Committee, could injure the integrity, character or reputation of Company;
 - (iv) Grantee fails or refuses to perform, or habitually neglects, Grantee’s duties and responsibilities under any Company Agreement (other than on account of Disability), and continues such failure, refusal or neglect after having been given written notice by the Company that specifies what duties Grantee failed to perform and an opportunity to cure of 30 days;
 - (v) Use or disclosure by Grantee of confidential information or trade secrets other than in the furtherance of the Company’s (or its subsidiaries’) business interests, or other violation of a fiduciary duty to the Company (including, without limitation, entering into any transaction or contractual relationship causing diversion of business opportunity from the Company (other than with the prior written consent of the Board)); or
 - (vi) Grantee fails to reasonably cooperate with any audit or investigation involving the Company or its business practices after having been given written notice by the Company that specifies Grantee’s failure to cooperate and an opportunity to cure of 10 days.

3. **Escrow of Shares.**

- (a) Certificates evidencing the Awarded Shares issued under this Agreement shall be held in escrow by the Secretary of the Company or his or her designee (the “Escrow Holder”) (or, if the Awarded Shares are not certificated, shall be entered in the stock record books of the Company as held in escrow by the Escrow Holder) until such Awarded Shares are earned and vested in accordance with Section 2, at which time, the Escrow Holder shall deliver such certificates representing the vested and earned Awarded Shares to the Grantee (or, if the Awarded Shares are not certificated, the Awarded Shares shall be entered in the stock record books of the Company as held and owned by the Grantee); provided, however, that no certificates for Awarded Shares will be delivered to the Grantee (or, if the Awarded Shares are not certificated, no transfer of the Awarded Shares will be entered in the stock record books of the Company) until appropriate arrangements have been made with the

Company for the withholding or payment of any taxes that may be due with respect to such Awarded Shares.

(b) If any of the Awarded Shares are forfeited by the Grantee under Section 2, upon request by the Company, the Escrow Holder will deliver any stock certificate(s) evidencing those Awarded Shares to the Company (or, if the Awarded Shares are not certificated, such forfeiture will be entered in the stock record books of the Company), and the Company will then have the right to retain and transfer those Awarded Shares to its own name free and clear of any rights of the Grantee under this Agreement or otherwise.

(c) The Escrow Holder is hereby directed to permit transfer of the Awarded Shares only in accordance with this Agreement or in accordance with instructions signed by both parties hereto. In the event further instructions are reasonably desired by the Escrow Holder, he or she will be entitled to conclusively rely upon directions executed by a majority of the members of the Board. The Escrow Holder will have no liability for any act or omissions hereunder while acting in good faith in the exercise of his or her own judgment.

4. **Stock Splits, etc.** If, while any of the Awarded Shares remain subject to vesting under Section 2, there occurs any merger, consolidation, reorganization, reclassification, recapitalization, stock split, stock dividend, or other similar change in the Common Stock, then any and all new, substituted or additional securities or other consideration to which the Grantee is entitled by reason of the Grantee's ownership of the Awarded Shares will be immediately subject to the escrow contemplated by Section 3, deposited with the Escrow Holder and will thereafter be included in the term "Awarded Shares" for all purposes of the Plan and this Agreement.

5. **Dividends and Distributions During Performance Period.** The Grantee will have no rights to dividends or Dividend Equivalents with respect to any of the Awarded Shares until, and then only to the extent of, the determination under Section 2(a) that they are Earned Shares; provided, however, that any cash dividends or distributions paid in respect of the Earned Shares during the Time Vesting Period and while those shares remain subject to forfeiture will become vested and delivered to the Grantee only if and when the Earned Shares giving rise to such dividends or distributions become vested under Section 2.

6. **Tax Consequences.** The Grantee acknowledges that the Company has not advised the Grantee regarding the Grantee's income tax liability in connection with the grant, receipt or vesting of the Awarded Shares. The Grantee has reviewed with the Grantee's own tax advisors the federal, state, local and foreign tax consequences of this investment and the transactions contemplated by this Agreement. The Grantee is relying solely on such advisors and not on any statements or representations of the Company or any of its agents. The Grantee understands that the Grantee (and not the Company) will be responsible for the Grantee's own tax liability that may arise as a result of the transactions contemplated by this Agreement.

7. **Restrictions on Unvested Awarded Shares.** Except for the escrow described in Section 3 or the forfeiture of Awarded Shares to the Company described in Section 2, the Grantee may not sell, pledge, assign, encumber, hypothecate, gift, transfer, bequeath, devise, donate or otherwise dispose of, in any way or manner whatsoever, whether voluntary or involuntary, any legal or

beneficial interest in any of the Awarded Shares until the Awarded Shares become vested in accordance with Section 2; provided, however, that the restrictions of this Section 7 shall not apply to any transfer (i) pursuant to applicable laws of descent and distribution or (ii) among Grantee's family group; provided that such restrictions will continue to be applicable to the Awarded Shares after any such transfer and the transferees of such Awarded Shares have agreed in writing to be bound by the provisions of this Agreement. Grantee's "family group" means Grantee's spouse and descendants (whether natural or adopted) and any trust solely for the benefit of Grantee and/or Grantee's spouse and/or descendants during Grantee's lifetime.

8. Legend. Share certificates evidencing Awarded Shares will bear the following legend to be placed on all certificates evidencing any Awarded Shares (in addition to any other legends that may be required to be placed on such certificates pursuant to the Plan, applicable law or otherwise):

THE TRANSFERABILITY OF THIS CERTIFICATE AND THE SHARES REPRESENTED HEREBY ARE SUBJECT TO THE TERMS AND CONDITIONS (INCLUDING FORFEITURE) OF THE VASCO DATA SECURITY INTERNATIONAL, INC. 2009 EQUITY INCENTIVE PLAN AND AN AGREEMENT ENTERED INTO BETWEEN THE REGISTERED OWNER AND VASCO DATA SECURITY INTERNATIONAL, INC. COPIES OF SUCH PLAN AND AGREEMENT ARE ON FILE IN THE PRINCIPAL OFFICES OF VASCO DATA SECURITY INTERNATIONAL, INC. AND WILL BE MADE AVAILABLE TO ANY SHAREHOLDER WITHOUT CHARGE UPON REQUEST TO THE SECRETARY OF THE COMPANY.

Upon request by the Grantee, following vesting of the Awarded Shares pursuant to Section 2, the Company will remove the legend from the certificates evidencing such vested Awarded Shares.

9. Rights of Grantee. Grantee shall have no voting rights or any other rights of a shareholder of the Company in any Awarded Shares until, and then only to the extent of, the determination under Section 2(a) that they are Earned Shares. During the Time Vesting Period, Grantee will have all of the rights of a shareholder of the Company with respect to the Earned Shares, including the right to vote such shares and, subject to Section 4 and Section 5 and the provisions of the Plan, the right to receive any distributions or dividends payable on such shares.

10. Securities Laws. The Company may from time to time impose any conditions on the Awarded Shares as it deems necessary or advisable to ensure that the Plan satisfies the conditions of Rule 16b-3 adopted under the Securities and Exchange Act of 1934 and otherwise complies with applicable rules and laws.

11. Recoupment of Awarded Shares. Notwithstanding anything in this Agreement to the contrary, if the Company determines that the Grantee's Wrongful Act was a significant contributing factor to the Company or a subsidiary having to restate all or a portion of its financial statements, all outstanding Awarded Shares will immediately and automatically be forfeited and the Grantee shall promptly repay to the Company any Common Stock, cash or other property paid in respect of any Awarded Share during the Recoupment Period.

12. General Provisions

- (a) This Agreement, together with the Plan, represent the entire agreement between the parties with respect to the purchase of the Awarded Shares and may only be modified or amended in a writing signed by both parties.
- (b) Any notice, demand or request required or permitted to be given by either the Company or the Grantee pursuant to the terms of this Agreement must be in writing and will be deemed given (i) on the date and at the time delivered via personal, courier or recognized overnight delivery service, (ii) if sent via telecopier on the date and at the time telecopied with confirmation of delivery, (iii) if sent via email or other electronic delivery and receipt is confirmed, on the date and at the time received, or (iv) if mailed, on the date five days after the date of the mailing (which must be by registered or certified mail). Delivery of a notice by telecopy (with confirmation) or by email or other electronic delivery (with confirmation or receipt) will be permitted and will be considered delivery of a notice notwithstanding that it is not an original that is received. Any notice to Grantee under this Agreement will be made to Grantee at the address (or telecopy number, email or other electronic address, as the case may be) listed in the Company's personnel files. If directed to the Company, any such notice, demand or request will be sent to the Chairman of the Committee at the Company's principal executive office, or to such other address or person as the Company may hereafter specify in writing. Any notice to the Escrow Holder will be sent to the Company's address, with a copy to the other party not sending the notice.
- (c) The Company may condition delivery of certificates for Awarded Shares (or, if the Awarded Shares are not certificated, the entry in the stock record books of the Company of the transfer to the Grantee of the Awarded Shares) upon the prior receipt from Grantee of any undertakings which it may determine are required to assure that the certificates are being issued in compliance with federal and state securities laws.
- (d) The Grantee has received a copy of the Plan, has read the Plan and is familiar with its terms, and hereby accepts the Awarded Shares subject to all of the terms and provisions of the Plan, as amended from time to time. Pursuant to the Plan, the Board and the Committee are authorized to interpret the Plan and to adopt rules and regulations not inconsistent with the Plan as they deem appropriate. The Grantee hereby agrees to accept as binding, conclusive and final all decisions or interpretations of the Board or the Committee upon any questions arising under the Plan.
- (e) Neither this Agreement nor any rights or interest hereunder will be assignable by the Grantee, the Grantee's beneficiaries or legal representatives, and any purported assignment in violation hereof will be null and void.
- (f) Either party's failure to enforce any provision or provisions of this Agreement will not in any way be construed as a waiver of any such provision or provisions, nor prevent that party thereafter from enforcing each and every other provision of this Agreement. The

rights granted both parties herein are cumulative and will not constitute a waiver of either party's right to assert all other legal remedies available to it under the circumstances.

(g) The grant of Awarded Shares hereunder does not confer upon the Grantee any right to continue in service with the Company or any of its subsidiaries.

(h) The Awarded Shares and any related dividends or distributions are intended to be exempt from the requirements of Internal Revenue Code Section 409A.

(i) This Agreement shall be governed by, and enforced in accordance with, the laws of the State of Delaware, without regard to the application of the principles of conflicts or choice of laws.

(j) This Agreement may be executed in one or more counterparts, each of which shall be deemed an original, and all of which together shall be deemed to be one and the same instrument. In the event that any signature to this Agreement is delivered by facsimile transmission or by e-mail delivery of a ".pdf" format data file or picture format data file, such signature shall create a valid and binding obligation of the party executing (or on whose behalf such signature is executed) with the same force and effect as if such electronic facsimile signature page were an original thereof. The parties confirm that it is their wish that this Agreement may be executed by means of electronic signature.

[Signature Page Follows]

IN WITNESS WHEREOF, the parties have duly executed this Award Agreement intending it to be effective as of the first date written above.

VASCO DATA SECURITY INTERNATIONAL, INC.

By: _____

Its: _____

GRANTEE

Name: _____

Signature: _____

Exhibit A

Performance Targets

The number of Earned Shares, if any, will be dependent on the Company's achievement of the Performance Targets as defined below:

The "**Performance Target**" for the *Three Year Awarded Shares* is comprised of the following metrics and weightings:

<i>Metric</i>	<i>Weighting</i>

Metrics follow the Company's published financial statements and earnings disclosures. Revenue from acquisitions shall be determined by the Company in accordance with U.S. Generally Accepted Accounting Principles.

The Performance Target metrics shall be subject to a minimum threshold, a maximum achievement and linear interpolation between various performance levels as follows:

Actual Performance (millions)	Percentage of Awarded Shares earned (as a percentage of the target number of Awarded Shares) before Weighting
Revenue Minimum threshold \$[]	50%
Revenue Target \$[]	100%
Revenue Maximum \$[] or higher	150%

Actual Performance (millions)	Percentage of Awarded Shares earned (as a percentage of the target number of Awarded Shares) before Weighting
[] Minimum threshold \$[]	50%
[] Target \$[]	100%
[] Maximum \$[] or higher	150%

GRANTEE SPECIFIC INFORMATION:

Grantee	Target \$	Grant Date Price	Target # of Awarded Shares

Illustration of Vesting:

Actual Performance (millions)	Percentage of Awarded Shares earned (as a percentage of the target number of Awarded Shares) before Weighting	Weighting	Net Percentage	Earned Awarded Shares
<input type="checkbox"/> Minimum threshold \$[]	50%	50%	25%	
<input type="checkbox"/> Target \$[]	100%	50%	50%	
<input type="checkbox"/> Maximum \$[] or higher	150%	50%	75%	

Actual Performance (millions)	Percentage of Awarded Shares earned (as a percentage of the target number of Awarded Shares) before Weighting	Weighting	Net Percentage	Earned Awarded Shares
<input type="checkbox"/> Minimum threshold \$[]	50%	50%	25%	
<input type="checkbox"/> Target \$[]	100%	50%	50%	
<input type="checkbox"/> Maximum \$[] or higher	150%	50%	75%	

**AWARD AGREEMENT FOR DEFERRED STOCK
FOR NON-EMPLOYEE DIRECTORS UNDER THE
VASCO DATA SECURITY INTERNATIONAL, INC.
2009 EQUITY INCENTIVE PLAN**

THIS AWARD AGREEMENT FOR DEFERRED STOCK (this “**Agreement**”) is made as of **January 4, 2018** (the “**Effective Date**”), between VASCO DATA SECURITY INTERNATIONAL, INC. (the “**Company**”) and the undersigned non-employee director of the Company (the “**Grantee**”).

WHEREAS, the Company maintains the VASCO Data Security International, Inc. 2009 Equity Incentive Plan (the “**Plan**”) for the benefit of its employees, directors, consultants, and other individuals who provide services to the Company; and

WHEREAS, the Plan permits the issuance of shares of the Company’s Common Stock under various forms of award, subject to certain terms, conditions and restrictions; and

WHEREAS, to compensate the Grantee for his or her service as a director of the Company, the Company wishes to award the Grantee the right to receive a number of shares of Common Stock, subject to the restrictions and on the terms and conditions contained in the Plan and this Agreement.

NOW, THEREFORE, in consideration of these premises and the agreements set forth herein, the parties, intending to be legally bound hereby, agree as follows:

1. Grant of Deferred Shares. The Company hereby grants to the Grantee an award of X,XXX shares (the “Deferred Shares”) of the Company’s common stock, par value of \$.001 per share (the “Common Stock”) in the quantity specified on the signature page hereto subject to the terms and conditions set forth herein and in the Plan and subject further to adjustment as provided in Section 3.3 of the Plan. The Deferred Shares granted hereunder represent the unfunded and unsecured right to require the Company to deliver to the Grantee one share of Common Stock for each Deferred Share. The terms of the Plan are hereby incorporated into this Agreement by this reference, as though fully set forth herein. Capitalized terms used but not defined herein will have the same meaning as defined in the Plan.

2. Vesting of Deferred Shares. The Deferred Shares are subject to forfeiture to the Company until they become non-forfeitable in accordance with this Section 2.

(a) Vesting. The Deferred Shares will become non-forfeitable on the first anniversary of the Effective Date (the “**Vesting Date**”), provided that the Grantee has, from the date hereof, continuously served as a director of the Company through the Vesting Date.

(b) All Unvested Shares Forfeited Upon Cessation of Service. Subject to the remainder of this Section 2, upon cessation of Grantee’s service as a director of the Company for any reason or for no reason (and whether such cessation is initiated by the Company, the Grantee or otherwise):

(i) any Deferred Shares that have not, prior to the effective date of

such cessation, become non-forfeitable will immediately and automatically, without any action on the part of the Company, be forfeited; and

(ii) the Grantee will have no further rights with respect to those Deferred Shares.

(c) Acceleration on Death or Disability. If the Grantee ceases to be a director of the Company by reason of the Grantee's death or physical disability, all outstanding but unvested Deferred Shares shall become immediately vested. The term "disability" means a medically determinable mental or physical impairment that, in the opinion of the Board, causes the Grantee to be unable to perform Grantee's duties as a director of the Company.

(d) Acceleration upon a Change in Control. Upon a Change in Control of the Company, all outstanding but unvested Deferred Shares shall become immediately vested and non-forfeitable.

(e) Acceleration upon Retirement. If the Grantee ceases to be a director of the Company by reason of the Grantee's Retirement (as defined below), all outstanding but unvested Deferred Shares shall become immediately vested. The term "Retirement" for this Agreement shall have both of the following meanings (and only one of which need be satisfied): (i) the definition in the Plan, or (ii) regardless of the director's age, with respect to any director who has served as a director for at least ten consecutive years, the Grantee's Termination of Service upon expiration of the Recipient's term of service following Recipient's declination to stand for nomination for a new annual term as director.

3. No Voting Rights; Dividend Equivalents. The Grantee shall have no rights as a shareholder of the Company with respect to the Deferred Shares subject to this Agreement (including the right to vote or receive dividends) until the underlying Common Stock is issued to the Grantee in accordance with Section 4. The Grantee will not be entitled to receive cash payments representing any dividend equivalents paid or payable with respect to the Common Stock underlying the Deferred Shares.

4. Delivery of Common Stock Underlying Deferred Shares.

(a) Unless delivery is elected otherwise by the Grantee pursuant to Section 4(b) below, the Company will deliver vested shares of Common Stock with respect to the Deferred Shares to the Grantee within 10 business days upon the earliest to occur of: (i) the Grantee's cessation of service as a director of the Company, or (ii) a Change in Control (as defined in the Plan), but only if such Change in Control also constitutes a "change in control" of the Company within the meaning of Section 409A of the Code (in each case, the date of delivery of such shares is referred to as a "**Delivery Date**").

(b) The Grantee may elect in the alternative to receive the Deferred Shares upon vesting after the annual vesting period has been met pursuant to an election form provided by the Company. The Grantee may not elect to defer the receipt of the shares of Common Stock underlying the Deferred Shares beyond the Delivery Date provided for in Section 4(a).

5. Restrictions on Transfer. The Grantee may not sell, transfer, assign, pledge or otherwise encumber or dispose of the Deferred Shares subject to this Agreement until such time as the shares of Common Stock underlying the Deferred Shares are issued to the Grantee in

accordance with Section 4. The Grantee may designate beneficiaries to receive the shares of Common Stock underlying the Deferred Shares subject to this Agreement if the Grantee dies before delivery of the shares of Common Stock by so indicating on a form supplied by the Company. If the Grantee fails to designate a beneficiary, such Common Stock will be delivered to the Grantee's estate.

6. Tax Consequences. The Grantee acknowledges that the Company has not advised the Grantee regarding the Grantee's income tax liability in connection with the grant or vesting of the Deferred Shares or the delivery of the Common Stock underlying the Deferred Shares. The Grantee has reviewed with the Grantee's own tax advisors the federal, state, local and foreign tax consequences of this investment and the transactions contemplated by this Agreement. The Grantee is relying solely on such advisors and not on any statements or representations of the Company or any of its agents. The Grantee understands that the Grantee (and not the Company) shall be responsible for the Grantee's own tax liability that may arise as a result of the transactions contemplated by this Agreement.

7. Securities Laws. The Company may from time to time impose any conditions on the Deferred Shares or the shares of Common Stock underlying the Deferred Shares as it deems necessary or advisable to ensure that the Plan satisfies the conditions of Rule 16b-3 or other applicable laws.

8. General Provisions.

(a) This Agreement, together with the Plan, represent the entire agreement between the parties with respect to the purchase of the Deferred Shares and may only be modified or amended in a writing signed by both parties.

(b) Any notice, demand or request required or permitted to be given by either the Company or the Grantee pursuant to the terms of this Agreement shall be in writing and shall be deemed given on the date and at the time delivered via personal, courier or recognized overnight delivery service or, if sent via telecopier, on the date and at the time telecopied with confirmation of delivery or, if mailed, on the date five days after the date of the mailing (which shall be by regular, registered or certified mail). Delivery of a notice by telecopy (with confirmation) shall be permitted and shall be considered delivery of a notice notwithstanding that it is not an original that is received. Any notice to Grantee under this Agreement shall be made to Grantee at the address listed in the Company's personnel files. If directed to the Company, any such notice, demand or request shall be sent to the Company's principal executive office, c/o the Company's Secretary, or to such other address or person as the Company may hereafter specify in writing.

(c) The Company may condition delivery of certificates for the shares of Common Stock underlying the Deferred Shares upon the prior receipt from Grantee of any undertakings which it may determine are required to assure that the certificates are being issued in compliance with federal and state securities laws.

(d) The Grantee has received a copy of the Plan, has read the Plan and is familiar with its terms, and hereby accepts the Deferred Shares subject to all of the terms and provisions of the Plan, as amended from time to time. Pursuant to the Plan, the Board and the Committee are authorized to interpret the Plan and to adopt rules and regulations not inconsistent

with the Plan as they deem appropriate. The Grantee hereby agrees to accept as binding, conclusive and final all decisions or interpretations of the Board and the Committee upon any questions arising under the Plan.

(e) The award of Deferred Shares granted hereunder is intended to comply with the requirements of Section 409A of the Code (“**Section 409A**”) and shall be construed and interpreted in a manner that is consistent with the requirements for avoiding additional taxes or penalties under Section 409A of the Code.

(f) Notwithstanding the foregoing, the Company makes no representations that the payments and benefits provided under this Agreement comply with Section 409A of the Code and in no event shall the Company be liable for all or any portion of any taxes, penalties, interest or other expenses that may be incurred by the Grantee on account of non-compliance with Section 409A of the Code.

(g) Neither this Agreement nor any rights or interest hereunder shall be assignable by the Grantee, Grantee’s beneficiaries or legal representatives, and any purported assignment in violation hereof shall be null and void.

(h) Either party’s failure to enforce any provision or provisions of this Agreement shall not in any way be construed as a waiver of any such provision or provisions, nor prevent that party thereafter from enforcing each and every other provision of this Agreement. The rights granted both parties herein are cumulative and shall not constitute a waiver of either party’s right to assert all other legal remedies available to it under the circumstances.

(i) The grant of Deferred Shares hereunder will not confer upon the Grantee any right to continue in service with the Company or any of its subsidiaries.

(j) This Agreement shall be governed by, and enforced in accordance with, the laws of the State of Delaware, without regard to the application of the principles of conflicts or choice of laws.

(k) This Agreement may be executed, including execution by facsimile signature, in one or more counterparts, each of which shall be deemed an original, and all of which together shall be deemed to be one and the same instrument. The parties confirm that it is their wish that this Agreement may be executed by means of electronic signature.

[Signature Page Follows]

*SIGNATURE PAGE TO
AWARD AGREEMENT FOR DEFERRED STOCK*

IN WITNESS WHEREOF, the parties have duly executed this Award Agreement intending it to be effective as of the first date written above.

VASCO DATA SECURITY INTERNATIONAL, INC.

By:

Its:

GRANTEE

Name:

Signature:

AWARDED SHARES: _____

Non-Employee Director Deferral Election for Shares

To be effective for the calendar year 2018, for grants made by the Company on January 4th, 2018, the undersigned Grantee hereby elects the following as of January 1, 2018 (the "**Election Date**").

Election to Receive Shares

Pursuant to the terms of the Company 2009 Equity Incentive Plan (the "**Plan**"), I hereby elect to receive or defer my 2018 equity grant upon vesting in accordance with this election. Capitalized terms used but not defined herein shall have the meanings set forth in the Plan.

Annual Equity Election

_____ I hereby elect to receive my 2018 equity grant upon vesting as provided for in Section 4(b) of my Award Agreement.

_____ I hereby elect to defer the receipt of my 2018 equity grant as provided for in Section 4(a) of my Award Agreement.

Election Irrevocable

I understand that this election will become irrevocable on the Election Date with respect to equity granted to me for Board service during 2018.

Duration of Election

I understand that this election will be effective for 2018. If I do not submit another timely written director stock election for future periods, 100% of my equity grants for services performed during future periods will be delivered in accordance with the default terms of the Award Agreement.

Withholding

I understand and agree that the Company may take such action as it deems necessary or appropriate to satisfy any obligations it may have to withhold federal, state or local income or other taxes incurred by reason of payments made pursuant to the Plan.

Acknowledgement

I acknowledge receipt of a copy of the Plan and acknowledge and agree that this election is made pursuant to the Plan and is subject to all of the terms and conditions thereof.

Signature of Non-Employee Director:

Date: _____

VASCO Data Security International, Inc.

Code of Conduct and Ethics

1. Introduction

The Board of Directors of VASCO Data Security International, Inc. (together with its subsidiaries, the "**Company**") has adopted this Code of Conduct and Ethics (the "**Code**") in order to:

- (a) promote honest and ethical conduct, including the ethical handling of actual or apparent conflicts of interest;
- (b) promote full, fair, accurate, timely and understandable disclosure in reports and documents that the Company files with, or submits to, the Securities and Exchange Commission (the "**SEC**") and in other public communications made by the Company;
- (c) promote compliance with applicable governmental laws, rules and regulations;
- (d) promote compliance with Company's contractual obligations;
- (e) promote the protection of Company assets, including corporate opportunities and confidential information;
- (f) promote fair dealing practices;
- (g) promote fair and lawful processing of personal information;
- (h) deter wrongdoing; and
- (i) ensure accountability for adherence to the Code.

All directors, officers, employees and contractors are required to be familiar with the Code, take any related mandatory training made available, accept and comply with its provisions and report any suspected violations as described below in Section 18, Reporting and Enforcement.

2. Compliance

2.1 Employees, officers and directors should comply, in both letter and spirit, with all applicable laws, rules and regulations in the cities, states and countries in which the Company operates.

2.2 Although not all employees, officers and directors are expected to know the details of all applicable laws, rules and regulations, it is important to know enough to determine when to seek advice from appropriate personnel. Questions about compliance should be addressed to the Company's Legal Department at Legal@vasco.com.

3. Honest and Ethical Conduct

3.1 The Company's policy is to promote high standards of integrity by conducting its affairs honestly and ethically.

3.2 Each director, officer and employee must act with integrity and observe the highest ethical standards of business conduct in his or her dealings with the Company's customers, suppliers, partners, service providers, competitors, employees and anyone else with whom he or she has contact in the course of performing his or her job.

4. Preventing Harassment and Discrimination

VASCO strives to maintain a work environment, which is free from discrimination and harassment, whether based on race, color, religion, gender, gender identity or expression, sexual orientation, national origin, genetics, disability, age, or any other factors that are unrelated to VASCO's legitimate business interests. VASCO will not tolerate sexual advances, actions or comments, racial or religious slurs or jokes, or any other comments or conduct that, in the judgment of VASCO management, creates, encourages or permits an offensive or intimidating work environment.

5. Health, Safety and the Environment

5.1 Maintaining a safe and sustainable environment both inside and outside the workplace is vital to the health and well-being of us all.

5.2 VASCO provides a safe and drug-free working environment for its employees and to meet or exceed the standards of all applicable laws and regulations governing workplace safety, health and the environment. Misusing controlled substances or being under the influence of illegal drugs or alcohol is prohibited while performing work-related duties.

5.3 All directors, officers and employees should report any unsafe working conditions or workplace accidents to the local Human Resource Manager or the Chief Compliance Officer. Any acts or threats of violence towards another person or abuse of company property should be reported immediately to your local Human Resources Manager.

5.4 VASCO has a responsibility to operate in an environmentally sound manner, uphold ethical and social standards in its supply chain, and make a positive difference in the communities where its employees live and work. VASCO strives to increase the energy efficiency of its operations, reduce waste, and protect the environment.

6. A Company free of Conflicts of Interest

6.1 A conflict of interest occurs when an individual's private interest (or the interest of a member of his or her family interferes, or reasonably appears to interfere, with the interests of the Company as a whole. A conflict of interest can arise when an employee, officer or director (or a member of his or her family) takes actions or has interests that may make it difficult to perform his or her work for the Company objectively and effectively. Conflicts of interest also arise when an employee, officer or director (or a member of his or her family) receives improper personal benefits because of his or her position in the Company. In addition, no director, officer or employee may compete with the Company during its employment.

6.2 Loans by the Company to, or guarantees by the Company of obligations of, employees or their family members are of special concern and could constitute improper personal benefits to the recipients of such loans or guarantees, depending on the facts and circumstances must be disclosed and approved by the Chief Compliance Officer. Loans by the Company to, or guarantees by the Company of obligations of, any director or officer or their family members are expressly prohibited.

6.3 Whether or not a conflict of interest exists or will exist can be unclear. Conflicts of interest (or reasonably potential ones) should be avoided unless specifically authorized as described in Section 6.4.

6.4 Persons other than directors and officers who have questions about a potential conflict of interest or who become aware of an actual or potential conflict should report the matter with their Local Human Resource Manager or the Chief Compliance Officer. The Local Human Resource Manager must report the matter to the Chief Compliance Officer with a written description of the activity and seeking the Chief Compliance Officer's determination. If the Local Human Resource Manager is himself involved in the potential or actual conflict, the matter should instead be discussed directly with the Chief Compliance Officer.

6.5 Directors and officers must seek determinations and prior authorizations or approvals of potential conflicts of interest from Chief Compliance Officer or the Chairperson of the Board's Governance Committee.

7. Business Courtesy

7.1 The giving and receiving of gifts and entertainment is often part of building business relationships and corporate goodwill. However, a conflict of interest may arise if gifts or entertainment either influence business decisions or create the appearance of doing so. Therefore, it is important to carefully consider actual or apparent conflict of interest issues before offering or accepting gifts and entertainment. In certain situations, the exchange of limited, non-cash business courtesies may be appropriate, where permitted by applicable law.

7.2 Employees, officers and directors must exercise the utmost care when giving or receiving business-related gifts. Accepting or offering gifts of moderate value is permitted in situations where it is legal and in accordance with local business practices. Similarly, and to the extent permitted under applicable law, you may offer or accept meals and entertainment of reasonable value in connection with business discussions. However, any type of business

courtesy, gift or gratuity is unacceptable if it could compromise your business judgment or improperly influence customers, suppliers, business partners or government officials.

7.3 Keep in mind that certain business courtesies, such as cash, checks, gift certificates and offers to pay non-business related travel and/or accommodations, are never acceptable. If you have any doubt about whether a particular gift is appropriate, consult Legal@vasco.com or the Chief Compliance Officer.

8. Protection and Proper Use of Company Assets

8.1 All directors, officers and employees should protect the Company's assets and ensure their efficient use. This includes both tangible and intangible assets. The Company and its employees must protect the confidentiality, integrity and availability of all forms of information used by, entrusted to and maintained by the Company on behalf of employees, investors, business partners, and customers.

8.2 All Company assets should be used only for legitimate business purposes, though incidental and reasonable personal use is permitted. Any information created, saved, sent or received using Company information systems may however be subject to technical monitoring that the Company performs for information security reasons. Any suspected incident of fraud or theft of Company assets should be reported for investigation immediately.

8.3 VASCO's Information Security department has created policies and standards that will help each director, officer and employee secure its environment by understanding information security issues and acting responsibly. Each director, officer and employee must follow VASCO's Information Security Policies required for the protection of VASCO's information and systems.

8.4 The obligation to protect Company assets includes the Company's proprietary information. Proprietary information includes intellectual property such as trade secrets, patents, trademarks and copyrights, as well as business and marketing plans, engineering and manufacturing ideas, designs, databases, records, VASCO name and any non-public financial data or reports. Unauthorized use or distribution of this information is prohibited and could also be illegal and result in civil or criminal penalties.

8.5 From time to time VASCO may also receive requests for money, Company assets or other Company resources to benefit a particular charity or civic group. These should be referred the appropriate supervisor within the business unit. The request should be discussed and approved by the Chief Compliance Officer. The Company does not make any political contributions to any political candidates, parties or campaigns.

9. Confidentiality

9.1 VASCO processes confidential information in a manner to ensure appropriate security and protect against unauthorized or unlawful processing. Confidential information includes all non-public information (regardless of its source), e.g. personal information, intellectual property, patent information or trade secret that might be of use to the Company's competitors or harmful to the employees, the Company or its customers, suppliers or partners

if disclosed. Similarly, directors, officers and employees must maintain the confidentiality of information entrusted to them by the Company or by its customers, suppliers or partners, except when disclosure is expressly authorized or is required or permitted by law.

9.2 VASCO respects the privacy of all its employees, business partners and customers. Directors, officers and employees must handle personal information responsibly and in compliance with all applicable privacy laws. Employees, officers and directors must exercise special care when handling personal information.

10. Fair Dealing

Each director, officer and employee must deal fairly with the Company's customers, suppliers, partners, service providers, competitors, employees and anyone else with whom he or she has contact in the course of performing his or her job. No director, officer or employee may take unfair advantage of anyone through manipulation, concealment, abuse or privileged information, misrepresentation of facts or any other unfair dealing practice.

11. Company Records

11.1 All directors, officers and employees should to make sure that all Company information is recorded and reported accurately and promptly. This includes, but is not limited to, information concerning the Company's employees, research and development activities, strategic plans, travel and expense claims, and general operations.

11.2 VASCO expects any regular document disposal must cease immediately if you are aware of or have reason to believe that the documents or materials are, or are likely to become, relevant to a business dispute, litigation matter or government inquiry (including all records that are subject to a legal hold or legal collection notice) or as requested by the Company. If you have any questions about the Company's records retention, contact the Legal Department.

12. Disclosure

12.1 The Company's periodic reports and other documents filed with the SEC, including all financial statements and other financial information, must comply with applicable federal securities laws and SEC rules.

12.2 Each director, officer and employee who contributes in any way to the preparation or verification of the Company's financial statements and other financial information must ensure that the Company's books, records and accounts are accurately maintained. Each director, officer and employee must cooperate fully with the Company's accounting and internal audit departments, as well as the Company's independent public accountants and counsel.

12.3 Each director, officer and employee who is involved in the Company's disclosure process must:

- be familiar with and comply with the Company's disclosure controls and procedures and its internal control over financial reporting; and
- take all necessary steps to ensure that all filings with the SEC and all other public communications about the financial and business condition of the Company provide full, fair, accurate, timely and understandable disclosure.

13. Anti-Bribery and Anti-Corruption

13.1 VASCO acts openly, honest, and direct. No employees, officer or director shall offer, give or accept money or anything of value from third parties, including customers and partners, to improperly obtain or retain business, secure an improper advantage, or otherwise influence them to act improperly. This applies to engagements with third parties from both commercial and public sectors.

13.2 VASCO is committed to comply with the U.S. Foreign Corrupt Practices Act, the UK Bribery Act and as well as other applicable national, local or international anti-bribery standards. VASCO strictly prohibits offering bribes to a government official for the purpose of attempting to influence, obtain or retain business or for any other improper purpose.

13.3 Paying bribes in connection with purely private sector transactions is prohibited as well. Corrupt activities of any kind have no place at VASCO.

14. Corporate Opportunities

All directors, officers and employees owe a duty to the Company to advance its interests when the opportunity arises. Directors, officers and employees are prohibited from taking for themselves personally (or for the benefit of friends or family members) opportunities that are discovered through the use of Company assets, property, information or position. Directors, officers and employees may not use Company assets, property, information or position for personal gain (including gain of friends or family members).

15. Insider Trading

Everyone at VASCO is prohibited from providing inside information—about the Company or its suppliers, customers, or other third parties—to others. Insider trading, insider dealing, and stock tipping are criminal offenses in most countries where VASCO does business. Employees shall follow the Company's Insider Trading Policy. If you have any questions regarding this type of information, contact Legal Department for advice.

16. Anti-Competition Conduct

VASCO succeeds by competing vigorously and fairly in the marketplace in compliance with applicable antitrust, competition, and other laws and regulations designed to promote fair competition, free trade, and encourage ethical and legal behavior among competitors.

17. Trade Compliance

As a U.S. company, VASCO's hardware and software products, services, and technology (i.e., technical data for the design, development, production or use of those products and source code) are subject to both U.S. and non-U.S. export laws and regulations. Before VASCO products, services and technology can be exported, re-exported, or delivered anywhere, VASCO must validate that it has the authorization to export under U.S. export regulations, European Union financial sanctions and the EU Dual-Use Export Control Regulations and any applicable trade compliance laws and regulations.

18. Reporting and Enforcement

18.1 Reporting and Investigation of Violations.

(a) Actions prohibited by this Code involving board directors or executive officers must be reported to the Board's Governance Committee by the Chief Compliance Officer.

(b) Actions prohibited by this Code involving anyone other than a board director or executive officer must be reported to the Local Human Resource Manager, Chief Compliance Officer or to file a report via the internet, go to the Company's report hotline.

(c) After receiving a report of an alleged prohibited action, the Board's Governance Committee, Local Human Resource Manager or the Chief Compliance Officer must promptly take all appropriate actions necessary to investigate.

(d) All directors, officers and employees are expected to cooperate in any internal investigation of misconduct.

18.2 Enforcement.

(a) The Company must ensure prompt and consistent action against violations of this Code.

(b) If, after investigating a report of an alleged prohibited action by a director or executive officer, the Board's Governance Committee determines that a violation of this Code has occurred, the Board's Governance Committee will report such determination to the Board of Directors.

(c) If, after investigating a report of an alleged prohibited action by any other person, Local Human Resource Manager or the Chief Compliance Officer determines that a violation of this Code has occurred, Local Human Resource Manager will report such determination to the Chief Compliance Officer.

(d) Upon receipt of a determination that there has been a violation of this Code, the Board of Directors or the Chief Compliance Officer will take such preventative or disciplinary action as it deems appropriate, including, but not limited to,

reassignment, demotion, dismissal and, in the event of criminal conduct or other serious violations of the law, notification of appropriate governmental authorities.

18.3 Waivers.

(a) Each of the Board of Directors (in the case of a violation by a director or executive officer) and the Chief Compliance Officer (in the case of a violation by any other person) may, in its discretion, waive any violation of this Code.

(b) Any waiver for a director or an executive officer shall be disclosed as required by SEC and NASDAQ rules.

18.4 Prohibition on Retaliation.

The Company does not tolerate acts of retaliation against any director, officer or employee who makes a good faith report of known or suspected acts of misconduct or other violations of this Code.

19. Monitoring Compliance and Disciplinary Action

19.1 The Company's management, under the supervision of its Board or its Audit Committee, shall take reasonable steps from time to time to (i) monitor compliance with this Code, and (ii) when appropriate, impose and enforce appropriate disciplinary measures for violations of this Code.

19.2 Disciplinary measures for violations of this Code may include, but are not limited to, counseling, oral or written reprimands, warnings, termination of employment or service.

19.3 The Company's management shall periodically report to the Board or the Audit Committee, as applicable, on these compliance efforts including, without limitation, periodic reporting of alleged violations of this Code and the actions taken with respect to any such violation.

Subsidiaries of VASCO Data Security International, Inc.

Name of Subsidiary	State or Country of Incorporation
VASCO Data Security, Inc.	Delaware, U.S.A.
VASCO Data Security Europe NV/SA	Belgium
VASCO Data Security NV/SA	Belgium
VASCO Data Security Asia-Pacific Pte. Ltd	Singapore
VASCO Data Security Pty Ltd	Australia
VASCO Data Security Australia Pty Ltd	Australia
VASCO Data Security B.V.	The Netherlands
VASCO Data Security Austria GmbH	Austria
VASCO Data Security International, GmbH	Switzerland
VASCO Data Security Solutions, GmbH	Switzerland
VASCO Segurança de Dados Brasil Ltda.	Brazil
Kabushiki Kaisha VASCO Data Security Japan	Japan
VASCO Data Security Private (India) Limited	India
VASCO Data Security UK Limited	United Kingdom
VASCO Data Security France SAS	France
VASCO Software (Beijing) Co. Ltd. - FICE	Peoples Republic of China
DigiNotar Notariaat B.V.	The Netherlands
Alfa & Ariss, B.V.	The Netherlands
VASCO Data Security Middle East FZE	United Arab Emirates
Cronto Limited	United Kingdom
Risk IDS Limited	United Kingdom
Silanis Technology Inc.	Canada

Consent of Independent Registered Public Accounting Firm

The Board of Directors
VASCO Data Security International, Inc.:

We consent to the incorporation by reference in the registration statements on Form S-8 (No. 333-62829) and Form S-8 (333-161158) of VASCO Data Security International, Inc. of our reports dated March 8, 2018, with respect to the consolidated balance sheets of VASCO Data Security International, Inc. and subsidiaries as of December 31, 2017 and 2016, and the related consolidated statements of operations, comprehensive income (loss), stockholders' equity, and cash flows for each of the years in the three-year period ended December 31, 2017, and the related notes (and financial statement schedule) (collectively, the "consolidated financial statements"), and the effectiveness of internal control over financial reporting as of December 31, 2017, which reports appear in the December 31, 2017, annual report on Form 10-K of VASCO Data Security International, Inc.

/s/ KPMG LLP
Chicago, Illinois
March 8, 2018

Certification of Principal Executive Officer
Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

I, Scott Clements, certify that:

1. I have reviewed this annual report on Form 10-K of VASCO Data Security International, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared; and
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles; and
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures as of the end of the period covered by the report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting.
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: March 8, 2018

/s/ Scott Clements

Scott Clements
President and Chief Executive Officer
(Principal Executive Officer)

Certification of Principal Financial Officer
Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

I, Mark S. Hoyt, certify that:

1. I have reviewed this annual report on Form 10-K of VASCO Data Security International, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared; and
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles; and
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures as of the end of the period covered by the report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting.
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: March 8, 2018

/s/ Mark S. Hoyt

Mark S. Hoyt
Chief Financial Officer
(Principal Financial Officer and Principal
Accounting Officer)

CERTIFICATION OF CHIEF EXECUTIVE OFFICER
Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to
Section 906 of the Sarbanes-Oxley Act of 2002

In connection with the filing with the Securities and Exchange Commission of the Annual Report of VASCO Data Security International, Inc. (the company) on Form 10-K for the period ended December 31, 2017 (the Report), I, Scott Clements, President and Chief Executive Officer of the company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

- i. The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- ii. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the company.

/s/ Scott Clements

Scott Clements
President and Chief Executive Officer

March 8, 2018

CERTIFICATION OF CHIEF FINANCIAL OFFICER
Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to
Section 906 of the Sarbanes-Oxley Act of 2002

In connection with the filing with the Securities and Exchange Commission of the Annual Report of VASCO Data Security International, Inc. (the company) on Form 10-K for the period ended December 31, 2017 (the Report), I, Mark S. Hoyt, Chief Financial Officer of the company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

- i. The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- ii. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the company.

/s/ Mark S. Hoyt
Mark S. Hoyt
Chief Financial Officer

March 8, 2018
