Identiv, Inc.
Form 10-K
March 29, 2018

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form 10-K

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 0-29440

IDENTIV, INC.

(Exact Name of Registrant as Specified in its Charter)

Delaware (State or other jurisdiction of Incorporation or organization)	77-0444317 (I.R.S. Employer Identification Number)
2201 Walnut Avenue, Suite 100, Fremont, California (Address of Principal Executive Offices)	94538 (Zip Code)

Registrant's telephone number, including area code:

(949) 250-8888

Securities Registered Pursuant to Section 12(b) of the Act:

None

Securities Registered Pursuant to Section 12(g) of the Act:

Common Stock, $0.001 par value, and associated Preferred Share Purchase Rights

(Title of Class)

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

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

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

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

Large accelerated filer		Accelerated filer
Non-accelerated filer	(Do not check if a small reporting company)	Smaller reporting company
Emerging growth company		

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

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

Based on the closing sale price of the Registrant's Common Stock on the Nasdaq National Market System on June 30, 2017, the last business day of the Registrant's most recently completed second fiscal quarter, the aggregate market value of Common Stock held by non-affiliates of the Registrant was $73,094,800.

At March 15, 2018, the Registrant had outstanding 15,139,722 shares of Common Stock, excluding 947,168 shares held in treasury.

DOCUMENTS INCORPORATED BY REFERENCE

Designated portions of the Company's Proxy Statement to be filed within 120 days after the Registrant's fiscal year end of December 31, 2017 are incorporated by reference into Part II, Item 5 and Part III of this Report.

Identiv, Inc.

Form 10-K

For the Fiscal Year Ended December 31, 2017

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PART I

ITEM 1. BUSINESS

Statement Regarding Forward Looking Statements

This Annual Report on Form 10-K (“Annual Report”), including the documents incorporated by reference in this Annual Report, contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. For example, statements, other than statements of historical facts regarding our strategy, future operations and growth, financial position, projected results, estimated revenues or losses, projected costs, prospects, plans, market trends, product attributes and benefits, competition, objectives of management, management judgements and estimates, and the expected impact of changes in laws or accounting pronouncements constitute forward-looking statements. In some cases, you can identify forward-looking statements by terms such as “will,” “believe,” “could,” “should,” “would,” “may,” “anticipate,” “intend,” “plan,” “estimate,” “expect,” “project” or the negative of these terms or other similar expressions. Although we believe that our expectations reflected in or suggested by the forward-looking statements that we make in this Annual Report are reasonable, we cannot guarantee future results, performance or achievements. You should not place undue reliance on these forward-looking statements. All forward-looking statements speak only as of the date of this Annual Report. While we may elect to update forward-looking statements at some point in the future, we specifically disclaim any obligation to do so, even if our expectations change, whether as a result of new information, future events or otherwise. We also caution you that such forward-looking statements are subject to risks, uncertainties and other factors, not all of which are known to us or within our control, and that actual events or results may differ materially from those indicated by these forward-looking statements. We disclose some of the factors that could cause our actual results to differ materially from our expectations discussed elsewhere in this Annual Report. These cautionary statements qualify all of the forward-looking statements included in this Annual Report that are attributable to us or persons acting on our behalf.

Identiv and the Identiv logo are trademarks of Identiv, Inc., registered in many jurisdictions worldwide. Certain product and service brands are also trademarks or registered trademarks of the Company, including HIRSCH, ScramblePad, TouchSecure, and Velocity. Other product and brand names not belonging to Identiv that appear in this document may be trademarks or registered trademarks of their respective owners.

Each of the terms the “Company,” “Identiv,” “we” and “us” as used herein refers collectively to Identiv, Inc. and its wholly-owned subsidiaries, unless otherwise stated.

Overview

Identiv is a global security technology company that secures and manages access to physical places, things and information. Global organizations across government, education, retail, transportation, healthcare and other markets rely upon our solutions. We empower them to create secure and convenient experiences in schools, government offices, stores, banks, critical infrastructure, transportation, hospitals and virtually every type of facility and for a wide range of products.

Our operating segments focus on the following solutions:

- Physical security and customer insight solutions, securing buildings via an integrated access control system, included in our Premises (formerly referred to as “PACS”) segment.
- Information security solutions, securing enterprise information access and secure transactions across PCs, networks, email, login, secure payments, and printers via delivery of smart card reader products, included in our Identity

segment.

- Radio frequency identification ("RFID") based solutions for use in a wide range of applications from access control to asset tracking, product authenticity, brand protection, customer engagement, tamper detection, product instrumentation, transportation access and other applications sometimes included in the Internet of Things ("IoT"). The RFID devices are embedded into access cards, transponders and other embedded devices that enable frictionless access to and interaction with the physical world.

The foundation of our business is our deep technical expertise across RFID, smart card technology, and physical security technologies. Our close customer relationships and analytics platforms allow us to develop customer-relevant products and applications. This is all underpinned by our core value of uncompromising quality.

To deliver these solutions, we have organized our operations into four reportable business segments, principally by product families: Premises, Identity, Credentials, and All Other.

Premises

The Premises segment includes our products and solutions to address the premises security and building intelligence market for government and enterprise, including access control, video surveillance, analytics and intelligence solutions.

The foundation of our physical security platform has been the Hirsch line of controllers including the advanced MX line, Hirsch's Velocity management software and a wide range of integrations that provide Velocity/MX's unique flexibility across a wide range of industries and implementations. We have further extended our physical access platform with our Identiv Connected Physical Access Manager ("ICPAM") software, derived from Cisco's Physical Access Manager ("CPAM") system and available in partnership with Cisco.

In February 2018, we acquired 3VR Security, Inc. ("3VR"), a video technology and analytics company. With the acquisition, we have added the 3VR video security and analytics platform, which is a natural complement to our Hirsch line. Nearly all customers for access control are customers for video security, and vice versa. Additionally, the events and data generated by both platforms combine to create what we believe to be uniquely valuable information for our customers to provide frictionless yet robust security. 3VR's platform is architected as an analytics system, proven across applications in the retail, banking, and other vertical markets, and valuable to our traditional Hirsch and ICPAM markets in government, education, critical infrastructure, transportation and others. Additionally, we sell either individual components or complete bundled solutions which can include any or all among software, edge controllers, multi-door panels, access readers, access cards, 3VR appliances and other components.

Our modular Hirsch MX controllers are designed to be scalable, allowing customers to start with a small system and expand over time. Hirsch MX controllers can operate autonomously, whether as a single controller or as part of a networked system with Velocity software. The Hirsch Velocity software platform enables centralized management of access and security operations across an organization, including control of doors, gates, turnstiles, elevators and other building equipment, monitoring users as they move around a facility, preventing unwanted access, maintaining compliance and providing a robust audit trail.

To our price/performance/quality-leading commercial offerings, we have added what we believe to be the highest performance, lowest per-door cost access control system for the U.S. federal government security mandate known as the Federal Identity, Credential and Access Management ("FICAM") architecture. This brings all of the advantages above into the next generation of physical security for the U.S. government departments and agencies to achieve Federal Information Processing Standard ("FIPS") 201 compliance.

Our TouchSecure ("TS") door readers provide unique features to support a wide range of security standards. We support the majority of legacy card credentials with a robust next-generation platform that can help companies migrate to more secure credentials and technologies, including smart cards, near field communication ("NFC") and government-issued credentials including Common Access Card ("CAC"), Personal Identification Verification ("PIV"), Personal Identification Verification – Interoperable ("PIV-I") and others. Additionally, our Scramblepad readers employ numerical scrambling on the keypad to protect access codes from being stolen as they are entered, and providing both secure two-factor authentication and convenient alternative-factor access.

In addition to this solution offering, in 2017, we launched Identiv Global Services ("IGS"), a service offering with a comprehensive catalog of end-to-end services that facilitates customer success and drives deeper adoption of the Identiv product portfolio. IGS supports customers throughout their premises security lifecycle from system design, to deployment to managed services. IGS experts enable customers to address today's complex security and IT systems interoperability requirements, and helps them achieve a tailor-made set-up.

Identity

Our Identity products include smart card readers, which includes a broad range of contact, contactless, portable and mobile smart card readers, tokens and terminals that are utilized around the world to enable logical access (i.e., PC, network or data access) and security and identification applications, such as national ID, payment, e-Health and e-Government.

With over 20 years of smart card reader, application and token experience as Identiv and previously as SCM Microsystems, we are known for our expertise in this complex ecosystem. We combine our deep technical expertise with an optimized supply chain, to provide what we believe to be the most optimal, cost-effective and high-quality smart card-based products. Whether Identiv branded products, original equipment manufacturers ("OEM") branded, or embedded chips or modules, our position is as the trusted business solution provider for all users and issuers of smart cards and embedded-chip applications.

Credentials

Our Credentials segment include NFC and RFID products, including inlays and inlay−based and other cards, labels, tags and stickers, as well as other radio frequency (“RF”) and integrated circuits (“IC”) components and are generally grouped into access cards and transponders. Our TS Cards product line, we believe, is the first complete solution to allow customers to pay only for the most basic low-frequency proximity access technology while having the ability to evolve to the higher-security high-frequency and highest-security public key infrastructure (“PKI”) based access credentials. This product line exemplifies our values: we place no burden on our customers, instead providing what we believe to be the most cost-effective solution to their basic needs; and then delivering within this platform the ability for them to move to higher-level needs and capabilities, when they want, when they are ready and when they will realize economic and experience benefits.

Our transponder products span the full range of high frequency (“HF”) and ultra-high frequency (“UHF”) technologies. Our differentiation is analogous to application-specific integrated circuits (“ASICS”) in the semiconductor market. We leverage our flexible platform, our deep technical expertise and our infrastructure and supply chain to deliver solutions optimized for our customers’ business goals. We believe we are more responsive, more flexible, more experienced in business-optimized solutions and have a better track record of sustained delivery of solution-specific, high-quality RFID devices than our competitors. These products are manufactured in our state-of-the-art facility in Singapore and are used in a diverse range of physical applications, including electronic entertainment such as virtual reality (“VR”), games, loyalty cards, mobile payment systems, transit and event ticketing, brand authenticity from pharmaceuticals to consumer goods, hospital resource management, cold-chain management and many others.

Leveraging our expertise in RFID, physical access and physical authentication, we are developing new solutions to extend our platforms across a wide variety of physical use cases. The next major opportunity in our connected world is the IoT, which fundamentally is about physical things. We believe our core strength in physical access and physical instrumentation markets, our well-established platforms and our deep knowledge of the relevant technologies, position us well in this growth market.

All Other

The All Other segment included legacy product lines, such as Chipdrive and Digital Media readers. No revenues from this segment were generated in 2017 and no revenues are expected to be generated in future periods. In the fourth quarter of 2016, we phased out our Digital Media product lines and discontinued our Chipdrive product line.

For a discussion of our net revenue by segment and geographic location, see Note 9, Segment Reporting and Geographic Information, in the accompanying notes to our consolidated financial statements.

Market Strategy

Our corporate priority is to drive revenue growth by leveraging our core technology expertise and our enduring customer relationships, as well as our significant experience addressing solutions across multiple markets, including government, transportation, healthcare, education, banking, retail, critical infrastructure and others. Our common advantages across all of our segments, in addition to a shared set of technologies and supply chain, is our more than 20 years of expertise and sustained reputation as the go-to source for what we believe to be the top-quality, most reliable, most cost-effective solution. We drive an intense commitment to our customers, to ensure we are delivering business-supporting solutions to them and honoring a straightforward, respectful, trustworthy and business-based relationship at all times, and for a long time. In all of our segments we have a long track-record within the industry, and this position as a trusted advisor, supplier and business partner.

In our Premises segment, we believe that our more than 20 years' experience delivering physical security solutions to U.S. Government customers has provided us with significant expertise and a quality reputation. Our products enable compliance with federal directives and standards implemented over the past decade, including Homeland Security Presidential Directive ("HSPD") 12 and FIPS 201, which defines a common standard known as the PIV credential, used by all U.S. Government employees and contractors. We are a leading supplier of physical access control solutions to both federal and state government customers, including agencies within the Department of Justice, Department of the Treasury, the FBI, U.S. Marshall and many others. As a pioneering adopter of physical security technologies and protocols employed on a large scale, the U.S. Government continues to demand the best of breed, which we have been delivering to an increasing range of agencies and departments.

We develop and sell integrated physical security solutions to government and enterprise customers worldwide. Our systems integrate access control, video surveillance, intrusion detection, building management and other network-based systems using a wide range of access cards, including PIV cards, smart cards, RFID cards and biometrics in order to successfully secure facilities and resources.

Our offerings include Hirsch MX controllers, Velocity management software, ICPAM software edge controller systems. These combined with door readers and access cards provide scalable systems, allowing customers to start with a small system and expand over time. Hirsch and ICPAM controllers can operate autonomously, whether as a single controller or as part of a networked system with Velocity or ICPAM software. The Hirsch Velocity software platform enables centralized management of access and security operations across an organization, including control of doors, gates, turnstiles, elevators and other building equipment, monitoring users as they move around a facility, preventing unwanted access, maintaining compliance and providing a robust audit trail. Our door readers provide unique features to support a number of security environments and standards. For example, our ScramblePad readers employ numerical scrambling on the keypad to protect access codes from being stolen as they are entered. Our TS readers support the majority of card credentials with a robust platform that can help companies expand to encompass other credentials and technologies, including smart cards, NFC, and mobile government-issued cards.

With our recent acquisition of 3VR, our new offerings include video intelligence solutions which provide a single platform for real-time security and customer insights, enabling organizations to protect employees, customers and assets as well as improve store operations and shopping experiences. Our new open, pluggable platform leverages existing customer infrastructure and allows customers to expand their systems' capabilities seamlessly.

Physical Security and Analytics

As mentioned above, in February 2018, we acquired 3VR. Our new offerings include video intelligence solutions which provide a single platform for real-time security and customer insights, enabling organizations to protect employees, customers and assets as well as improve store operations and shopping experiences. Our new open, pluggable platform leverages existing customer infrastructure and allows customers to expand their systems' capabilities seamlessly. In addition, our analytics platform is core to our overall strategy. Security technologies are generating vast amounts of real-time data, which in practice has often been unmanageable. That has meant a limited capability to show risks in advance, and that manual processing of vast amounts of data has relegated responses to post-facto, forensic uses. Even those uses have been limited because of the scale of the security data and the limitations of the existing platforms to effectively manage and turn it into useful, actionable information.

Our systems have already been demonstrated to solve these problems for specific security applications, retail loss prevention, ATM fraud, loitering and other security risks. The same analytics are being used to turn this security data into business improvement applications. Since the infrastructure investment has been made for security purposes, costs for incremental systems to apply the data can be limited. We are doing this in such applications as queue line management, heat mapping, customer service, personnel training and other areas, which we believe will expand both within vertical applications and horizontally.

Since virtually all access control customers deploy video security, we believe the opportunity for a combined product with robust feature sets represents a substantial portion of the overall market, and makes the system more effective. Access control systems manage the most critical event in a security system: Access granted or access denied. Access control systems are based on rigorous identification of trusted people within an organization or a community. This provides the two critical ingredients for successful video security: A list of already-trusted people, as well as alarms and events to focus video attention and analytics where they are most relevant. Without this leverage, video is a massive data stream that is often unmanageable in real-time and cumbersome to sort through forensically.

As the market understands this need, some of the most progressive video companies have developed their own access control systems. And vice versa, some access control companies have developed video capabilities. We believe this approach of extending from one solution to the other has resulted in solutions with limited capabilities.

By combining access control and video security solutions, which are both strong on their own, we believe we are establishing a comprehensive solution for our customers. First, our 3VR platform has been architected from the beginning as an analytics platform, not just as a video streaming and viewing system. Second, by deeply combining access authorization databases and events with video system events, a much narrower solution set is created, since authorized events and people are pre-known, and the remaining events are much easier to tag and respond to as possible security issues.

In addition to our core products, we have a range of product initiatives designed to leverage leading technology advances across mobile, biometric, machine-learning and other areas, to provide convenient, frictionless, low-cost yet highly secure physical access. We invest independently and in partnership with other leading technology companies in these emerging aspects of physical security and analytics platforms.

Leveraging Underlying Technologies across Smart Cards and RFID

In addition to providing secure and frictionless premises solutions, we are leveraging our underlying technology capabilities across a number of product and applications.

In our Identity segment, we have over 20 years' experience as a leading global supplier of smart card reader technologies. We offer a broad range of contact, contactless and mobile smart card readers, tokens and terminals that are utilized around the world to enable access and security applications, such as national ID cards, payment and eHealth and eGovernment. We have supplied millions of smart card readers to the Department of Defense and other federal agencies. To support the growing demand for solutions that provide secure access via mobile devices, sometimes known as "bring your own device" ("BYOD"), our mobile readers allow users to securely authenticate using iOS™ or Android™ devices, when they present standard credentials issued by the U.S. Government, including the PIV card and its predecessor, the CAC, as well as the PIV-I card issued by commercial contractors under a similar security standard.

In our Credentials segment, we design and manufacture a broad range of NFC and RFID products, including inlays and inlay-based cards, labels, tags and stickers, as well as other RF and IC components, across HF and UHF technologies, and from basic transactional devices to high-end microprocessor-based devices. We have expanded our solutions still further, incorporating advanced flexible, rechargeable battery technology to bring active-device capabilities to the Cold Chain market and opening the nearly-unlimited potential of active sensor-enabled applications. Our inlays and converted inlay products are used in a diverse range of applications, including electronic entertainment, loyalty schemes, mobile payment, transit and event ticketing, and others.

We believe that the know-how across RFID, NFC as well as smart card technology positions us well to benefit from the increasing importance of contactless technologies in a range of applications. On the Identity side, it is our strategy to closely align with innovative OEM partners who are looking to include a subset of these capabilities into their products, for example for secure printing, gaming, or unattended vending applications. Similarly, we aim to be the go-to provider for complex RFID and transponder applications utilizing NFC, HF, or UHF technology, or a combination thereof. We believe the capabilities we are developing in our engineering and research center in Germany provides a differentiator for product owners with specific and unique requirements. Often these relationships start with an agreement on shared non-recurring engineering ("NRE") related costs. Brand authenticity and consumer engagement applications especially demand compliance with a high level of technical requirements as well as specific expectations around the appearance of the product, user experience and reliability. We believe our ability to provide high-quality product pilots in small badges with rapid turnaround will provide us with a competitive advantage.

As across all our offerings, we are aiming to position ourselves as the preferred trusted advisor and development partner for our customers and partners.

Positioned for Growth in Growing Markets

Leveraging our expertise in RFID and NFC technology, and mobility, we are developing new solutions for a wide range of physical, connected items, or IoT. Market analysts estimate that by 2020 the number of physical things connected to the Internet will grow into the tens of billions. These will include household appliances, vehicles, medicines, home security systems, books, luggage, jewelry, toys and a host of other objects. We believe the growth of the IoT creates significant opportunities to provide physical access and authentication into nearly every industry, worldwide. We plan to leverage our physical access, video and analytics solutions as well as RFID-based physical device-management expertise to provide leading solutions as our customers, and our customers' customers, embrace the IoT.

Also underneath the umbrella of IoT, we are positioned in growing markets. Market analysts estimate the premises security market will to continue to grow, with services and video being among the faster growing market segments, as well as the RFID and transponder markets. In addition, we believe that our markets are generally fragmented. As such, we believe we are positioned to grow in our core markets, and do so organically and inorganically. A first execution step on our inorganic growth strategy is evidenced by our acquisition of 3VR in February of 2018.

Customers

We sell to customers worldwide in a diverse range of markets, including government, enterprise, consumer, education, healthcare and transportation. Sales to our ten largest customers accounted for 33% of total net revenue in 2017 and 34% of total net revenue in 2016. A significant amount of revenue is sourced from sales of products and systems to our OEM partners and an indirect sales network who sell to various entities within the U.S. federal government sector. U.S. federal government sales are primarily delivered through our OEM partners and an indirect sales network or are priced using published General Service Administration schedules.

Sales and Marketing

We primarily conduct our own sales and marketing activities in each of the markets in which we compete, utilizing our own sales and marketing organization to solicit prospective channel partners and customers, provide technical advice and support with respect to products, systems and services, and manage relationships with customers, distributors and/or OEMs. We sell our smart card readers and RFID/NFC products directly to end users and utilize indirect sales channels that may include OEMs, dealers, systems integrators, value added resellers, resellers or Internet sales. We sell our physical access control solutions and access card services primarily through systems integrators, dealers and value added partners, although we also sell directly to end users. In support of our sales efforts, we participate in trade shows and conduct sales training courses, targeted marketing programs, and ongoing customer, channel partner and third-party communications programs.

Competition

The market for security solutions is competitive and characterized by rapidly changing technology and evolving standards in the industry as a whole and within specific markets. We believe that competition for security solutions is likely to intensify as a result of an ongoing increase in demand for our solutions that help converge physical and logical access control systems and RFID and NFC products to enable expansion of the connected world. The increase in competition will come from two additional factors. First, the vast growth of data being generated by high bandwidth security devices, especially video, as well as the increasing number of electronic-access doors. As data volumes become increasingly unmanageable with classic systems relying on monitoring by guards, real-time analytics and purpose built forensic platforms will deliver these critical security results. Second, technically advanced hardware is moving into commercial markets, driven by volume cost curves as disruptive consumer and small and medium business focused startups launch commercial-scale capabilities into these high volume markets.

As these longer-term competitive dynamics emerge, we currently face a range of competition for our products, systems and solutions. Competition for our smart card readers and related products primarily comes from several well-established companies, including Gemalto NV and OMNIKEY/HID Global (a division of ASSA ABLOY AB), as well as from a number of smaller suppliers in Asia. Competition for our RFID inlays and inlay-based products comes from a small number of organizations that understand the specialized processes and have the capital equipment required to serve the RFID/NFC technology market. Competitors in this market include SMARTRAC NV, as well as a number of inlay conversion companies in Asia. In the market for NFC tags, readers and other solutions, we face competition from traditional smart card reader and RFID technology providers, including Gemalto and ASSA ABLOY for NFC readers, and SMARTRAC and other inlay converters for NFC tags.

Enterprise-class physical access control solutions are available from multiple suppliers. In this market we primarily compete with Lenel Systems International (a division of United Technologies Corp.), Software House (a division of Tyco International Ltd.), Gallagher Group Ltd., Honeywell International Inc., and AMAG Technology (a division of G4S plc). Competition for our video management and analytics solutions, which mainly consist of the solutions added through the acquisition of 3VR, is expected from several other companies either offering video management systems (“VMS”) or analytics solutions, including Exacq, Genetec, Inc., Milestone Systems, and RetailNext, Inc.

We may in the future face competition from other parties that develop physical security and RFID solutions based upon approaches similar to or different from those employed by us. In addition, these markets for security solutions may ultimately be dominated by approaches other than the approach marketed by us. We believe that the principal competitive factors affecting the market for our products, systems and solutions include:

- technical features;
- the ability of channel partners to effectively integrate multiple products and systems in order to address customer requirements including full system capabilities, cost of ownership and ease of use;
- quality and reliability;

- the ability of suppliers to quickly develop new products and integrated solutions to satisfy new customer requirements;
- ease of use;
- strength of sales and distribution channels; and
- price and total cost of system ownership.

While we believe that we compete favorably within our market environment, our ability to continue to successfully compete is subject to a variety of factors, as further discussed below in “Item 1A. Risk Factors” in this Annual Report on Form 10-K.

Seasonality and Other Factors

In our business overall, we may experience significant variations in demand for our offerings from quarter to quarter, and typically experience a stronger demand cycle in the second half of our fiscal year. Sales of our premises solutions to U.S. Government agencies are subject to annual government budget cycles and generally are highest in the third quarter of each year. However, the usual seasonal trend can be negatively impacted by actions such as government shutdowns and the passing of continuing resolutions which can act to delay the completion of certain projects. Sales of our identity reader chips, many of which are sold to government agencies worldwide, are impacted by testing and compliance schedules of government bodies as well as roll-out schedules for application deployments, both of which contribute to variability in demand from quarter to quarter. Further, this business is typically subject to seasonality based on differing commercial and global government budget cycles. Lower sales are expected in the U.S. in the first half, and in particular the first quarter of the year, with higher sales typically in the second half of each year. In Asia and Australia, with fiscal year-ends in March and June, order demand can be high in the first half as customers attempt to complete projects before the end of the fiscal year. Accordingly, our net revenue levels in the first quarter and first half each year often depends on the relative strength of project completions and sales mix between our U.S. customer base and our International customer base.

In addition to the general seasonality of demand, overall U.S. Government expenditure patterns have a significant impact on demand for our products due to the significant portion of revenues that are typically sourced from U.S. Government agencies. Therefore, any significant reduction in U.S. Government spending could adversely impact our financial results and could cause our operating results to fall below any guidance we provide to the market or below the expectations of investors or security analysts.

Backlog

We typically do not maintain a significant level of backlog and revenue in any quarter significantly depends on contracts entered into or orders received and shipped in that quarter. The majority of our sales are made primarily pursuant to purchase orders for current delivery or agreements covering purchases over a period of time. While our customer contracts generally do not require fixed long-term purchase commitments, from time to time we do enter into customer contracts where delivery of products, systems or services is ongoing or is scheduled over multiple quarters or years. In view of our order and shipment patterns, and because of the possibility of customer changes in delivery schedules or cancellation of orders, we do not believe that the ongoing arrangements we enter into provide meaningful backlog figures or are necessarily indicative of actual sales for any succeeding period.

Research and Development

We have made and continue to make significant investments in research and the development of solutions for customers in the government, enterprise, consumer and commercial markets. We focus the bulk of our research and development activities on the development of products and solutions for new and emerging market opportunities. In addition to developing core technology that can be leveraged across a number of products, our engineering team works with product managers, applications engineers, distribution partners, third party consultants and customers to develop new products, product enhancements, software and systems to meet customer and market requirements. We also strive to develop and maintain close relationships with key suppliers of components and technologies in order to be able to quickly introduce new offerings that incorporate the latest technological advances. New offerings introduced across our businesses resulting in new inventions provide opportunities for new patent applications.

Our recent research and development activities have included enhancements for our physical access controller platforms, which address new market trends such as secure mobile access and extends our available customer base to include smaller enterprises. On an ongoing basis, we invest in the development of new contactless readers, tokens and modules, new physical access readers to enable converged physical and logical access, and in the extension of our contactless platforms. In addition, we continue to enhance and broaden our RFID and NFC inlay designs and technologies in the areas of security, enablement for NFC applications, card manufacturing and other applications.

We attempt to balance our investment in new technologies, products and services with careful management of our development resources so that our increased development activities do not result in unexpected or significant changes in our overall spending on research and development. Research and development expenses were $6.1 million in 2017 and $6.5 million in 2016. We capitalized payroll related expenses related to development of our card issuance services of $0.2 million and $0.2 million in 2017 and 2016, respectively. In addition, we capitalized $0.4 million of software development costs in 2017 for costs incurred subsequent to a product achieving technological feasibility and prior to the product's general release to customers. No software development costs were capitalized in 2016.

We conduct our research and development activities from several locations around the world. Development of our smart card reader products and technologies primarily takes places in India. Development of our physical access control solutions primarily takes place in California. Development of our RFID and NFC products and technology primarily takes place in Singapore.

Proprietary Technology and Intellectual Property

Our success depends partly upon our proprietary technology. We currently rely on a combination of patent, copyright and trademark laws, trade secrets, confidentiality agreements and contractual provisions to protect our proprietary rights, which afford only limited protection. Although we often seek to protect our proprietary technology through patents, it is possible that no new patents will be issued, that our proprietary products or technologies are not patentable, and that any issued patent will fail to provide us with any competitive advantages. The core of our proprietary technology advantage is the combination of our advanced technical expertise combined with our intimate customer knowledge, enabling us to develop and bring to market products uniquely positioned to deliver benefits to customers. This is an intellectual property advantage more characterized by trade secrets and unique relationships than formal patents.

There has been a great deal of litigation in the technology industry regarding intellectual property rights and from time to time we may be required to use litigation to protect our proprietary technology. This may result in our incurring substantial costs and there is no assurance that we would be successful in any such litigation. Despite our efforts to protect our proprietary rights, unauthorized parties may attempt to copy aspects of our products or to use our proprietary information and software without authorization. In addition, the laws of some foreign countries do not protect proprietary and intellectual property rights to the same extent as do the laws in the U.S. Because many of our products are sold and a substantial portion of our business is conducted outside the U.S., our exposure to intellectual property risks may be higher. Our means of protecting our proprietary and intellectual property rights may not be adequate. There is a risk that our competitors will independently develop similar technology, duplicate our products or design around our patents or other intellectual property rights. If we are unsuccessful in protecting our intellectual property or our products or technologies are duplicated by others, our business could be harmed.

In addition, we have from time to time received claims that we are infringing upon third parties' intellectual property rights. Future disputes with third parties may arise and these disputes may not be resolved on terms acceptable to us. As the number of products and competitors in our target markets grow, the likelihood of infringement claims also increases. Any claims or litigation may be time-consuming and costly, divert management resources, cause product shipment delays, or require us to redesign our products, accept product returns or to write-off inventory. Any of these events could have a material adverse impact on our business and operating results.

We have a portfolio of approximately 30 patent families (designs, patents, utility models, patents pending and exclusive licenses) in individual or regional filings, covering products, electrical and mechanical designs, software systems and methods and manufacturing process ideas for our various businesses. We also submitted and have pending U.S. and foreign patent filings in RFID tags, converged access readers and systems, smart card manufacturing methods, authentication and NFC offerings. Additionally, we leverage our own ASIC designs for smart card interface in some of our reader devices. However, none of our patents are currently material to our business.

Manufacturing and Sources of Supply

We utilize a combination of our own manufacturing facilities and the services of contract manufacturers in various countries around the world to manufacture our products and components. Our physical access keypads, controllers and software are manufactured primarily in California, using locally sourced components. The majority of our smart card reader products and components are manufactured in Singapore and China. Our RFID and NFC inlays and inlay-based products such as labels and tags are manufactured and assembled by our own internal manufacturing teams in Singapore primarily using locally sourced components and are certified to the ISO 9001:2000 quality manufacturing standard.

We have implemented formal quality control programs to satisfy customer requirements for high quality and reliable products. To ensure that products manufactured by third parties are consistent with internal standards, our quality control programs include management of all key aspects of the production process, including establishing product specifications, selecting the components to be used to produce products, selecting the suppliers of these components and negotiating the prices for certain of these components. In addition, we may work with suppliers to improve process control and product design.

We believe that our success will depend in large part on our ability to provide quality products and services while ensuring the highest level of security for our products during the manufacturing process. In the event any of our contract manufacturers are unable or unwilling to continue to manufacture our products, we may have to rely on other current manufacturing sources or identify and qualify new contract manufacturers. Any significant delay in our ability to obtain adequate supplies of our products from current or alternative sources would harm our business and operating results.

For the majority of our product manufacturing, we utilize a global sourcing strategy that serves all business solution areas within the company, which allows us to achieve economies of scale and uniform quality standards for our products and support higher gross margins.

On an ongoing basis, we analyze the need to add alternative sources for both our products and components. For example, we currently utilize the foundry services of external suppliers to produce our ASICs for smart cards readers and inlays, and we use chips and antenna components from third-party suppliers in our RFID and NFC inlays and contactless smart card readers. Wherever possible, we have qualified additional sources of supply for components. However, a risk remains that we may be adversely impacted by an inadequate supply of components, price increases, late deliveries or poor component quality. In addition, some of the basic components used in our reader products, such as semiconductors, may at any time be in great demand. This could result in components not being available to us in a timely manner or at all, particularly if larger companies have ordered significant volumes of these components, or higher prices being charged for components we require.

Employees

As of December 31, 2017, we had 223 employees, of which 56 were in research and development, 63 were in sales and marketing, 28 were in general and administrative and 76 were in manufacturing and related functions. We are not subject to any collective bargaining agreements and, to our knowledge, none of our employees are currently represented by a labor union. To date, we have experienced no work stoppages and believe that our employee relations are generally good.

Corporate Information

Our corporate headquarters are located in Fremont, California. We maintain research and development facilities in California; Chennai, India; Munich, Germany; and local operations and sales facilities in Germany, the United Kingdom, Hong Kong, Singapore, India and the United States. We were founded in 1990 in Munich, Germany and incorporated in 1996 under the laws of the State of Delaware.

Legal Proceedings

On December 16, 2015, we and certain of our present and former officers and directors were named as defendants in a putative class action lawsuit filed in the United States District Court for the Northern District of California, entitled Rok v. Identiv, Inc., et al., Case No. 15-cv-05775, alleging violations of Section 10(b) of the Exchange Act of 1934 and Rule 10b-5 promulgated thereunder and Section 20(a) of the Exchange Act of 1934. On May 3, 2016, the court-appointed lead plaintiff Thomas Cunningham in the Rok lawsuit filed an amended complaint and a notice of dismissal without prejudice of all current or former officers and directors other than Jason Hart and Brian Nelson. On June 6, 2016, each of us, Jason Hart, and Brian Nelson filed a motion to dismiss for failure to state a claim upon which relief can be granted in the Rok lawsuit; on August 5, 2016, the court granted those motions with leave for the lead plaintiff to file a second amended complaint. On September 12, 2016, the lead plaintiff in the Rok lawsuit filed a second amended complaint. On October 10, 2016, each of us, Jason Hart, and Brian Nelson filed a motion to dismiss that second amended complaint for failure to state a claim upon which relief can be granted in the Rok lawsuit; on January 4, 2017, the court granted those motions with prejudice and entered judgment for us and the other defendants and against the lead plaintiff. On February 6, 2017, the lead plaintiff initiated an appeal of the court's decision in the Ninth Circuit Court of Appeals. Following the lead plaintiff's routine request to extend filing deadlines, which the Court of Appeals approved, the lead plaintiff's opening appellate brief was filed on June 14, 2017. Following Jason Hart's routine request to extend filing deadlines, which the Court of Appeals approved, the answering briefs of the Company and the other defendants were filed on August 14, 2017. Following the lead plaintiff's routine request to extend filing deadlines, which the Court of Appeals approved, the lead plaintiff's optional reply brief was filed on October 5, 2017. The Ninth Circuit Court of Appeals held oral argument on March 13, 2018. On March 23, 2018, the Ninth Circuit issued an order affirming the dismissal with prejudice. In the interim, on January 3, 2018, lead plaintiffs filed a motion under Federal Rules of Civil Procedure Rule 60(b) in the trial court to vacate the January 4, 2017 judgment of dismissal. On February 9, 2018, following additional briefing, the trial court denied the motion.

In addition, three shareholder derivative actions were filed between January and February 2016. On January 1, 2016, certain of our present and former officers and directors were named as defendants, and we were named as nominal defendant, in a shareholder derivative lawsuit filed in the United States District Court for the Northern District of California, entitled Oswald v. Humphreys, et al., Case No. 16-cv-00241-CRB, alleging breach of fiduciary duty and waste claims. On January 25, 2016, certain of our present and former officers and directors were named as defendants, and we were named as nominal defendant, in a shareholder derivative lawsuit filed in the Superior Court of the State of California, County of Alameda, entitled Chopra v. Hart, et al., Case No. RG16801379, alleging breach of fiduciary duty claims. On February 9, 2016, certain of our present and former officers and directors were named as defendants, and we were named as nominal defendant, in a shareholder derivative lawsuit filed in the Superior Court of the State of California, County of Alameda, entitled Wollnik v. Wenzel, et al., Case No. HG16803342, alleging breach of fiduciary duty, corporate waste, gross mismanagement, and unjust enrichment claims. These lawsuits generally allege that we made false and/or misleading statements and/or failed to disclose information in certain public filings and disclosures between 2013 and 2015. Each of the lawsuits seeks one or more of the following remedies: unspecified compensatory damages, unspecified exemplary or punitive damages, restitution, declaratory relief, equitable and injunctive relief, and reasonable costs and attorneys' fees. On May 2, 2016, the court in the Chopra lawsuit entered an order staying proceedings in the Chopra lawsuit in favor of the Oswald lawsuit, based on a stipulation to that effect filed by the parties in the Chopra lawsuit on April 28, 2016. Similarly, on June 28, 2016, the court in the Wollnik lawsuit entered a stipulated order staying proceedings in the Wollnik lawsuit in favor of the Oswald lawsuit. On June 17, 2016, the plaintiff in the Oswald lawsuit filed an amended complaint. On August 1, 2016, we filed a motion to dismiss for failure by plaintiff to make a pre-lawsuit demand on our board of directors, which motion was heard on October 14, 2016. The judge in the Oswald lawsuit issued an order on November 7, 2016 granting our motion to dismiss, without prejudice. In addition, the court stayed the case so that plaintiff could exercise whatever rights he had under Section 220 of the Delaware General Corporation Law. On or around November 30, 2016, the plaintiff purported to serve a books and records demand under Section 220 of the Delaware General Corporation Law. We have responded to that demand. On March 21, 2017, we and the plaintiff in the Oswald lawsuit filed a stipulation and proposed order lifting the stay of the case, granting the plaintiff leave to amend, and setting a briefing schedule. That stipulation proposed that the judge's stay of the case entered November 7, 2016 be lifted, that a stay of proceedings as to the individual defendants that the judge previously entered remain in place, that the plaintiff may file a second amended complaint on or before April 10, 2017, that we may file a motion to dismiss that second amended complaint on or before May 12, 2017, that the plaintiff's opposition to such a motion to dismiss shall be filed on or before June 12, 2017, that our reply in support of such a motion shall be filed on or before June 30, 2017, and that the hearing on such a motion to dismiss shall be held on August 11, 2017 or such other date as the court may order. On March 22, 2017, the court entered an order approving that stipulation. The plaintiff in the Oswald lawsuit filed his second amended complaint on April 10, 2017. We then filed a motion to dismiss that second amended complaint on May 12, 2017, the plaintiff filed an opposition to that motion to dismiss on June 12, 2017, and we filed a reply in support of the motion on June 30, 2017. The hearing on that motion to dismiss was rescheduled by stipulation of the parties to September 22, 2017 and then further rescheduled by the court to October 6, 2017. The hearing on that motion to dismiss was held on October 6, 2017, and that day the court entered a minute entry indicating the motion would be denied. On October 22, 2017, the court issued its written order denying the motion to dismiss on the basis of demand futility. On December 15, 2017, the court held a status conference. On January 3, 2018, the court entered a stipulated order setting a response and briefing schedule for defendants to the second amended complaint. Pursuant to the schedule, defendants filed motions to dismiss under Rule 12(b)(6) on January 16, 2018. Plaintiff filed his opposition brief on February 14, 2018. Defendants' reply briefs are due on March 2, 2018. The court heard argument on the motions to dismiss on March 23, 2018 and took the matters under submission. On October 18, 2017, the court in the Wollnik lawsuit conducted a case management conference, at the conclusion of which the court scheduled a complex determination hearing for November 28, 2017. We filed a notice of non-opposition to complex case designation and request for coordination with the Chopra lawsuit on October 24, 2017. The plaintiff in the Wollnik lawsuit filed a statement of non-opposition to complex case designation on or about November 27, 2017. The court continued the complex determination hearing to April 3, 2018. We intend to vigorously defend against these lawsuits. We cannot currently predict the impact or resolution of each of these lawsuits or reasonably estimate a range of possible loss, if any, which could be material, and the resolution of these lawsuits may harm our business and have a material adverse impact on our financial condition.

From time to time, we could become subject to claims arising in the ordinary course of business or could be named a defendant in additional lawsuits. The outcome of such claims or other proceedings cannot be predicted with certainty and may have a material effect on our financial condition, results of operations or cash flows.

Availability of SEC Filings

We make available through our website our Annual Reports on Form 10-K,Quarterly Reports on Form 10-Q and Current Reports on Form 8-K and amendments to those reports free of charge as soon as reasonably practicable after we electronically file such reports with the Securities and Exchange Commission ("SEC"). Our Internet address is www.identiv.com. The content on our website is not, nor should it be deemed to be, incorporated by reference into this Annual Report. Additionally, documents filed by us with the SEC may be read and copied at the Public Reference Section of the SEC, 100 F Street, N.E., Washington, D.C. 20549. Information on the operation of the Public Reference Room may be obtained by calling the SEC at 1-800-SEC-0330. Our filings with the SEC are also available to the public through the SEC's website at www.sec.gov.

Item 1A. Risk Factors

The following discussion of risk factors contains forward-looking statements. These risk factors may be important to understanding any statement in this Form 10-K or elsewhere. The following information should be read in conjunction with Part II, Item 7, “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and the consolidated financial statements and related notes in Part II, Item 8, “Financial Statements and Supplementary Data” of this Form 10-K.

Because of the following factors, as well as other factors affecting our financial condition and operating results, past financial performance should not be considered to be an indicator of future performance, and investors should not use historical trends to anticipate results or trends in future periods.

Our revenues and operating results are subject to significant fluctuations and such fluctuations may lead to a reduced market price for our stock.

Our revenues and operating results have varied in the past and will likely continue to fluctuate in the future. We believe that period-to-period comparisons of our operating results are not necessarily meaningful, but securities analysts and investors often rely upon these comparisons as indicators of future performance. If our operating results in any future period fall below the expectations of securities analysts and investors, or the guidance that we provide, the market price of our stock would likely decline.

Factors that have caused our results to fluctuate in the past and which are likely to affect us in the future include the following:

- business and economic conditions overall and in our markets;
- the timing and size of customer orders that may be tied to annual or other budgetary cycles, seasonal demand, product plans or program roll-out schedules;
- the effects of the U.S. Government shut downs, spending cuts and other changes in budget allocation or availability that create uncertainty for customers in certain parts of our business;
- the absence of significant backlog in our business;
- cancellations or delays of customer orders or the loss of a significant customer;
- the length of sales cycles associated with our product or service offerings;
- variations in the mix of products and services we sell;
- reductions in the average selling prices that we are able to charge due to competition or other factors;
- our ability to obtain an adequate supply of quality components and to deliver our products on a timely basis;
- our inventory levels and the inventory levels of our customers and indirect sales channels;
- the extent to which we invest in development, sales and marketing, and other expense categories;
- acquisitions, dispositions or organizational restructuring;
- fluctuations in the value of foreign currencies against the U.S. dollar;
- the cost or impact of litigation; and
- the write-off of investments.

Estimating the amount and mix of future revenues is difficult, and our failure to do so accurately could affect our ability to be profitable or reduce the market price for our stock.

Accurately estimating future revenues is difficult because the purchasing patterns of our customers can vary depending upon a number of factors. We sell our smart card readers primarily through a channel of distributors who place orders on an ongoing basis depending on their customers' requirements. As a result, the size and timing of these orders can vary from quarter to quarter. The increasing market demand for RFID and NFC technology is resulting in larger program deployments of these products and components, as well as increasing competition for these solutions. Across our business, the timing of closing larger orders increases the risk of quarter-to-quarter fluctuation in revenues. If orders forecasted for a specific group of customers for a particular quarter are not realized or revenues are not otherwise recognized in that quarter, our operating results for that quarter could be materially adversely affected. For example, in the quarter ended September 30, 2017, we experienced lower sales in our Premises segment as a result of the timing of orders received from federal government customers late or after the quarter ended. In addition, from time to time, we may experience an unexpected increase or decrease in demand for our products resulting from fluctuations in our customers' budgets, purchasing patterns or deployment schedules. These occurrences are not always predictable and can have a significant impact on our results in the period in which they occur.

Failure to accurately forecast customer demand may result in excess or obsolete inventory, which if written down might adversely impact our cost of revenues and financial condition. For example, in the quarter ended December 31, 2017, in the Credentials segment, we recorded a transponder related inventory reserve adjustment associated with a customer relationship which ended at the end of 2015 and our decision to discontinue plans for alternate use of the product.

In addition, our expense levels are based, in significant part, upon our expectations as to future revenues and are largely fixed in the short term. We may be unable to adjust spending in a timely manner to compensate for any unexpected shortfall in revenues. Any significant shortfall in revenues in relation to our expectations could have an immediate and significant effect on our operating results for that quarter and may lead to a reduced market price for our stock.

Our loan covenants may affect our liquidity or limit our ability to incur debt, make investments, sell assets, merge or complete other significant transactions.

On February 8, 2017, we entered into Loan and Security Agreements with East West Bank ("EWB") and Venture Lending & Leasing VII, Inc. and Venture Lending & Leasing VIII, Inc. (collectively referred to as “VLL7 and VLL8”). The Loan and Security Agreement with EWB provides for a $10.0 million revolving loan facility (the “Revolving Loan Facility”), and the Loan Security Agreement with VLL7 and VLL8 provides for a term loan in an aggregate principal amount of $10.0 million (the “Term Loan Facility”). Our obligations under these agreements are secured by substantially all of our assets. Each of the Revolving Loan Facility and the Term Loan Facility contain customary representations and warranties and customary affirmative and negative covenants, including, limits or restrictions on our ability to incur liens, incur indebtedness, make certain restricted payments, merge or consolidate and dispose of assets. The Revolving Loan Facility also contains various financial covenants. In addition, each of the Revolving Loan Facility and the Term Loan Facility contains customary events of default that entitle EWB or VLL7 and VLL8, as appropriate, to cause any or all of our indebtedness under the Revolving Loan Facility or the Term Loan Facility, respectively, to become immediately due and payable. The events of default (some of which are subject to applicable grace or cure periods), include, among other things, non-payment defaults, covenant defaults, cross-defaults to other material indebtedness, bankruptcy and insolvency defaults and material judgment defaults. Upon the occurrence and during the continuance of an event of default, EWB and VLL7 and VLL8 may terminate their lending commitments and/or declare all or any part of the unpaid principal of all loans, all interest accrued and unpaid thereon and all other amounts payable under the Loan and Security Agreements to be immediately due and payable. If repayment of the indebtedness is accelerated, we could face a substantial liquidity problem and may be forced to dispose of material assets or operations, seek to obtain equity capital, or restructure or refinance our indebtedness. Such alternative measures may not be available or successful. Also, our loan covenants may limit our ability to dispose of material assets or operations or to restructure or refinance our indebtedness. Even if we are able to restructure or refinance our indebtedness, the economic terms may not be favorable to us. Any of the foregoing could have a material adverse effect on our financial condition and results of operations. Our ability to make periodic interest payments and to repay our debt when due depends on our financial and operating performance, which in turn, is subject to prevailing economic and competitive conditions and other factors. If our cash flow and capital resources are insufficient to fund our debt service obligations, we could face substantial liquidity problems and may be forced to dispose of material assets or operations, seek to obtain equity capital, or restructure or refinance our indebtedness. Such alternative measures may not be successful and may not permit us to meet our scheduled debt service obligations.

If we are not able to secure additional financing when needed, our business could be adversely affected.

We may seek or need to raise additional funds for general corporate and commercial purposes or for acquisitions. Our ability to obtain financing depends on our historical and expected future operating and financial performance, and is also subject to prevailing economic conditions and to financial, business and other factors beyond our control. If we are unable to secure additional financing when desired, our ability to fund our business operations, make capital expenditures, pursue additional expansion or acquisition opportunities, or have resources available to capitalize on other opportunities could be limited, and this could adversely impact our financial results. There can be no assurance that additional capital will be available to us on favorable terms or at all. The sale of additional debt or equity securities may cause dilution to existing stockholders. Any debt or equity securities issued may also provide for rights, preferences or privileges senior to those of our common stock and could impose significant restrictions on our operations. In addition, any capital we raise may be restricted with respect to use. For example, we raised approximately $12.0 million in December 2017 through the sale of convertible preferred stock, which proceeds may only be used to pay down debt, or for acquisitions.

Acquisitions and strategic investments require substantial resources, expose us to significant risks and may adversely impact our business.

As part of our growth strategy, we may seek to acquire or make investments in companies, products or technologies that we believe complement or augment our existing business, product offerings or technology portfolio. For example, on February 14, 2018, we acquired 3VR Security, Inc., a video technology and analytics company for approximately $6.9 million, consisting of (i) approximately $1.6 million in cash, (ii) the issuance of subordinated unsecured promissory notes in an aggregate principal amount of $2.0 million, and (iii) the issuance of shares of our common stock with a value of approximately $3.3 million. In addition, in the event that 3VR Security, Inc. achieves $24.1 million in product shipments in 2018, we will be obligated to issue further earn-out consideration of $3.5 million payable in shares of our common stock (subject to certain conditions) with a potential maximum earn-out value of $7.0 million in the event that such shipments exceed $48.2 million. Further, in calendar year 2019, we may also be obligated to pay, in cash, and subject to certain conditions, contingent consideration equal to the lesser of (A) 35% of the gross margin of certain products sold and services rendered by 3VR Security, Inc. in 2018 pursuant to a supply arrangement and (B) $25.0 million, each subject to adjustments. Acquiring and integrating acquired assets into our business exposes us to certain risks.

Executing acquisition or investment transactions and assimilating personnel and operations from an acquired business may require significant attention and resources, which may divert the attention of our management and employees from day-to-day operations and disrupt our business. This may adversely impact our results of operations. In addition, there can be no assurances that the expected benefits of any acquisitions will be achieved.

The costs associated with an acquisition may be significant, whether or not the acquisition transaction is successfully concluded. As a result, acquisition activities may reduce the amount of capital available to fund our business. To purchase another company, we may be required to issue additional equity securities, which would result in dilution to our stockholders. Acquisitions may result in the assumption of additional liabilities or debt, including unanticipated liabilities, or charges to earnings for such items as amortization of purchased intangibles or in-process research and development expenses. Such liabilities, indebtedness or charges could have a material and adverse impact on our financial condition and results of operations. Acquisitions and strategic investments may also lead to substantial increases in non-current assets, including goodwill. Write-downs of these assets due to unforeseen business developments may materially and adversely impact our financial condition and results of operations.

Additionally, we have in the past acquired companies that we have subsequently divested, in some cases for less than we paid to acquire the companies. Such divestitures involve risks, such as difficulty separating out portions of or entire businesses, distracting our management team and employees, potential loss of revenue and potentially disrupting customer relationships. We have and may again in the future incur significant costs associated with exit or disposal activities, related impairment charges, or both, if we exit or divest a business or product line. If we are not able to successfully integrate or divest products, technologies, or personnel from businesses that we acquire or divest, or if we are not able to realize the expected benefits of our acquisitions, divestitures, or strategic investments, our business and financial results could be adversely affected.

Our business and reputation may adversely affected by information technology system failures or network disruptions.

We may be subject to information technology system failures and network disruptions. These may be caused by natural disasters, accidents, power disruptions, telecommunications failures, acts of terrorism or war, computer viruses, physical or electronic break-ins, or other events or disruptions. System redundancy may be ineffective or inadequate, and our disaster recovery planning may not be sufficient for all eventualities. Such failures or disruptions could compromise company or customer data and result in delayed or cancelled orders. System failures and disruptions could also impede the manufacturing and shipping of products, delivery of online services, processing of transactions and reporting of financial results. In addition, any such failures or disruptions could harm our reputation.

Our success depends largely on the continued service and availability of key personnel.

Our future success depends on our ability to continue to attract, retain, and motivate our senior management team as well as qualified technical personnel, particularly software engineers. Competition for these employees is intense and many of our competitors may have greater name recognition and significantly greater financial resources to better compete for these employees. If we are unable to retain our existing personnel, or attract and train additional qualified personnel, our growth may be limited. All of our key employees are employed on an "at will" basis, meaning either we or the employee may terminate their employment with us at any time. The loss of key employees could slow our product development processes and sales efforts or harm our reputation. Also, our low common stock price may result in difficulty attracting and retaining personnel as stock options and other forms of equity incentives generally comprise a significant portion of our employee compensation. Further, restructurings and reductions in force that we have recently experienced may have a negative effect on employee morale and the ability to attract and retain qualified personnel.

Our business could be adversely affected by reductions or delays in the purchase of our products or services for government security programs in the United States and globally.

We derive a substantial portion of our revenues from indirect sales to U.S. federal, state and local governments and government agencies, as well as from subcontracts under federal government prime contracts. Large government programs are an important market for our business, as high-security systems employing physical access, smart card, RFID or other access control technologies are increasingly used to enable applications ranging from authorizing building and network access for federal employees to paying taxes online, to citizen identification, to receiving health care. We believe that the success and growth of our business will continue to be influenced by our successful procurement of government business either directly or through our indirect sales channels. Accordingly, changes in government purchasing policies or government budgetary constraints, including government shutdowns, could directly affect our financial performance. Sales to government agencies and customers primarily serving the U.S. Government, including further sales pursuant to existing contracts, may be adversely affected by factors outside our control, such as the sequester, federal government shutdowns or other Congressional actions to reduce federal spending, and by adverse economic, political or market conditions. A reduction in current or future anticipated sales to the U.S. Government sector could harm our results of operations.

Additionally, we anticipate that an increasingly significant portion of our future revenues will come from government programs outside the U.S., such as electronic national identity, eGovernment and eHealth programs. We currently supply smart card readers, RFID products and credential provisioning and management solutions for various government programs in Europe, Asia and Australia and are actively targeting additional programs in these and other geographic areas. However, the allocation and availability of funding for such programs are often impacted by economic or political factors over which we have no control, and which may cause delays in program implementation, which could negatively impact our sales and results of operations.

Our revenues may decline if we cannot compete successfully in an intensely competitive market.

We target our products at the rapidly evolving market for security technologies. Many of our current and potential competitors have significantly greater financial, technical, marketing, purchasing and other resources than we do. As a result, our competitors may be able to respond more quickly to new or emerging technologies or standards and to changes in customer requirements. Our competitors may also be able to devote greater resources to the development, promotion and sale of products or solutions and may be able to deliver competitive products or solutions at a lower end user price.

We also experience indirect competition from certain of our customers who currently offer alternative products or solutions or are expected to introduce competitive offerings in the future. For example, in our Premises business, many of our dealer channel partners act as system integrators, providing installation and service, and therefore carry competitive lines of products and systems. This is a common practice within the industry as the integrators need access to multiple lines in order to support all potential service and user requirements. Depending on the technical competence of their sales forces, the comfort level of their technical staff with our systems and price pressures from customers, these integrators may choose to offer a competitor’s product. There is also business pressure to provide some level of sales to all vendors to maintain access to a range of products and systems.

We believe that the principal competitive factors affecting the markets for our products and solutions include:

- the extent to which products and systems must support evolving industry standards and provide interoperability;
- the extent to which products are differentiated based on technical features, quality and reliability, ease of use, strength of distribution channels and price;
- the ability to quickly develop new products and solutions to satisfy new market and customer requirements; and
- the total cost of ownership including installation, maintenance and expansion capability of systems.

Increased competition and increased market volatility in our industry could result in lower prices, reduced margins or the failure of our product and service offerings to achieve or maintain market acceptance, any of which could have a serious adverse impact on our business, financial condition and results of operations.

Our percentage of revenue and customer concentration is significant in certain of our businesses.

Sales to our ten largest customers accounted for 33% of total net revenue in 2017 and 34% of total net revenue in 2016. No customer accounted for more than 10% of our total net revenue in 2017 or 2016. A significant amount of revenue is sourced from sales of products and systems to our OEM partners and an indirect sales network who sell to various entities within the U.S. federal government sector. We cannot guarantee that future reductions in U.S. Government budgets will not impact our sales to these government entities or that the terms of existing contracts will not be subject to renegotiation. Our loss of one or more significant customers could have a significant adverse impact on our business, financial condition and results of operations.

Our business will not be successful if we do not keep up with the rapid changes in our industry.

The market for security products and related services is characterized by rapid technological developments, frequent new product introductions and evolving industry standards. To be competitive, we have to continually improve the performance, features and reliability of our products and services, particularly in response to competitive offerings, and quickly demonstrate the value of new products and services or enhancements to existing products and services. Our failure to develop and introduce new products and services successfully on a timely basis and to achieve market acceptance for such products and services could have a significant adverse impact on our business, financial condition and results of operations.

Security breaches, whether or not related to our products, could result in the disclosure of sensitive government information or private personal information that could result in the loss of clients and negative publicity.

Many of the systems we sell manage private personal information or protect sensitive information related to our customers in the government or commercial markets. A well-publicized actual or perceived breach of network or computer security in one of these systems, regardless of whether such a breach is attributable to our products, could adversely affect the market's perception of us and our products, and could result in the loss of customers, have an adverse effect on our reputation and reduce demand for our products.

As part of our technical support services, we agree, from time to time, to possess all or a portion of the security system database of our customers. This service is subject to a number of risks. For example, despite our security measures our systems may be vulnerable to cyber-attacks by hackers, physical break-ins and service disruptions that could lead to interruptions, delays or loss of data. If any such compromise of our security were to occur, it could be very expensive to correct, could damage our reputation and result in the loss of customers, and could discourage potential customers from using our services. We could also be liable for damages and penalties. Although we have not experienced attempted cyber or physical attacks, we may experience such attempts in the future. Our systems also may be affected by outages, delays and other difficulties. Our insurance coverage may be insufficient to cover losses and liabilities that may result from such events.

Sales of our products could decline and we could be subject to legal claims for damages if our products are found to have defects.

Despite our testing efforts, our products may contain defects that are not detected until after the products have been shipped. The discovery of defects or potential defects may result in damage to our reputation, delays in market acceptance of our products and additional expenditures to resolve issues related to the products' implementation. If we are unable to provide a solution to actual or potential product defects that is acceptable to our customers, we may be required to incur substantial costs for product recall, repair and replacement, or costs related to legal or warranty claims made against us.

The global nature of our business exposes us to operational and financial risks and our results of operations could be adversely affected if we are unable to manage them effectively.

We market and sell our products and solutions to customers in many countries around the world. To support our global sales, customer base and product development activities, we maintain company offices and/or business operations in several locations around the world, including Germany, Hong Kong, India, Japan, Singapore and the U.S. We also maintain manufacturing facilities in Singapore and California and engage contract manufacturers in multiple countries outside the U.S. Managing our global development, sales, administrative and manufacturing operations places a significant burden on our management resources and our financial processes and exposes us to various risks, including:

- longer accounts receivable collection cycles;
- changes in foreign currency exchange rates;
- changes in foreign laws and regulatory requirements;
- changes in political or economic conditions and stability, particularly in emerging markets;
- difficulties managing widespread sales and manufacturing operations;
- export controls;
- less effective protection of our intellectual property; and
- potentially adverse tax consequences.

Any failure to effectively mitigate these risks and effectively manage our global operations could have a material adverse effect on our business, financial condition or operating results.

A significant portion of our revenue is through an indirect sales channel, and the loss of dealers, systems integrators, resellers, or other channel partners could result in decreased revenue.

We currently use an indirect sales channel that includes dealers, systems integrators, value added resellers and resellers to sell a significant portion of our products and solutions, primarily into markets or to customers where the channel partner may have closer relationships or greater access than we do. Some of these channel partners also sell our competitors' products, and if they favor our competitors' products for any reason, they may fail to market our products as effectively or to devote necessary resources that result in effective sales, which would cause our sales to suffer. Indirect selling arrangements are intended to benefit both us and the channel partner, and may be long- or short-term relationships, depending on market conditions, competition in the marketplace and other factors. If we are unable to maintain effective indirect sales channels, there could be a reduction in the amount of product we are able to sell, and our revenues could decrease.

We depend upon third-party manufacturers and a limited number of suppliers, and if we experience disruptions in our supply chain or manufacturing, our business may suffer.

We rely upon a limited number of suppliers for some key components of our products which exposes us to various risks, including whether or not our suppliers will provide adequate quantities with sufficient quality on a timely basis and the risk that supplier pricing may be higher than anticipated. In addition, some of the basic components used in some of our products, such as semiconductors, may at any time be in great demand. This could result in components not being available to us in a timely manner or at all, particularly if larger companies have ordered significant volumes of those components, or in higher prices being charged for components we require. Disruption or termination of the supply of components or software used in our products could delay shipments of our products, which could have a material adverse effect on our business and operating results and could also damage relationships with current and prospective customers.

Many of our products are manufactured outside the U.S. by contract manufacturers. Our reliance on these manufactures poses a number of risks, including lack of control over the manufacturing process and ultimately over the quality and timing of delivery of our products. If any of our contract manufacturers cannot meet our production requirements, we may be required to rely on other contract manufacturing sources or identify and qualify new contract manufacturers, and we may not be able to do this in a timely manner or on reasonable terms. Additionally, we may be subject to currency fluctuations, potentially adverse tax consequences, unexpected changes in regulatory requirements, tariffs and other trade barriers, export controls, or political and economic instability. Any significant delay in our ability to obtain adequate supplies of our products from our current or alternative manufacturers could materially and adversely affect our business and operating results. In addition, if we are not successful at managing the contract manufacturing process, the quality of our products could be jeopardized or inventory levels could be inadequate or excessive, which could result in damage to our reputation with our customers and in the marketplace, as well as possible shortages of products or write-offs of excess inventory.

Our U.S. Government business depends upon the continuance of regulations that require federal agencies to implement security systems such as ours, and upon our ability to receive certain government approvals or certifications and demonstrate compliance in government audits or investigations. A failure to receive these government approvals or certifications or a negative audit result could result in a material adverse impact on our business, financial condition and results of operations.

While we are not able to quantify the amount of sales made to end customers in the U.S. Government market due to the indirect nature of our selling process, we believe that orders from U.S. Government agencies represent a significant portion of our revenues. The U.S. Government, suppliers to the U.S. Government and certain industries in the public sector currently fall, or may in the future fall, under particular regulations that require federal agencies to implement security systems that utilize physical and logical access control products and solutions such as ours. These regulations include, but are not limited to HSPD 12 and FIPS 201 produced by the National Institute of Standards and Technology (“NIST”). Discontinuance of, changes in, or lack of adoption of laws or regulations pertaining to security related to sales to end customers in the U.S. Government market could adversely affect our sales.

Our U.S. Government business is also dependent upon the receipt of certain governmental approvals or certifications and failure to receive such approvals or certifications could have a material adverse effect on our sales in those market segments for which such approvals or certifications are customary or required. Government agencies in the U.S. and other countries may audit our business as part of their routine audits and investigations of government procurement programs. Based on the outcome of any such audit, if any of our costs are found to be improperly allocated to a specific order, those costs may not be reimbursed and any costs already reimbursed for such order may have to be refunded. If a government agency audit uncovers improper or illegal activities, we may be subject to civil and criminal penalties and administrative sanctions. A negative audit could materially affect our competitive position and result in a material adverse impact on our business, financial condition and results of operations.

Fluctuations in foreign exchange rates between the U.S. dollar and other major currencies in which we do business may adversely affect our business, financial condition and results of operations.

A significant portion of our business is conducted in foreign currencies, principally the euro. Fluctuations in the value of foreign currencies relative to the U.S. dollar will result in currency exchange gains and losses in our reported results. If a significant portion of operating expenses are incurred in a foreign currency such as the euro, and revenues are generated in U.S. dollars, exchange rate fluctuations might have a positive or negative net financial impact on these transactions, depending on whether the value of the U.S. dollar decreases or increases compared to the euro. In addition, the valuation of current assets and liabilities that are denominated in a currency other than the functional currency can result in currency exchange gains and losses. For example, when one of our subsidiaries uses the euro as the functional currency, and this subsidiary has a receivable in U.S. dollars, a devaluation of the U.S. dollar against the euro of 10% would result in a foreign exchange loss to the reporting entity of 10% of the value of the underlying U.S. dollar receivable. We cannot predict the effect of exchange rate fluctuations upon future operating results. The effect of currency exchange rate changes may increase or decrease our costs and/or revenues in any given period, and we may experience currency losses in the future. To date, we have not adopted a hedging program to protect against the risks associated with foreign currency fluctuations.

We may not be able to protect our intellectual property rights, which could make us less competitive and cause us to lose market share.

Our future success will depend, in part, upon our intellectual property rights and our ability to protect these rights. We rely on a combination of patent, copyright, trademark and trade secret laws, nondisclosure agreements and other contractual provisions to establish, maintain and protect our proprietary rights. From time to time we may be required to use litigation to protect our proprietary technology. This may result in our incurring substantial costs and we may not be successful in any such litigation. Despite our efforts to protect our proprietary rights, unauthorized third parties may copy aspects of our products, obtain and use information that we regard as proprietary, or infringe upon our patents. In addition, the laws of some foreign countries do not protect proprietary and intellectual property rights to the same extent as do the laws in the U.S. Because many of our products are sold and a significant portion of our business is conducted outside the U.S., our exposure to intellectual property risks may be higher. Our efforts to protect our proprietary and intellectual property rights may not be adequate. Additionally, there is a risk that our competitors will independently develop similar technology or duplicate our products or design around patents or other intellectual property rights. If we are unsuccessful in protecting our intellectual property or our products or technologies are duplicated by others, our competitive position could be harmed and we could lose market share.

We face risks from future claims of third parties and litigation, which could have an adverse effect on our results of operations.

From time to time, we may be subject to claims of third parties, possibly resulting in litigation, which could include, among other things, claims regarding infringement of the intellectual property rights of third parties, product defects, employment-related claims, and claims related to acquisitions, dispositions or restructurings. Addressing any such claims or litigation may be time-consuming and costly, divert management resources, cause product shipment delays, require us to redesign our products, require us to accept returns of products and to write-off inventory, or result in other adverse effects to our business. Any of the foregoing could have a material adverse effect on our results of operations and could require us to pay significant monetary damages.

We expect the likelihood of intellectual property infringement and misappropriation claims may increase as the number of products and competitors in the security market grows and as we increasingly incorporate third-party technology into our products. As a result of infringement claims, we could be required to license intellectual property from a third party or redesign our products. Licenses may not be offered when required or on acceptable terms. If we do obtain licenses from third parties, we may be required to pay license fees or royalties or we may be required to license some of our intellectual property to others in return for such licenses. If we are unable to obtain a license necessary for us or our third-party manufacturers to manufacture our allegedly infringing products, we could be required to suspend the manufacture of products or stop our suppliers from using processes that may infringe the rights of third parties. We may also be unsuccessful in redesigning our products. Our suppliers and customers may be subject to infringement claims based on intellectual property included in our products. We have historically agreed to indemnify our suppliers and customers for patent infringement claims relating to our products. The scope of this indemnity varies, but may, in some instances, include indemnification for damages and expenses, including attorney's fees. We may periodically engage in litigation as a result of these indemnification obligations. Our insurance policies exclude coverage for third-party claims for patent infringement.

Our stock price has been and is likely to remain volatile.

Over the past few years, The Nasdaq Capital Market has experienced significant price and volume fluctuations that have particularly affected the market prices of the stocks of technology companies. Volatility in our stock price may result from a number of factors, including, among others:

- low volumes of trading activity in our stock;
- technical trading patterns of our stock;

- variations in our or our competitors' financial and/or operational results;
- the fluctuation in market value of comparable companies in any of our markets;
- expected or announced news about partner relationships, customer wins or losses, product announcements or organizational changes;
- comments and forecasts by securities analysts;
- the inclusion or removal of our stock from market indices, such as groups of technology stocks or other indices;
- litigation developments; and
- general market downturns.

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In the past, companies that have experienced volatility in the market price of their stock have been the object of securities class action litigation.

We have been named as a defendant in putative securities class action and derivative lawsuits. These lawsuits and other litigation could cause us to incur substantial expenses and divert our attention and resources.

Securities class action lawsuits have often been brought against a company following periods of volatility in the market price of its securities. Companies such as ours in the technology industry are particularly vulnerable to this kind of litigation due to the volatility of their stock prices. We and a number of our current and former officers and directors are defendants in putative class lawsuits and derivative litigation, which is discussed in the Section entitled “Legal Proceedings.” Any litigation to which we are a party may result in the diversion of management attention and resources from our business and business strategy. In addition, any litigation to which we are a party may result in onerous or unfavorable judgments that may not be reversed upon appeal and that may require us to pay substantial monetary damages or fines, or we may decide to settle lawsuits on similarly unfavorable terms, which could have a material adverse effect our business, financial condition or results of operations.

You may experience dilution of your ownership interests due to the future issuance of additional shares of our stock, and future sales of shares of our common stock could adversely affect our stock price.

We have issued a significant number of shares of our common stock, together with warrants to purchase shares of our common stock and convertible preferred stock, in connection with a number of financing transactions and acquisitions in recent years. In the future, from time to time we may issue additional previously authorized and unissued securities, resulting in the dilution of the ownership interests of our current stockholders.

In addition, we have reserved shares of common stock for potential future issuance including stock issuable pursuant to various equity incentive plans, as contingent consideration related to previous acquisitions, the conversion of our preferred stock and various warrants issued in connection with previous capital raises and other transactions. As of March 15, 2018, 2,132,485 shares of common stock are reserved for future grants and outstanding equity awards under our various equity incentive plans and an additional 6,855,089 shares of common stock are reserved for future issuance in connection with other commitments, including the potential issuance of shares pursuant to warrant exercises and conversion of convertible preferred stock. We may issue additional shares of common stock or other securities that are convertible into or exercisable for shares of common stock in connection with the hiring of personnel, future acquisitions, future financings or for other business purposes. If we issue additional securities, the aggregate percentage ownership of our existing stockholders will be reduced. In addition, any new securities that we issue may have rights senior to those of our common stock.

The issuance of additional shares of common stock or preferred stock or other securities, or the perception that such issuances could occur, may create downward pressure on the trading price of our common stock.

If current or future export laws limit or otherwise restrict our business, we could be prohibited from shipping our products to certain countries, which could cause our business, financial condition and results of operations to suffer.

Some of our products are subject to export controls or other laws restricting the sale of our products under the laws of the U.S., the European Union (“EU”) and other governments. The export regimes and the governing policies applicable to our business are subject to change. We cannot be certain that such export authorizations will be available to us or for our products in the future. In some cases, we rely upon the compliance activities of our prime contractors, and we cannot be certain they have taken or will take all measures necessary to comply with applicable export laws. If we or our prime contractor partners cannot obtain required government approvals under applicable regulations, we may not be able to sell our products in certain international jurisdictions.

Changes in tax laws or the interpretation thereof, adverse tax audits and other tax matters may adversely affect our future results.

On December 22, 2017, the President of the United States signed into law the Tax Cuts and Jobs Act (the "Tax Act"), which significantly changed prior U.S. tax law and includes numerous provisions that affect our business in the current year and future years. Accounting for these provisions in fiscal 2017 requires the use of provisional estimates in our financial statements, and the exercise of significant judgment in accounting for the Tax Act's provisions. As regulations and guidance evolve with respect to the Tax Act, and as we gather more information and perform more analysis, our results may materially differ from previous estimates, and those differences may materially affect our financial position. The net impact of such changes are uncertain, and could adversely affect our tax rate and cash flow in future years.

A number of other factors may impact our tax position as well, including:

- the jurisdictions in which profits are determined to be earned and taxed;
- the resolution of issues arising from tax audits with various tax authorities;
- changes in the valuation of our deferred tax assets and liabilities;
- adjustments to estimated taxes upon finalization of various tax returns;
- increases in expenses not deductible for tax purposes; and
- the repatriation of non-U.S. earnings for which we have not previously provided for U.S. taxes.

Any of these factors could make it more difficult for us to project or achieve expected tax results. An increase or decrease in our tax liabilities due to these or other factors could adversely affect our financial results in future periods.

We had a material weakness in our internal controls over financial reporting, and if we fail to maintain adequate internal control over financial reporting, our business could be materially and adversely affected.

Under the Sarbanes-Oxley Act, our management must establish, maintain and make certain assessments and certifications regarding our disclosure controls and internal controls over financial reporting. We have dedicated significant resources to comply with these requirements, including significant actions to develop, evaluate, and test our internal controls. A failure to maintain adequate internal controls could result in inaccurate or late reporting of our financial results, an investigation by regulatory authorities, a loss of investor confidence, a decrease in the trading price of our common stock and exposure to costly litigation or regulatory proceedings.

As described in Controls and Procedures in Part II, Item 9A of this Annual Report on Form 10-K, in connection with the audit of our financial statements as of and for the year ended December 31, 2015, we identified a material weakness in internal control over financial reporting during 2015. Management determined that the design and operating effectiveness of our controls over the financial statement close process related to the application of our accounting policies and the presentation of disclosures in the financial statements had been inadequate. Specifically, this material weakness arose from insufficient review and oversight of the recording of complex and non-routine transactions, including revenue transactions, due to an insufficient number of accounting personnel with appropriate knowledge, experience or training in U.S. GAAP. A similar material weakness was previously identified and disclosed in our Annual Report on Form 10-K for the years ended December 2012 and 2013, and a remediation plan was implemented.

In 2016, a number of remediation actions and organizational changes were enacted to address specific control weaknesses identified, but the material weakness had not been fully remediated as of December 31, 2016. During the course of 2016, as part of our restructuring initiatives announced in the first quarter of 2016, we streamlined our global operations, transitioned to a single accounting system across substantially all our businesses, and strengthened our global accounting and finance function in Orange County, California. In 2017, we implemented procedures and controls over the financial statement close process, reallocated worldwide accounting resources, and continued to strengthen our accounting and finance team by hiring additional personnel with U.S. GAAP experience. We believe these initiatives allow for the necessary review and oversight of the recording complex and non-routine transactions. Management has determined that with the remediation measures undertaken in 2016 and through June 30, 2017, the material weakness has been fully remediated as of June 30, 2017. However, we may in the future identify additional internal control deficiencies that could rise to the level of a material weakness or uncover errors in our financial reporting, and the existing material weakness or other material weaknesses in our internal controls could have a material adverse effect on the accuracy, timeliness and reliability of our financial reporting, which may have an adverse effect on our financial condition and results of operations as well as the price of our common stock.

Provisions in our charter documents and Delaware law may delay or prevent our acquisition by another company, which could decrease the value of your shares.

Our certificate of incorporation and bylaws and Delaware law contain provisions that could make it more difficult for a third party to acquire us or enter into a material transaction with us without the consent of our board of directors. These provisions include a classified board of directors and limitations on actions by our stockholders by written consent. Delaware law imposes some restrictions on mergers and other business combinations between us and any holder of 15% or more of our outstanding common stock. In addition, our board of directors has the right to issue preferred stock without stockholder approval, which could be used to dilute the stock ownership of a potential hostile acquirer. These provisions will apply even if the offer were to be considered adequate by some of our stockholders. Because these provisions may be deemed to discourage a change of control, they may delay or prevent the acquisition of our company, which could decrease the value of our common stock.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

Our corporate headquarters are located in Fremont, California and we maintain operational headquarters in Santa Ana, California. We lease additional facilities around the world to house our engineering, sales and marketing, administrative and manufacturing functions. At December 31, 2017, our major facilities consisted of the following:

Location	Function	Square Feet	Lease Expiration
Fremont, California	Corporate headquarters	10,935	April 2021
Santa Ana, California	Administration; manufacturing; research and development	34,599	January 2023
Sauerlach, Germany	European operations; research and development; sales	5,156	April 2019
Chennai, India	Research and development	17,500	October 2018
Singapore	RFID/NFC product manufacturing	16,060	May 2021

ITEM 3. LEGAL PROCEEDINGS

On December 16, 2015, we and certain of our present and former officers and directors were named as defendants in a putative class action lawsuit filed in the United States District Court for the Northern District of California, entitled Rok v. Identiv, Inc., et al., Case No. 15-cv-05775, alleging violations of Section 10(b) of the Exchange Act of 1934 and Rule 10b-5 promulgated thereunder and Section 20(a) of the Exchange Act of 1934. On May 3, 2016, the court-appointed lead plaintiff Thomas Cunningham in the Rok lawsuit filed an amended complaint and a notice of dismissal without prejudice of all current or former officers and directors other than Jason Hart and Brian Nelson. On June 6, 2016, each of us, Jason Hart, and Brian Nelson filed a motion to dismiss for failure to state a claim upon which relief can be granted in the Rok lawsuit; on August 5, 2016, the court granted those motions with leave for the lead plaintiff to file a second amended complaint. On September 12, 2016, the lead plaintiff in the Rok lawsuit filed a second amended complaint. On October 10, 2016, each of us, Jason Hart, and Brian Nelson filed a motion to dismiss that second amended complaint for failure to state a claim upon which relief can be granted in the Rok lawsuit; on January 4, 2017, the court granted those motions with prejudice and entered judgment for us and the other defendants and against the lead plaintiff. On February 6, 2017, the lead plaintiff initiated an appeal of the court's decision in the Ninth Circuit Court of Appeals. Following the lead plaintiff's routine request to extend filing deadlines, which the Court of Appeals approved, the lead plaintiff's opening appellate brief was filed on June 14, 2017. Following Jason Hart's routine request to extend filing deadlines, which the Court of Appeals approved, the answering briefs of the Company and the other defendants were filed on August 14, 2017. Following the lead plaintiff's routine request to extend filing deadlines, which the Court of Appeals approved, the lead plaintiff's optional reply brief was filed on

October 5, 2017. The Ninth Circuit Court of Appeals held oral argument on March 13, 2018. On March 23, 2018, the Ninth Circuit issued an order affirming the dismissal with prejudice. In the interim, on January 3, 2018, lead plaintiffs filed a motion under Federal Rules of Civil Procedure Rule 60(b) in the trial court to vacate the January 4, 2017 judgment of dismissal. On February 9, 2018, following additional briefing, the trial court denied the motion.

In addition, three shareholder derivative actions were filed between January and February 2016. On January 1, 2016, certain of our present and former officers and directors were named as defendants, and we were named as nominal defendant, in a shareholder derivative lawsuit filed in the United States District Court for the Northern District of California, entitled Oswald v. Humphreys, et al., Case No. 16-cv-00241-CRB, alleging breach of fiduciary duty and waste claims. On January 25, 2016, certain of our present and former officers and directors were named as defendants, and we were named as nominal defendant, in a shareholder derivative lawsuit filed in the Superior Court of the State of California, County of Alameda, entitled Chopra v. Hart, et al., Case No. RG16801379, alleging breach of fiduciary duty claims. On February 9, 2016, certain of our present and former officers and directors were named as defendants, and we were named as nominal defendant, in a shareholder derivative lawsuit filed in the Superior Court of the State of California, County of Alameda, entitled Wollnik v. Wenzel, et al., Case No. HG16803342, alleging breach of fiduciary duty, corporate waste, gross mismanagement, and unjust enrichment claims. These lawsuits generally allege that we made false and/or misleading statements and/or failed to disclose information in certain public filings and disclosures between 2013 and 2015. Each of the lawsuits seeks one or more of the following remedies: unspecified compensatory damages, unspecified exemplary or punitive damages, restitution, declaratory relief, equitable and injunctive relief, and reasonable costs and attorneys' fees. On May 2, 2016, the court in the Chopra lawsuit entered an order staying proceedings in the Chopra lawsuit in favor of the Oswald lawsuit, based on a stipulation to that effect filed by the parties in the Chopra lawsuit on April 28, 2016. Similarly, on June 28, 2016, the court in the Wollnik lawsuit entered a stipulated order staying proceedings in the Wollnik lawsuit in favor of the Oswald lawsuit. On June 17, 2016, the plaintiff in the Oswald lawsuit filed an amended complaint. On August 1, 2016, we filed a motion to dismiss for failure by plaintiff to make a pre-lawsuit demand on our board of directors, which motion was heard on October 14, 2016. The judge in the Oswald lawsuit issued an order on November 7, 2016 granting our motion to dismiss, without prejudice. In addition, the court stayed the case so that plaintiff could exercise whatever rights he had under Section 220 of the Delaware General Corporation Law. On or around November 30, 2016, the plaintiff purported to serve a books and records demand under Section 220 of the Delaware General Corporation Law. We have responded to that demand. On March 21, 2017, we and the plaintiff in the Oswald lawsuit filed a stipulation and proposed order lifting the stay of the case, granting the plaintiff leave to amend, and setting a briefing schedule. That stipulation proposed that the judge's stay of the case entered November 7, 2016 be lifted, that a stay of proceedings as to the individual defendants that the judge previously entered remain in place, that the plaintiff may file a second amended complaint on or before April 10, 2017, that we may file a motion to dismiss that second amended complaint on or before May 12, 2017, that the plaintiff's opposition to such a motion to dismiss shall be filed on or before June 12, 2017, that our reply in support of such a motion shall be filed on or before June 30, 2017, and that the hearing on such a motion to dismiss shall be held on August 11, 2017 or such other date as the court may order. On March 22, 2017, the court entered an order approving that stipulation. The plaintiff in the Oswald lawsuit filed his second amended complaint on April 10, 2017. We then filed a motion to dismiss that second amended complaint on May 12, 2017, the plaintiff filed an opposition to that motion to dismiss on June 12, 2017, and we filed a reply in support of the motion on June 30, 2017. The hearing on that motion to dismiss was rescheduled by stipulation of the parties to September 22, 2017 and then further rescheduled by the court to October 6, 2017. The hearing on that motion to dismiss was held on October 6, 2017, and that day the court entered a minute entry indicating the motion would be denied. On October 22, 2017, the court issued its written order denying the motion to dismiss on the basis of demand futility. On December 15, 2017, the court held a status conference. On January 3, 2018, the court entered a stipulated order setting a response and briefing schedule for defendants to the second amended complaint. Pursuant to the schedule, defendants filed motions to dismiss under Rule 12(b)(6) on January 16, 2018. Plaintiff filed his opposition brief on February 14, 2018. Defendants' reply briefs are due on March 2, 2018. The court heard argument on the motions to dismiss on March 23, 2018 and took the matters under submission. On October 18, 2017, the court in the Wollnik lawsuit conducted a case management conference, at the conclusion of which the court scheduled a complex determination hearing for November 28, 2017. We filed a notice of non-opposition to complex case designation and request for coordination with the Chopra lawsuit on October 24, 2017. The plaintiff in the Wollnik lawsuit filed a statement of non-opposition to complex case designation on or about November 27, 2017. The court continued the complex determination hearing to April 3, 2018. We intend to vigorously defend against these lawsuits. We cannot currently predict the impact or resolution of each of these lawsuits or reasonably estimate a range of possible loss, if any, which could be material, and the resolution of these lawsuits may harm our business and have a material adverse impact on our financial condition.

From time to time, we could become subject to claims arising in the ordinary course of business or could be named a defendant in additional lawsuits. The outcome of such claims or other proceedings cannot be predicted with certainty and may have a material effect on our financial condition, results of operations or cash flows.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

Executive Officers of the Registrant

Information concerning our executive officers as of March 1, 2018 is as follows:

Steven Humphreys, 56, has served as our Chief Executive Officer since September 9, 2015 and as a director of the Company since July 1996. Mr. Humphreys previously served as Chairman of the Board from September 2013 until September 9, 2015. Previously, he also served as Lead Director from May 2010 until April 2013 and as Chairman of the Board from April 2000 to March 2007. Mr. Humphreys also served as an executive officer of the Company, as President from July 1996 to December 1996 and as President and Chief Executive Officer from December 1996 to April 2000. From November 2011 to December 2014, Mr. Humphreys served as chief executive officer of Flywheel Software, Inc., a venture-backed, location-based mobile solutions company. From October 2008 until its acquisition by SMSC in February 2011, Mr. Humphreys served as Chief Executive Officer and President of Kleer Corporation, a venture-backed provider of wireless audio technology. From October 2001 to October 2003, he served as Chairman of the Board and Chief Executive Officer of ActivIdentity, a provider of digital identity solutions, a publicly-listed company until its acquisition by HID Global in December 2010. He also served as a director of ActivIdentity from March 2008 until December 2010. Previously, Mr. Humphreys was President of Caere Corporation, a publicly-listed optical character recognition software company. Prior to Caere, he spent ten years with General Electric in a variety of factory automation and information technology positions, most recently leading the Information Delivery Services business unit of GE Information Services. Philanthropically, Mr. Humphreys has been an elected public school board trustee and a contributor to a range of education-oriented charities. He also serves on the board of Summit Public Schools, a charter school system with schools across the West Coast, and developer of the Summit Learning System, developed in cooperation with Facebook and deployed in over 1,000 schools nationwide. Mr. Humphreys holds a B.S. degree from Yale University and M.S. and M.B.A. degrees from Stanford University.

Sandra Wallach, 53, has served as our Chief Financial Officer since February 16, 2017. Ms. Wallach previously served as VP Finance for MiaSole, a thin film solar technology company, from May 2011 to January 2013. For a six month period from January 2013 to June 2013, she served as Chief Financial Officer of UBM Tech, a wholly-owned subsidiary of UBM LLC. In June 2013, she returned to MiaSole and served as their VP Finance until February 2017. Prior to that, she served as VP Finance at Juniper Networks (from 2008-2011) as well as holding different Financial management positions with Intuit (2003-2007). Before joining Intuit, Ms. Wallach served as Chief Financial Officer of General Electric's (GE) Industrial Systems, Drives & Controls division. Previously she held a range of financial and management positions at General Electric since joining GE in 1986. Ms. Wallach holds a B.A. in Economics and Public Policy from the University of California at Berkeley.

PART II

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

Price Range of Common Stock; Number of Holders; Dividends

Our common stock is traded on The Nasdaq Capital Market under the symbol “INVE.” According to data available at March 6, 2018, we had 106 registered holders of our common stock. Not represented in this figure are individual stockholders in Germany whose custodian banks do not release stockholder information to us. The following table sets forth the high and low closing prices of our common stock for the periods indicated:

	High	Low
Fiscal 2017:		
First Quarter	$7.55	$3.45
Second Quarter	$7.43	$4.85
Third Quarter	$5.70	$4.34
Fourth Quarter	$4.97	$2.90
Fiscal 2016:		
First Quarter	$2.36	$1.56
Second Quarter	$2.95	$1.75
Third Quarter	$2.60	$1.78
Fourth Quarter	$4.23	$1.97

We have never declared or paid cash dividends on our common stock. We currently anticipate that we will retain all of our future earnings for use in the expansion and operation of our business and do not anticipate paying any cash dividends in the foreseeable future. In addition, our loan agreements with our lenders prohibit the payment of dividends.

The disclosure required by Item 201(d) of Regulation S-K is included in Item 12 of this Annual Report on Form 10-K.

During the years ended December 31, 2017 and 2016, the Company repurchased 178,207shares and 109,192 shares, respectively, of common stock surrendered to the Company to satisfy tax withholding obligations in connection with the vesting of RSUs issued to employees.

ITEM 6. SELECTED FINANCIAL DATA

Not applicable.

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

This Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations," and other parts of this Annual Report on Form 10-K ("Annual Report") contain forward-looking statements, within the meaning of the Private Securities Litigation Reform Act of 1995, that involve risks and uncertainties. Forward-looking statements reflect current expectations of future events based on certain assumptions and include any statement that does not directly relate to any historical or current fact. Forward-looking statements can also be identified by words such as "will," "believe," "could," "should," "would," "may," "anticipate," "intend," "plan," "estimate," "expect," "project" or the neg terms or other similar expressions. Forward-looking statements are not guarantees of future performance and our actual results may differ significantly from the results discussed in the forward-looking statements. Factors that might cause such differences include, but are not limited to, those discussed in Part I, Item 1A of this Annual Report under the heading "Risk Factors," which are incorporated herein by reference. The following discussion should be read in conjunction with the consolidated financial statements and notes thereto included in Part II, Item 8 of this Annual Report. We assume no obligation to revise or update any forward-looking statements for any reason, except as required by law.

Each of the terms the "Company," "Identiv," "we" and "us" as used herein refers collectively to Identiv, Inc. and its wholly-owned subsidiaries, unless otherwise stated.

Overview

Identiv is a global security technology company that secures and manages access to physical places, things and information. Global organizations across government, education, retail, transportation, healthcare and other markets rely upon our solutions. We empower them to create secure and convenient experiences in schools, government offices, stores, banks, critical infrastructure, transportation, hospitals and virtually every type of facility and for a wide range of products.

Our operating segments focus on the following solutions:

- Physical security and customer insight solutions, securing buildings via an integrated access control system, included in our Premises (formerly referred to as "PACS") segment.
- Information security solutions, securing enterprise information access and secure transactions across PCs, networks, email, login, secure payments and printers via delivery of smart card reader products, included in our Identity segment.
- Radio frequency identification ("RFID") based solutions for use in a wide range of applications from asset tracking to product authenticity, customer engagement, product instrumentation, transportation access and other applications sometimes included in the Internet of Things ("IoT"). The RFID devices are embedded into access cards, transponders and other embedded devices that enable frictionless access to and interaction with the physical world.

The foundation of our business is our deep technical expertise in RFID, smart card technology, and physical security technologies. Our close customer relationships and analytics platforms allow us to develop customer-relevant products and applications. This is all underpinned by our core value of uncompromising quality.

To deliver our solutions, we have organized our operations into four reportable business segments, principally by product families: Premises, Identity, Credentials, and All Other.

Premises

The foundation of our physical security platform has been the Hirsch line of controllers including the advanced MX line, Hirsch's Velocity management software and a wide range of integrations that provide Velocity/MX's unique flexibility across a wide range of industries and implementations. We have further extended our physical access platform with our Identiv Connected Physical Access Manager ("ICPAM") software, derived from Cisco's Physical

Access Manager ("CPAM") system and available in partnership with Cisco. Additionally, we sell either individual components or complete bundled solutions which can include any or all among software, edge controllers, multi-door panels, access readers, access cards and other components.

Our modular Hirsch MX controllers are designed to be scalable, allowing customers to start with a small system and expand over time. Hirsch MX controllers can operate autonomously, whether as a single controller or as part of a networked system with Velocity software. The Hirsch Velocity software platform enables centralized management of access and security operations across an organization, including control of doors, gates, turnstiles, elevators and other building equipment, monitoring users as they move around a facility, preventing unwanted access, maintaining compliance and providing a robust audit trail.

To our price/performance/quality-leading commercial offerings, we have added what we believe to be the highest performance, lowest per-door cost access control system for the U.S. federal government security mandate known as the Federal Identity, Credential and Access Management (“FICAM”) architecture. This brings all of the advantages above into the next generation of physical security for the U.S. government departments and agencies to achieve Federal Information Processing Standard (“FIPS”) 201 compliance.

Our TouchSecure (“TS”) door readers provide unique features to support a wide range of security standards. We support the majority of legacy card credentials with a robust next-generation platform that can help companies migrate to more secure credentials and technologies, including smart cards, near field communication ("NFC") and government-issued credentials including Common Access Card (“CAC”), Personal Verification Identification (“PIV”), Personal Verification Identification – Interoperable (“PIV-I”) and others. Additionally, our Scramblepad readers employ numerical scrambling on the keypad to protect access codes from being stolen as they are entered, and providing both secure two-factor authentication and convenient alternative-factor access.

In addition to this solution offering, in 2017, we launched Identiv Global Services (“IGS”), a service offering with a comprehensive catalog of end-to-end services that facilitates customer success and drives deeper adoption of the Identiv product portfolio. IGS supports customers throughout their premises security lifecycle from system design, to deployment to managed services. IGS experts enable customers to address today’s complex security and IT systems interoperability requirements, and helps them achieve a tailor-made set-up.

In February 2018, we acquired 3VR Security, Inc. (“3VR”), a video technology and analytics company. Our new offerings include video intelligence solutions which provide a single platform for real-time security and customer insights, enabling organizations to protect employees, customers and assets as well as improve store operations and shopping experiences. Our new open, pluggable platform leverages existing customer infrastructure and allows customers to expand their systems’ capabilities seamlessly.

In addition to our core products, we have a range of product initiatives to leverage leading technology advances across mobile, biometric, machine-learning and other areas, to provide convenient, frictionless, low-cost yet highly secure physical access. We invest independently and in partnership with other leading technology companies in these emerging aspects of physical security and analytics platforms.

Identity

Our Identity products include smart card readers, which includes a broad range of contact, contactless, portable and mobile smart card readers, tokens and terminals that are utilized around the world to enable logical access (i.e., PC, network or data access) and security and identification applications, such as national ID, payment, e-Health and e-Government.

With over 20 years of smart card reader, application and token experience, we are known for our expertise in this complex ecosystem. We combine our deep technical expertise with an optimized supply chain, to provide the most optimal, cost-effective and high-quality smart card-based products. Whether Identiv branded products, original equipment manufacturers (“OEM”) branded, or embedded chips or modules, our position is as the trusted business solution provider for all users and issuers of smart cards and embedded-chip applications.

Credentials

Our Credentials segment includes NFC and RFID products, including inlays and inlay‒based and other cards, labels, tags and stickers, as well as other radio frequency (“RF”) and integrated circuits (“IC”) components and our generally grouped into access cards and transponders. Our TS Cards product line, we believe, is the first complete solution to allow customers to pay only for the most basic low-frequency proximity access technology while having the ability to evolve to the higher-security high-frequency and highest-security public key infrastructure (“PKI”) based access credentials. This product line exemplifies our values: we place no burden on our customers, instead providing the most cost-effective solution to their basic needs; and then delivering within this platform the ability for them to move to higher-level needs and capabilities, when they want, when they are ready and when they will realize economic and experience benefits.

Our transponder products span the full range of high frequency (“HF”) and ultra-high frequency (“UHF”) technologies. Our differentiation is analogous to application-specific integrated circuits (“ASICS”) in the semiconductor market. We leverage our flexible platform, our deep technical expertise and our infrastructure and supply chain to deliver solutions optimized for our customers’ business goals. We believe we are more responsive, more flexible, more experienced in business-optimized solutions and have a better track record of sustained delivery of solution-specific, high-quality RFID devices than our competitors. These products are manufactured in our state-of-the-art facility in Singapore and are used in a diverse range of physical applications, including electronic entertainment such as virtual reality (“VR”), games, loyalty cards, mobile payment systems, transit and event ticketing, brand authenticity from pharmaceuticals to consumer goods, hospital resource management, cold-chain management and many others.

Leveraging our expertise in RFID, physical access and physical authentication, we are developing new solutions to extend our platforms across a wide variety of physical use cases. The next major opportunity in our connected world is the IoT, which fundamentally is about physical things. We believe our core strength in physical access and physical instrumentation markets, our well-established platforms and our deep knowledge of the relevant technologies, position us well in this growth market.

All Other

The All Other segment included legacy product lines, such as Chipdrive and Digital Media readers. No revenues from this segment were generated in 2017 and no revenues are expected to be generated in future periods. In the fourth quarter of 2016, we phased out our Digital Media product lines and discontinued our Chipdrive product line.

We primarily conduct sales and marketing activities in each of the markets in which we compete, utilizing our own sales and marketing organization to solicit prospective channel partners and customers, provide technical advice and support with respect to products, systems and services, and manage relationships with customers, distributors and/or OEMs. We utilize indirect sales channels that may include OEMs, dealers, systems integrators, value added resellers, resellers or Internet sales, although we also sell directly to end users. In support of our sales efforts, we participate in industry events and conduct sales training courses, targeted marketing programs, and ongoing customer, channel partner and third-party communications programs.

For a discussion of our net revenue by segment and geographic location, see Note 9, Segment Reporting and Geographic Information, in the accompanying notes to our consolidated financial statements.

Trends in our Business

Geographic net revenue, based on each customer's ship-to location, for the years ended December 31, 2017 and 2016 is as follows (in thousands):

	Year Ended December 31,			
	2017		2016	
Americas	$40,018		$38,135	
Europe and the Middle East	7,887		8,589	
Asia-Pacific	12,314		9,444	
Total	$60,219		$56,168	
Americas	67	%	68	%
Europe and the Middle East	13	%	15	%
Asia-Pacific	20	%	17	%
Total	100	%	100	%

Net Revenue Trends

Net revenue in 2017 was $60.2 million, an increase of 7% compared with $56.2 million in 2016. Approximately 40% of our net revenue came from our Premises segment. Net revenue in our Premises segment was $24.2 million in 2017 compared to $24.7 million in 2016. Net revenue in our Identity segment, which represented approximately 24% of total net revenue, was $14.3 million in 2017 compared with $12.9 million in 2016. Net revenue in our Credentials segment represented approximately 36% of our net revenue. Net revenue in our Credentials segment in 2017 was

$21.8 million compared with $18.0 million in 2016.

Net revenue in the Americas

Net revenue in the Americas was $40.0 million in 2017, accounting for 67% of total net revenue, up 5% compared with $38.1 million in 2016. Net revenue from our Premises solution for security programs within various U.S. government agencies, as well as RFID and NFC products, inlays and tags represented approximately 54% of our net revenue in the Americas region.

Net revenue in our Premises segment in the Americas in 2017 was comparable to 2016 primarily due to higher software product sales, higher sales through our channel partners, and an increase in professional services engagements, offset by lower sales of physical access control readers. Net revenue from our Identity segment decreased 24% in 2017 compared with 2016 primarily due to lower smart card reader sales. Net revenue in our Credentials segment increased 33% in 2017 compared to 2016 due to higher RFID and NFC transponder and access card sales.

As a general trend, U.S. Federal agencies continue to be subject to security improvement mandates under programs such as Homeland Security Presidential Directive ("HSPD") 12 and reiterated in memoranda from the Office of Management and Budget (OMB M-11-11). We believe that our solution for trusted physical access is an attractive offering to help federal agency customers move towards compliance with federal directives and mandates. To expand our sales opportunities in the United States in general and with orders sourced from U.S. Government agencies in particular, we have strengthened our U.S. sales organization and our sales presence in Washington D.C.

Net revenue in Europe, the Middle East, and Asia-Pacific

Net revenue in Europe, the Middle East, and Asia-Pacific was approximately $20.2 million in 2017, accounting for 33% of total net revenue, an increase of approximately 12% compared with 2016 primarily as a result of higher sales in the Asia-Pacific, partially offset by lower sales in the Europe and the Middle East regions. Net revenue in these regions are dependent on the completion of large projects and the timing of orders placed by some of our larger customers. Sales of Identity readers and RFID and NFC products and tags comprise a significant proportion of our net revenue in these regions.

Net revenue from our Premises products decreased in 2017 compared with 2016 due to lower sales of physical access control solutions in the Europe and Middle East regions, partially offset by an increase in sales in the Asia-Pacific region. Net revenue from our Identity products increased approximately 39% in 2017 compared with 2016 primarily due to higher sales of smart card readers in both regions. Identity reader sales in 2017 and 2016 comprised approximately 49% and 40% of the net revenue throughout these regions, respectively. Net revenue from our Credentials products in 2017, which comprised approximately 38% of sales in these regions, increased 4% compared to 2016 primarily as a result of higher RFID and NFC transponder product sales in both regions.

Seasonality and Other Factors

In our business overall, we may experience significant variations in demand for our offerings from quarter to quarter, and typically experience a stronger demand cycle in the second half of our fiscal year. Sales of our premises solutions to U.S. Government agencies are subject to annual government budget cycles and generally are highest in the third quarter of each year. However, the usual seasonal trend can be negatively impacted by actions such as government shutdowns and the passing of continuing resolutions which can act to delay the completion of certain projects. Sales of our identity reader chips, many of which are sold to government agencies worldwide, are impacted by testing and compliance schedules of government bodies as well as roll-out schedules for application deployments, both of which contribute to variability in demand from quarter to quarter. Further, this business is typically subject to seasonality based on differing commercial and global government budget cycles. Lower sales are expected in the U.S. in the first half, and in particular the first quarter of the year, with higher sales typically in the second half of each year. In Asia and Australia, with fiscal year-ends in March and June, order demand can be high in the first half as customers attempt to complete projects before the end of the fiscal year. Accordingly, our net revenue levels in the first quarter and first half each year often depends on the relative strength of project completions and sales mix between our U.S. customer base and our International customer base.

In addition to the general seasonality of demand, overall U.S. Government expenditure patterns have a significant impact on demand for our products due to the significant portion of revenues that are typically sourced from U.S. Government agencies. Therefore, any significant reduction in U.S. Government spending could adversely impact our financial results and could cause our operating results to fall below any guidance we provide to the market or below the expectations of investors or security analysts.

Operating Expense Trends

Base Operating Expenses

Our base operating expenses (i.e., research and development, selling and marketing, and general and administrative spending) decreased 16% in 2017 compared with 2016. Research and development spending decreased by 6% in 2017 compared with 2017 resulting from restructuring initiatives undertaken in the first quarter of 2016 and additional headcount reductions in 2017, partially offset by higher product certification costs. Selling and marketing spending in 2017 decreased by 4% compared with 2016, due to cost saving initiatives taken in the sales and marketing organization reducing marketing program spending. General and administrative spending in 2017 decreased by 36% compared with 2016 primarily due to lower legal and professional fees, reimbursements received from an insurance provider for legal fees incurred related to legal proceedings, and credits received from service providers for legal fees invoiced in prior periods.

Results of Operations

The following table includes segment net revenue and segment net profit information by business segment and reconciles gross profit to results of operations before income taxes and noncontrolling interest.

The following table sets forth our statements of operations as a percentage of net revenue for the periods indicated (in thousands):

	Year Ended December 31, 2017	2016
Premises:		
Net revenue	$24,154	$24,696
Gross profit	13,669	14,034
Gross profit margin	57 %	57 %
Identity:		
Net revenue	14,293	12,902
Gross profit	5,117	5,015
Gross profit margin	36 %	39 %
Credentials:		
Net revenue	21,772	17,992
Gross profit	3,374	4,427
Gross profit margin	15 %	25 %
All Other:		
Net revenue	—	578
Gross profit	—	253
Gross profit margin	—	44 %
Total:		
Net revenue	60,219	56,168
Gross profit	22,160	23,729
Gross profit margin	37 %	42 %
Operating expenses:		
Research and development	6,146	6,520
Selling and marketing	13,452	14,032
General and administrative	7,241	11,309
Restructuring and severance	(49)	3,088
Total operating expenses	26,790	34,949
Loss from operations	(4,630)	(11,220)
Non-operating income (expense):		
Interest expense, net	(2,590)	(2,378)
Loss on extinguishment of debt, net	(788)	—
Foreign currency (losses) gains, net	(358)	27
Loss before income taxes and noncontrolling interest	$(8,366)	$(13,571)

	Year Ended December 31,	
	2017	2016
Net revenue	100.0%	100.0%
Cost of revenue	63.1	57.8
Gross profit	36.9	42.2
Operating expenses:		
Research and development	10.2	11.6
Selling and marketing	22.3	25.0
General and administrative	11.9	20.1
Restructuring and severance	(0.1)	5.5
Total operating expenses	44.4	62.2
Loss from operations	(7.5)	(20.0)
Non-operating income (expense)		
Interest expense, net	(4.3)	(4.2)
Loss on extinguishment of debt, net	(1.3)	—
Foreign currency losses, net	(0.6)	—
Loss before income taxes and noncontrolling interest	(13.7)	(24.2)
Income tax benefit (provision)	0.4	(0.2)
Loss before noncontrolling interest	(13.3)	(24.4)
Less: Net loss attributable to noncontrolling interest	—	—
Net loss attributable to Identiv, Inc. stockholders' equity	(13.3)%	(24.4)%

Fiscal 2017 Compared with Fiscal 2016

Net Revenue

Net revenue in 2017 was $60.2 million, up 7% compared with $56.2 million in 2016. Net revenue was higher in 2017 primarily driven by higher sales in our Identity and Credentials segments. Net revenue in our Premises segment in 2017 was comparable with 2016. A more detailed discussion of net revenue by segment follows below.

Net revenue in our Premises segment of $24.2 million in 2017 was comparable with $24.7 million in 2016. Net revenue from higher software product sales, higher sales through our channel partners, and an increase in professional services engagements, were offset by lower sales of physical access control readers.

Net revenue in our Identity segment of $14.3 million in 2017 increased 11% from $12.9 million in 2016 primarily as a result of higher sales of smart card readers in the Europe and the Middle East and Asia-Pacific regions, partially offset by lower smart card reader sales in the Americas region.

Net revenue in our Credentials segment was $21.8 million in 2017, an increase of 21% from $18.0 million in 2016. The increase was primarily due to higher RFID and NFC transponder sales and in the Americas, Europe and the Middle East and the Asia-Pacific regions. In addition, sales of access card products increased 27% in the Americas, slightly offset by lower access card product sales in Europe and the Middle East and the Asia-Pacific regions.

Gross Profit

Gross profit for 2017 was $22.2 million, or 37% of net revenue, compared to $23.7 million or 42% of net revenue in 2016. Gross profit represents revenues less direct cost of product sales, manufacturing overhead, other costs directly related to preparing the product for sale including freight, scrap, inventory adjustments and amortization, where applicable.

In our Premises segment, gross profit on sales of physical access control solutions, including panels, controllers, and access readers was $13.7 million in 2017 and $14.0 million in 2016. Gross profit margins in the Premises segment were 57% in 2017 and in 2016.

In our Identity segment, gross profit on sales of information readers and modules as well as credential provisioning and management services was $5.1 million in 2017 compared to $5.0 million in 2016. Gross profit margins were lower in 2017 at 36% compared with 39% in 2016 primarily due to Identity product sales to international customers with lower margins.

In our Credentials segment, gross profit on sales of physical access credentials and authenticity and tracking applications was $3.4 million in 2017 compared with $4.4 million in 2016. Gross profit in the Credentials segment was lower primarily due to a transponder related inventory reserve adjustment recorded in the fourth quarter of 2017 associated with a customer relationship which ended at the end of 2015 and our decision to discontinue plans for alternate use of the product. Gross profit margins in the Credentials segment were lower in 2017 at 15% compared with 25% in 2016 primarily due to a higher proportion of lower margin sales and the transponder related inventory reserve adjustment described above.

We expect there will be some variation in our gross profit from period to period, as our gross profit has been and will continue to be affected by a variety of factors, including, without limitation, competition, product pricing, the volume of sales in any given quarter, manufacturing volumes, product configuration and mix, the availability of new products, product enhancements, software and services, risk of inventory write-downs and the cost and availability of components.

Operating Expenses

Information about our operating expenses for the fiscal years ended December 31, 2017 and 2016 is set forth below.

Research and Development

	Fiscal 2017	Fiscal 2016	$ Change	% Change
	($ in thousands)			
Research and development expenses	$6,146	$6,520	$(374)	(5.7)%
Percentage of revenue	10%	12%		

Research and development expenses consist primarily of employee compensation and fees for the development of hardware, software and firmware products. We focus the bulk of our research and development activities on the continued development of existing products and the development of new offerings for emerging market opportunities.

Research and development expenses in 2017 decreased primarily as a result of the restructuring initiatives undertaken in the first quarter of 2016 and additional headcount reductions in 2017, partially offset by higher product certification costs.

Selling and Marketing

	Fiscal 2017	Fiscal 2016	$ Change	% Change
	($ in thousands)			
Selling and marketing expenses	$13,452	$14,032	$(580)	(4.1)%
Percentage of revenue	22%	25%		

Selling and marketing expenses consist primarily of employee compensation as well as amortization expense of certain intangible assets, tradeshow participation, advertising and other marketing and selling costs.

Selling and marketing expenses in 2017 decreased compared with 2016 primarily due to a reduction in headcount and marketing program spending.

General and Administrative

	Fiscal 2017	Fiscal 2016	$ Change	% Change
	($ in thousands)			
General and administrative expenses	$7,241	$11,309	$(4,068)	(36.0)%
Percentage of revenue	12 %	20 %		

General and administrative expenses consist primarily of compensation expenses for employees performing administrative functions, and professional fees incurred for legal, auditing and other consulting services.

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General and administrative expenses decreased primarily due to lower professional and legal fees, including reimbursements of $1.0 million in 2017 from our insurance provider for legal fees incurred in connection with matters related to a complaint by a former employee, related investigations, the class and derivative litigation and related proceedings, and credits received from service providers for legal fees invoiced in prior periods.

Restructuring and Severance Charges

	Fiscal 2017	Fiscal 2016	$ Change	% Change
	($ in thousands)			
Restructuring and severance	$(49)	$3,088	$(3,137)	(101.6)%

In the first quarter of 2016, we implemented a worldwide restructuring plan designed to refocus our resources on our core business segments, including physical access and transponders, and to consolidate our operations in several worldwide locations. The restructuring plan included reducing our non-manufacturing employee base, reallocating overhead roles into direct business activities and eliminating certain management and executive roles. As a result, we incurred $3.1 million in restructuring costs and severance costs in 2016. In 2017, we recorded a credit resulting from actual expenditures being less than originally accrued.

See Note 10, Restructuring and Severance, in the accompanying notes to our consolidated financial statements for more information.

Non-operating Income (Expense)

Information about our non-operating income (expense) for the fiscal years ended December 31, 2017 and 2016 is set forth below.

Interest Expense, Net

	Fiscal 2017	Fiscal 2016	$ Change	% Change
	($ in thousands)			
Interest expense, net	$(2,590)	$(2,378)	$(212)	8.9%
Loss on extinguishment of debt, net	$(788)	—	$(788)	100.0%

Interest expense, net consists of interest on financial liabilities and interest accretion expense for a liability to a long-term payment obligation arising from our acquisition of Hirsch Electronics Corporation (“Hirsch”). The higher net interest expense in 2017 is attributable to higher interest costs related to our debt facility, partially offset by lower debt levels compared to 2016.

In the first quarter of 2017, we repaid all amounts outstanding under our debt facility with a lender and entered into new credit facilities with East West Bank (“EWB”) and Venture Lending & Leasing VII, Inc. and Venture Lending & Leasing VIII, Inc. (collectively referred to as “VLL7 and VLL8”), resulting in a gain on extinguishment of debt of $1.0 million representing the difference between the reacquisition price of the existing debt facility and its net carrying amount. In the fourth quarter of 2017, we paid down $5.0 million of the $10.0 million outstanding term loan payable to VLL7 and VLL8, resulting in the recognition of a loss on extinguishment of debt of $1.8 million.

See Note 6, Long-Term Payment Obligation and Note 7, Financial Liabilities, in the accompanying notes to our consolidated financial statements for more information.

Foreign Currency Gains (Losses), Net

	Fiscal 2017	Fiscal 2016	$ Change	% Change
	($ in thousands)			
Foreign currency gains (losses), net	$(358)	$ 27	$ (385)	(1425.9)%

Changes in currency valuation in the periods mainly were the result of exchange rate movements between the U.S. dollar and the Euro. Accordingly, they are predominantly non-cash items. Our foreign currency gains and losses primarily result from the valuation of current assets and liabilities denominated in a currency other than the functional currency of the respective entity in the local financial statements.

Income Taxes

	Fiscal 2017	Fiscal 2016	$ Change	% Change
	($ in thousands)			
Income tax benefit (provision)	$214	$(132)	$ 346	(262.1)%

Our tax rate is affected by recurring items, such as tax rates in foreign jurisdictions and the relative amount of income (loss) we earn in jurisdictions. It is also affected by discrete items that may occur in any given year, but are not consistent from year to year. The following items had the most significant impact on the difference between our statutory U.S. federal income tax rate of 34% and our effective tax rate in fiscal years 2017 and 2016.

2017 – A reduction of $15.8 million, or 188.6%, to the statutory rate resulted from revaluation of federal deferred tax assets and liabilities due to the change in the federal enacted rate from 34% to 21%. An increase of $13.9 million, or 166.5%, to the statutory rate resulted from changes in the valuation allowance during the year, including a corresponding change in the valuation allowance due to revaluation of deferred tax assets and liabilities mentioned above. A reduction of $0.7 million, or 8.2%, resulted from rate differences between U.S. and non-U.S. jurisdictions and a true-up of foreign income tax payables. Significant jurisdictions causing this difference are Germany and Singapore. No U.S. taxes were provided on foreign current year earnings/losses as these earnings are intended to be indefinitely reinvested outside the United States. No repatriation tax was provided with respect to undistributed earnings of foreign subsidiaries due to a net foreign earnings and profits deficit position. The net effect of all changes was an income tax benefit of $0.2 million recorded in 2017.

2016 – A reduction of $4.0 million, or 29.3%, to the statutory rate resulted from changes in the valuation allowance during the year. A reduction of $0.4 million, or 3.1%, resulted from rate differences between U.S. and non-U.S. jurisdictions. No U.S. taxes were provided with respect to undistributed earnings of foreign subsidiaries as these earnings are intended to be indefinitely reinvested outside the United States. Significant jurisdictions causing this difference are Germany and Singapore. The net effect of all changes was an income tax expense of $0.1 million recorded in 2016.

Liquidity and Capital Resources

As of December 31, 2017, our working capital, defined as current assets less current liabilities, was $23.0 million, an increase of $13.9 million compared to $9.1 million as of December 31, 2016. As of December 31, 2017, our cash balance was $19.1 million.

The following summarizes our cash flows for the twelve months ended December 31, 2017 and 2016 (in thousands):

	Year Ended December 31,	
	2017	2016
Net cash used in operating activities	$(7,832)	$(6,217)
Net cash used in investing activities	(967)	(549)
Net cash provided by (used in) financing activities	18,077	(221)
Effect of exchange rates on cash	658	(564)
Net increase (decrease) in cash	9,936	(7,551)

Cash, beginning of year	9,116	16,667
Cash, end of year	$19,052	$9,116

Significant commitments that will require the use of cash in future periods include obligations under operating leases, our contractual payment obligation assumed upon our acquisition of Hirsch, debt obligations, purchase commitments and other obligations. Gross committed operating lease obligations are $4.4 million, our contractual payment obligation assumed upon our acquisition of Hirsch is $4.3 million, the bank term loan, revolving loan facility and interest related obligation is $19.7 million, and purchase commitments and other obligations are $11.4 million at December 31, 2017. Total commitments due within one year are $29.7 million and due thereafter are $10.1 million at December 31, 2017. These commitment levels are based on existing terms of our operating leases, obligation with suppliers, our contractual payment obligation and the existing Loan and Security Agreements with EWB and VLL7 and VLL8 as of December 31, 2017.

Cash used in operating activities for 2017 primarily was due to the net loss of $8.2 million and decreases in cash from net changes in operating assets and liabilities of $6.8 million which was partially offset by adjustments for certain non-cash items of $7.1 million which primarily consisted of depreciation, amortization, amortization of debt issue costs, stock-based compensation and a loss on extinguishment of debt, net. For 2016, cash used in operating activities primarily was due to the net loss of $13.7 million and a decrease in cash from net changes in operating assets and liabilities of less than $0.1 million, which were partially offset be adjustments for certain non-cash items of $7.6 million.

Cash used in investing activities for 2017 reflects $1.0 million in capital expenditures. For 2016, cash used in investing activities reflects $0.5 million in capital expenditures.

Cash used in financing activities for 2017 related to borrowings of debt, net of issuance costs, of $53.0 million, proceeds from the sale of our common stock, net of issuance costs, of $12.6 million, and the issuance of Series B preferred stock of $12.0 million, offset by repayments of debt of $58.7 million and taxes paid related to net share settlement of restricted stock units of $0.8 million. Cash used in financing activities for 2016 was attributable to taxes paid related to net share settlement of restricted stock units of $0.2 million.

We consider the undistributed earnings of our foreign subsidiaries, if any, as of December 31, 2017, to be indefinitely reinvested and, accordingly, no U.S. income taxes have been provided thereon. Generally most of our foreign subsidiaries have accumulated deficits and cash and cash equivalents that are held outside the United States are typically not cash generated from earnings that would be subject to tax upon repatriation if transferred to the United States. We have access to the cash held outside the United States to fund domestic operations and obligations without any material income tax consequences. As of December 31, 2017, the amount of cash included at such subsidiaries was $1.4 million. We have not, nor do we anticipate the need to, repatriate funds to the United States to satisfy domestic liquidity needs arising in the ordinary course of business, including liquidity needs associated with our domestic debt service requirements.

On February 8, 2017, we entered into Loan and Security Agreements with EWB and VLL7 and VLL8. The Loan and Security Agreement with EWB provides for a $10.0 million revolving loan facility, and the Loan Security Agreement with VLL7 and VLL8 provides for a term loan in an aggregate principal amount of $10.0 million. In connection with the closing of both Loan and Security Agreements, we repaid all outstanding amounts under our credit agreement with Opus Bank. See Note 7, Financial Liabilities, in the accompanying notes to our consolidated financial statements for more information.

On December 28, 2017, we paid down an aggregate principal amount of $5.0 million of the $10.0 million outstanding principal balance of the term loan under the Loan and Security Agreement with VLL7 and VLL8, and $0.9 million of accrued and unpaid interest outstanding at the prepayment date, together with all the scheduled interest that would have accrued and been payable through the stated maturity of the term loan. See Note 7, Financial Liabilities, in the accompanying notes to our consolidated financial statements for more information.

On December 20, 2017, we entered into a Securities Purchase Agreement with each of 21 April Fund, Ltd. and 21 April Fund, LP (collectively, the “Purchasers”), in which we, through a private placement, agreed to issue and sell an aggregate of up to 5,000,000 shares of Series B non-voting convertible preferred stock. The Purchasers purchased an aggregate of 3,000,000 preferred shares at a price of $4.00 per share in cash at the initial closing of the transaction. We have the option to issue and sell an additional 2,000,000 preferred shares at a price of $4.00 per share in cash at a second closing within one year of initial closing. The total purchase price payable to us is $20,000,000, of which $12,000,000 was paid at the initial closing and $8,000,000 will be paid, if at all, at the second closing. We are required to use the proceeds from the issuance of the preferred shares to pay off existing debt obligations and to fund future acquisitions of technology, business and other assets. See Note 3, Stockholders’ Equity, in the accompanying notes to our consolidated financial statements for more information.

On January 31, 2018, we entered into an amendment (the “Third Amendment”) to our Loan and Security Agreement with EWB. Under the Third Amendment, the revolving loan facility under the Loan and Security Agreement was increased from $10.0 million to $12.0 million, the interest rate was reduced from prime rate plus 2.0% to prime rate plus 1.0%, a non-formula line of credit sublimit was added not to exceed $3.0 million, and certain financial covenants were amended, including the definition of EBITDA. See Note 7, Financial Liabilities, in the accompanying notes to our consolidated financial statements for more information.

On February 5, 2018, we entered into an amendment (the "Fourth Amendment") to our Loan and Security Agreement with EWB. Under the Fourth Amendment, EWB agreed to include as Permitted Indebtedness, as defined in the Loan and Security Agreement, the issuance of $2.0 million in subordinated unsecured promissory notes associated with the acquisition of 3VR, subject to certain terms and conditions. In addition, EWB agreed to include certain 3VR indebtedness payable to 3VR's lender, which remained outstanding subsequent to the acquisition, as Permitted Indebtedness, subject to us repaying in full amounts outstanding within 5 business days of the closing of the acquisition. On February 14, 2018, we completed the acquisition of 3VR, and on February 21, 2018, we paid 3VR's lender $3.6 million in full repayment of all indebtedness outstanding of 3VR. See Note 7, Financial Liabilities, in the accompanying notes to our consolidated financial statements for more information.

On March 6, 2018, we entered into an amendment (the "Fifth Amendment") to our Loan and Security Agreement with EWB. Under the Fifth Amendment, the revolving loan facility under the Loan and Security Agreement was increased from $12.0 million to $16.0 million. In addition, certain definitions were amended, including the definition of Borrowing Base. See Note 7, Financial Liabilities, in the accompanying notes to our consolidated financial statements for more information.

We have historically incurred operating losses and negative cash flows from operating activities, and we expect to continue to incur losses for the foreseeable future. As of December 31, 2017, we have a total accumulated deficit of $399.6 million. During the year ended December 31, 2017, we incurred a consolidated net loss of $8.1 million. Although we have, and expect to continue, to realize benefits of the restructuring initiatives realized in 2016, we may continue to incur losses in the future.

We believe our existing cash balance, together with cash generated from operations and available credit under our Loan and Security Agreements, will be sufficient to satisfy our working capital needs to fund operations for the next twelve months. We may also use cash to acquire or invest in complementary businesses, technologies, services or products that would change our cash requirements. We may also finance our cash requirements through public or private equity offerings, debt financings or other arrangements. However, there can be no assurance that additional capital, if required, will be available to us or that such capital will be available to us on acceptable terms. If we raise funds by issuing equity securities, dilution to stockholders could result. Any equity securities issued also may provide for rights, preferences or privileges senior to those of holders of our common stock. The terms of debt securities issued or borrowings could impose significant restrictions on our operations. The incurrence of additional indebtedness or the issuance of certain equity securities could result in increased fixed payment obligations and could also result in restrictive covenants, such as limitations on our ability to incur additional debt or issue additional equity, limitations on our ability to acquire or license intellectual property rights and other operating restrictions that could adversely affect our ability to conduct our business. Our Loan and Security Agreements impose restrictions on our operations, increases our fixed payment obligations and have restrictive covenants. In addition, the issuance of additional equity securities by us, or the possibility of such issuance, may cause the market price of our common stock to decline. If we are not able to secure additional funding when needed, we may have to curtail or reduce the scope of our business or forgo potential business opportunities.

Off-Balance Sheet Arrangements

We have not entered into off-balance sheet arrangements, or issued guarantees to third parties.

Contractual Obligations

The following summarizes expected cash requirements for contractual obligations, excluding the bank term loan and revolving loan facility, as of December 31, 2017 (in thousands):

	Total	Less than 1 Year	1-3 Years	3-5 Years	More than 5 Years
Operating leases	$4,407	$1,275	$2,682	$450	$ —
Contractual payment obligation	4,296	1,230	3,066	—	—
Purchase commitments and other obligations	11,415	11,367	36	12	—
Total obligations	$20,118	$13,872	$5,784	$462	$ —

Our contractual payment obligation was assumed upon our acquisition of Hirsch. See Note 6, Contractual Payment Obligation, in the accompanying notes to our consolidated financial statements.

Bank term loan and revolving loan facility contractual obligations include payments to be made for principal and interest in accordance with the terms at December 31, 2017 of the revolving loan facility and term loan under our Loan and Security Agreements. See Note 7, Financial Liabilities, in the accompanying notes to our consolidated financial statements.

We lease facilities, certain equipment, and automobiles under non-cancelable operating lease agreements. Purchases for inventories are highly dependent upon forecasts of customer demand. Due to the uncertainty in demand from our customers, we may have to change, reschedule, or cancel purchases or purchase orders from our suppliers. These changes may lead to vendor cancellation charges on these orders or contractual commitments. See Note 12, Commitments and Contingencies, in the accompanying notes to our consolidated financial statements.

Our other long-term liabilities include gross unrecognized tax benefits, and related interest and penalties. At this time, we are unable to make a reasonably reliable estimate of the timing of payments in individual years in connection with these tax liabilities. Accordingly, such amounts are not included in the contractual obligation table above.

Critical Accounting Policies

Our consolidated financial statements have been prepared in accordance with generally accepted accounting principles in the United States ("U.S. GAAP"). The preparation of these financial statements in accordance with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Management bases its estimates and judgments on historical experience and on various other factors which we believe are reasonable based upon the information available to us at the time these estimates, judgments and assumptions are made. Actual results may differ from these estimates under different assumptions or conditions. Management believes the following critical accounting policies contain our more significant judgments and estimates used in the preparation of our consolidated financial statements:

- Revenue Recognition;
- Inventory Valuation;
- Income Taxes;
- Intangible and Long-lived Assets; and
- Stock-based Compensation.

Revenue Recognition

Revenue is recognized when all of the following criteria have been met:

- Persuasive evidence of an arrangement exists. We generally rely upon sales contracts or agreements, and customer purchase orders to determine the existence of an arrangement.
- Delivery has occurred. We use shipping terms and related documents, or written evidence of customer acceptance, when applicable, to verify delivery or performance.
- Sales price is fixed or determinable. We assess whether the sales price is fixed or determinable based on the payment terms and whether the sales price is subject to refund or adjustment.
- Collectability is reasonably assured. We assess collectability based on creditworthiness of customers as determined by credit checks and customer payment histories. We record accounts receivable net of allowance for doubtful accounts, estimated customer returns, and pricing credits.

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

In multiple-element arrangements, some sales arrangement 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 multiple-element arrangements that include a hardware, bundled with professional services, maintenance contracts, and in some cases with its software products, we evaluate each element, delivered and undelivered, in an arrangement to determine whether it represents a separate unit of accounting. In these multiple element arrangements, revenue is allocated among all elements, delivered and undelivered, based on a vendor-specific objective evidence ("VSOE"), if available, third-party evidence (“TPE”) if VSOE is not available, or estimated selling price (“ESP”) if neither VSOE nor TPE is available. VSOE of selling price is based on the price charged when the element is sold separately. TPE of selling price is established by evaluating largely interchangeable competitor products or services in stand-alone sales to similarly situated customers. The best estimate of selling price is established considering multiple factors, including pricing practices in different geographies and through different sales channels, gross margin objectives, internal costs, competitor pricing strategies and industry technology lifecycles. Some of our offerings contain a significant element of proprietary technology and provide substantially unique features and functionality; as a result, the comparable pricing of products with similar functionality typically cannot be obtained. Additionally, as we are unable to reliably determine what competitors products' selling prices are on a stand-alone basis, typically we are not able to determine TPE for such products. Therefore ESP is used for such products in the selling price hierarchy for allocating the total arrangement consideration.

In multiple-element arrangements that include software, we account for each element under the standards of ASC 985-605 related to software. When software is a delivered element, we use the residual method (ASC 605-25) for determining the amount of revenue to recognize for the delivered software component if VSOE for all of the undelivered elements has been established. 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.

Revenue from professional services contracts is recognized upon completion of services and customer acceptance, if applicable. Professional services include security system integration, system migration and database conversion services. Revenue from maintenance contracts is deferred and recognized ratably over the period of the maintenance contracts. Certain sales arrangement contains hardware, software and professional service elements where professional services are essential to the functionality of the hardware and software system and a test of the functionality of the complete system is required before the customer accepts the system. As a result, hardware, software and professional service elements are accounted for as one unit of accounting and revenue from these arrangements is recognized upon completion of the project.

Inventory Valuation

Inventories are stated at the lower of cost (using FIFO, average cost or standard cost, as applicable) or market (net realizable value). We typically plan our production and inventory levels based on internal forecasts of customer demand, which can be highly unpredictable and can fluctuate significantly. We regularly review inventory quantities on hand and record an estimated provision for excess inventory reserve based on judgment and assumptions involving an evaluation of technical obsolescence and our ability to sell based primarily on historical sales patterns and expectations for future demand. Actual demand and market conditions may differ from the projections utilized by management in establishing our inventory reserves. If we were to use different assumptions or utilize different estimates, the amount and timing of our inventory reserves could be materially different. Adverse changes in our inventory reserve valuations could have a material effect on our operating results and financial position.

Income Taxes

Our income tax expense, deferred tax assets and liabilities, and reserves for unrecognized tax benefits reflect management's assessment of estimated current and future income taxes to be paid. We are subject to income taxes in both the United States and numerous foreign jurisdictions. Significant judgments and estimates are required in determining the consolidated income tax expense, deferred tax assets and liabilities and reserves for unrecognized tax benefits.

Deferred tax assets and liabilities arise from temporary differences between the tax basis of assets and liabilities and their reported amounts in the financial statements, which are expected to result in taxable or deductible amounts in the future. In evaluating our ability to recover our deferred tax assets within the jurisdiction from which they arise, for all material jurisdictions, we consider all available positive and negative evidence, including scheduled reversals of deferred tax balances, projected future taxable income, tax-planning strategies and results of recent operations. In projecting future taxable income, we begin with historical results and incorporate assumptions about the amount of future state, federal and foreign pretax operating income adjusted for items that do not have tax consequences. The assumptions about future taxable income require significant judgment and are consistent with the plans and estimates we use to manage the underlying businesses. In evaluating the objective evidence that historical results provide, we consider three years of cumulative operating results.

As of December 31, 2017, we have federal and state income tax net operating loss (“NOL”) carryforwards of $108.5 million and $34.6 million, respectively, which will expire at various dates. Such NOL carryforwards expire as follows (in thousands):

Years	Amounts
2017 - 2022	$6,513
2023 - 2028	43,105
2029 - 2034	39,380
2035 - 2039	54,146
Total	$143,144

We believe that it is more likely than not that the benefit from these NOL carryforwards will not be realized. Accordingly, we have provided a full valuation allowance on any potential deferred tax assets relating to these state NOL carryforwards. If our assumptions change and we determine we will be able to realize these NOLs, the tax benefits relating to any reversal of the valuation allowance on deferred tax assets as of December 31, 2017, will be accounted for as a reduction of income tax expense.

The calculation of our tax liabilities involves evaluating uncertainties in the application of complex tax laws and regulations in a multitude of jurisdictions across our global operations. ASC Topic 740, Income Taxes ("ASC 740") states that a tax benefit from an uncertain tax position may be recognized when it is more likely than not that the position will be sustained upon examination, including the resolution of any related appeals or litigation processes, on the basis of the technical merits.

We record unrecognized tax benefits as liabilities in accordance with ASC 740 and adjust these liabilities when our judgment changes as a result of the evaluation of new information not previously available. Because of the complexity of some of these uncertainties, the ultimate resolution may result in a tax payment that is materially different from our current estimate of the unrecognized tax benefit liabilities. These differences will be reflected as increases or decreases to income tax expense in the period in which new information is made available.

We believe that none of the unrecognized tax benefits, excluding the associated interest and penalties, which are insignificant, may be recognized by the end of 2017.

We consider the earnings of all our non-U.S. subsidiaries to be indefinitely invested outside the United States on the basis of estimates that future domestic cash generation will be sufficient to meet future domestic cash needs and our specific plans for reinvestment of those subsidiary earnings. Should we decide to repatriate foreign earnings, we would need to adjust our income tax provision in the period we determined that the earnings will no longer be indefinitely invested outside the United States.

Intangible and Long-lived Assets

We evaluate our long-lived assets and certain identifiable amortizable intangible assets for impairment in accordance with ASC Topic 360, Property, Plant and Equipment ("ASC 360") whenever events or changes in circumstances indicate that the carrying amount of such assets or intangibles may not be recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to future net undiscounted cash flows expected to be generated by an asset group. If such asset groups are considered to be impaired (i.e., if the sum of its estimated future undiscounted cash flows used to test for recoverability is less than its carrying value), the impairment loss to be recognized is measured by the amount by which the carrying amount of the asset group exceeds the fair value of the asset group. Intangible assets with definite lives are amortized using the straight-line method over the estimated useful lives of the related assets.

Stock-based Compensation

We recognize stock-based compensation expense for all share-based payment awards in accordance with ASC Topic 718, Compensation – Stock Compensation ("ASC 718"). Stock-based compensation expense for expected-to-vest awards is valued under the single-option approach and amortized on a straight-line basis, net of estimated forfeitures. We utilize the Black-Scholes-Merton option-pricing model in order to determine the fair value of stock-based option awards. The Black Scholes pricing model requires various highly subjective assumptions including volatility, expected option life, and risk-free interest rate. The assumptions used in calculating the fair value of share-based payment awards represent management's best estimates. These estimates involve inherent uncertainties and the application of management judgment. If factors change and different assumptions are used, our stock-based compensation expense could be materially different in the future. In addition, we are required to estimate the expected forfeiture rate and recognize expense only for those expected-to-vest shares. If our actual forfeiture rate is materially different from our estimate, our recorded stock-based compensation expense and operating results could be different.

Recent Accounting Pronouncements

See Note 1, Organization and Summary of Significant Accounting Policies, in the accompanying notes to our audited consolidated financial statements in Item 8 of Part II of this Annual Report for a description of recent accounting pronouncements, which is incorporated herein by reference.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Not applicable.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Index to Consolidated Financial Statements

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and

Stockholders of Identiv, Inc.

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Identiv, Inc. (a Delaware Corporation) and its subsidiaries (the “Company”) as of December 31, 2017 and 2016, and the related consolidated statements of operations, comprehensive loss, stockholders’ equity, and cash flows for each of the two years in the period ended December 31, 2017, and the related notes (collectively referred to as 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 its operations and its cash flows for each of the two years in the period ended December 31, 2017, in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

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

We conducted our 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 the consolidated financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audit, we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audit 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 audit 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 audit provides a reasonable basis for our opinion.

We have served as the Company's auditor since 2015.

/s/ BPM LLP

San Jose, California

March 28, 2018

IDENTIV, INC. AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS

(In thousands, except par value)

	December 31, 2017	December 31, 2016
ASSETS		
Current assets:		
Cash	$19,052	$9,116
Accounts receivable, net of allowances of $306 and $307 as of December 31, 2017 and 2016, respectively	12,282	9,430
Inventories	11,126	11,596
Prepaid expenses and other current assets	1,779	1,510
Total current assets	44,239	31,652
Property and equipment, net	2,043	2,416
Intangible assets, net	4,365	5,820
Other assets	715	712
Total assets	$51,362	$40,600
LIABILITIES AND STOCKHOLDERS´ EQUITY		
Current liabilities:		
Accounts payable	$5,863	$6,024
Current portion - payment obligation	888	786
Current portion - financial liabilities, net of discount and debt issuance costs of $404 and $181, respectively	9,829	8,119
Deferred revenue	1,090	1,085
Accrued compensation and related benefits	1,515	1,520
Other accrued expenses and liabilities	2,020	5,032
Total current liabilities	21,205	22,566
Long-term payment obligation	2,998	3,987
Long-term financial liabilities, net of discount and debt issuance costs of $582 and $221, respectively (see Note 7)	2,921	9,779
Other long-term liabilities	385	335
Total liabilities	27,509	36,667
Commitments and contingencies (see Note 12)		
Stockholders´ equity:		
Identiv, Inc. stockholders' equity:		
Series B Preferred stock, $0.001 par value: 5,000 shares authorized; 3,000 and 0 shares issued and outstanding as of December 31, 2017 and 2016, respectively	3	—
Common stock, $0.001 par value: 50,000 shares authorized; 15,341 and 11,836 shares issued and 14,435 and 11,109 shares outstanding as of December 31, 2017 and 2016, respectively	15	11

Additional paid-in capital	428,470	400,266
Treasury stock, 905 and 727 shares as of December 31, 2017 and 2016, respectively	(7,485)	(6,708)
Accumulated deficit	(399,647)	(391,509)
Accumulated other comprehensive income	2,675	2,053
Total Identiv, Inc. stockholders' equity	24,031	4,113
Noncontrolling interest	(178)	(180)
Total stockholders´ equity	23,853	3,933
Total liabilities and stockholders´equity	$51,362	$40,600

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

IDENTIV, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF OPERATIONS

(In thousands, except per share data)

	Year Ended December 31,	
	2017	2016
Net revenue	$60,219	$56,168
Cost of revenue	38,059	32,439
Gross profit	22,160	23,729
Operating expenses:		
Research and development	6,146	6,520
Selling and marketing	13,452	14,032
General and administrative	7,241	11,309
Restructuring and severance	(49)	3,088
Total operating expenses	26,790	34,949
Loss from operations	(4,630)	(11,220)
Non-operating income (expense):		
Interest expense, net	(2,590)	(2,378)
Loss on extinguishment of debt	(788)	—
Foreign currency (losses) gains, net	(358)	27
Loss before income taxes and noncontrolling interest	(8,366)	(13,571)
Income tax benefit (provision)	214	(132)
Loss before noncontrolling interest	(8,152)	(13,703)
Less: Loss attributable to noncontrolling interest	14	8
Net loss attributable to Identiv, Inc.	$(8,138)	$(13,695)
Basic and diluted net loss per share attributable to Identiv, Inc.	$(0.61)	$(1.25)
Weighted average shares used to compute basic and diluted loss per share	13,273	10,916

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

IDENTIV, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS

(In thousands)

	Year Ended December 31,	
	2017	2016
Net loss	$(8,152)	$(13,703)
Other comprehensive loss, net of income taxes:		
Foreign currency translation adjustment	638	(192)
Total other comprehensive income (loss), net of income taxes	638	(192)
Comprehensive loss	(7,514)	(13,895)
Less: Comprehensive (income) loss attributable to noncontrolling interest	(2)	24
Comprehensive loss attributable to Identiv, Inc. common stockholders	$(7,516)	$(13,871)

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

IDENTIV, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

(In thousands; except par value)

	Identiv, Inc. Stockholders´ Equity									
	Series B Convertible Preferred Stock Shares	Amount	Common Stock Shares	Amount	Additional Paid-in Capital	Treasury Stock	Accumulated Deficit	Accumulated Other Comprehensive Income	Noncontrolling Interest	Total Equity
Balances, January 1, 2016	—	$ —	10,747	$ 11	$ 396,407	$ (6,487)	$ (377,814)	$ 2,229	$ (156)	$ 14,190
Net loss	—	—	—	—	—	—	(13,695)	—	(8)	(13,703)
Other comprehensive loss	—	—	—	—	—	—	—	(176)	(16)	(192)
Issuance of warrants	—	—	—	—	569	—	—	—	—	569
Issuance of common stock in connection with vesting of stock awards	—	—	471	—	—	—	—	—	—	—
Stock-based compensation	—	—	—	—	3,290	—	—	—	—	3,290
Shares withheld in payment of taxes in connection with net share settlement of	—	—	(109)	—	—	(221)	—	—	—	(221)

restricted stock units										
Balances, December 31,2016	—	—	11,109	11	400,266	(6,708)	(391,509)	2,053	(180)	3,933
Net loss	—	—	—	—	—	—	(8,138)	—	(14)	(8,152)
Other comprehensive loss	—	—	—	—	—	—	—	622	16	638
Issuance of Series B convertible preferred stock, net of issuance cost	3,000	3	—	—	11,875	—	—	—	—	11,878
Issuance of common stock in connection with public offering	—	—	2,845	3	12,557	—	—	—	—	12,560
Issuance of warrants	—	—	—	—	2,319	—	—	—	—	2,319
Issuance of common stock in connection with vesting of stock awards	—	—	604	1	—	—	—	—	—	1
Stock-based compensation	—	—	—	—	2,480	—	—	—	—	2,480
Shares withheld in payment of taxes	—	—	(178)	—	—	(777)	—	—	—	(777)

in connection with net share settlement of restricted stock units										
Issuance of shares to non-employees	—	—	56	—	255	—	—	—	—	255
Cancellation of reacquired warrants from extinguishment of debt	—	—	—	—	(1,282)	—	—	—	—	(1,282)
Balances, December 31, 2017	3,000	$ 3	14,436	$ 15	$ 428,470	$ (7,485)	$ (399,647)	$ 2,675	$ (178)	$ 23,853

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

IDENTIV, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF CASH FLOWS

(In thousands)

	Year Ended December 31,	
	2017	2016
Cash flows used in operating activities:		
Net loss	$(8,152)	$(13,703)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	2,752	3,170
Loss on extinguishment of debt, net	788	—
Accretion of interest on long-term payment obligation	305	399
Amortization of debt issuance costs	807	811
Stock-based compensation expense	2,480	2,842
Loss on disposal of fixed assets	—	331
Changes in operating assets and liabilities:		
Accounts receivable	(2,786)	(1,437)
Inventories	484	3,285
Prepaid expenses and other assets	(275)	441
Accounts payable	(222)	(191)
Payment obligation liability	(1,192)	(1,185)
Deferred revenue	5	(430)
Accrued expenses and other liabilities	(2,826)	(550)
Net cash used in operating activities	(7,832)	(6,217)
Cash flows from investing activities:		
Capital expenditures	(967)	(549)
Net cash used in investing activities	(967)	(549)
Cash flows from financing activities:		
Proceeds from issuance of debt, net of issuance costs	53,035	—
Repayments of debt	(58,741)	—
Sale of common stock, net of issuance costs	12,560	—
Proceeds from issuance of Series B preferred stock	12,000	—
Taxes paid related to net share settlement of restricted stock units	(777)	(221)
Net cash provided by (used in) financing activities	18,077	(221)
Effect of exchange rates on cash	658	(564)
Net increase (decrease) in cash	9,936	(7,551)
Cash at beginning of period	9,116	16,667
Cash at end of period	$19,052	$9,116
Supplemental Disclosures of Cash Flow Information:		
Interest paid	$2,661	$1,615
Taxes paid, net	$140	$167
Non-cash investing and financing activities:		
Warrants issued as debt issuance costs in connection with debt agreement	$2,319	$569
Liability settled in common stock	$255	$—
Property and equipment included in accounts payable and accruals	$66	$32
Restricted stock units issued to settle liability	—	$448

Cancellation of reacquired warrants	$1,282	$—

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

IDENTIV, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Organization and Summary of Significant Accounting Policies

Identiv, Inc. (“Identiv” or the “Company,”) is a global security technology company that secures data, physical places and things. Global organizations in the government, education, retail, transportation, healthcare and other markets rely upon the Company’s solutions. We empower them to create safe, secure, validated and convenient experiences in schools, government offices, factories, transportation, hospitals and virtually every type of facility.

The Company’s corporate headquarters are in Fremont, California. The Company maintains research and development facilities in California, and Chennai, India and local operations and sales facilities in Germany, Hong Kong, Japan, Singapore, and the United States. The Company was founded in 1990 in Munich, Germany and was incorporated in 1996 under the laws of the State of Delaware.

Principles of Consolidation and Basis of Presentation — The accompanying consolidated financial statements include the accounts of the Company and its wholly and majority owned subsidiaries. All intercompany balances and transactions have been eliminated in consolidation.

Reclassifications — Certain reclassifications have been made to the fiscal year 2016 financial statements to conform to the fiscal year 2017 presentation. The reclassifications had no impact on net loss, total assets, or stockholders’ equity.

Allowance for Doubtful Accounts — The allowance for doubtful accounts is based on the Company’s assessment of the collectibility of customer accounts. The Company regularly reviews its receivables that remain outstanding past their applicable payment terms and establishes an allowance and potential write-offs by considering factors such as historical experience, credit quality, age of the accounts receivable balances, and current economic conditions that may affect a customer’s ability to pay. Although the Company expects to collect net amounts due as stated on the consolidated balance sheets, actual collections may differ from these estimated amounts.

Inventories — Inventories are stated at the lower of cost, using standard cost, approximating average cost, or FIFO method, as applicable, or market value. Inventory is written down for excess inventory, technical obsolescence and the inability to sell based primarily on historical sales and expectations for future use. The Company operates in an industry characterized by technological change. The planning of production and inventory levels is based on internal forecasts of customer demand, which are highly unpredictable and can fluctuate substantially. Should the demand for the Company’s products prove to be significantly less than anticipated, the ultimate realizable value of the Company’s inventory could be substantially less than amounts in the consolidated balance sheets. Once inventory has been written down below cost, it is not subsequently written up.

Property and Equipment — Property and equipment are stated at cost less accumulated depreciation. Depreciation and amortization are computed using the straight-line method over estimated useful lives of three to ten years for furniture, fixture and office equipment, five to seven years for machinery, five years for automobiles and three years for computer software. Leasehold improvements are amortized over the shorter of the lease term or their estimated useful life.

Intangible and Long-lived Assets — The Company evaluates its long-lived assets and amortizable intangible assets in accordance with Financial Accounting Standards Board (“FASB”) Accounting Standards Codification (“ASC”) ASC Topic 360, Property, Plant and Equipment (“ASC 360”). The Company evaluates its long-lived assets and identifiable amortizable intangible assets for impairment whenever events or changes in circumstances indicate that the carrying amount of such assets or intangibles may not be recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to future net undiscounted cash flows expected to be generated by an asset. If such assets are considered to be impaired (i.e., if the sum of its estimated future undiscounted cash flows used to test for recoverability is less than its carrying value), the impairment loss to be recognized is measured by the amount by which the carrying amount of the assets exceeds the fair value of the assets. Intangible assets with definite lives are amortized on a straight-line basis over their estimated useful lives of the related assets as the straight-line method is considered to align with expected cash flows. Each period the Company evaluates the estimated remaining useful life of purchased intangible assets and whether events or changes in circumstances warrant a revision to the remaining period of amortization. For intangible assets determined to have an indefinite useful life, no amortization is recognized until the assets´ useful life is determined to be no longer indefinite. As discussed in Note 5, Intangible Assets, the Company performed an impairment analysis in the fourth quarters of 2017 and 2016 and found no indicators of impairment.

Product Warranty — The Company accrues the estimated cost of product warranties at the time of sale. The Company's warranty obligation is affected by actual warranty costs, including material usage or service delivery costs incurred in correcting a product failure. If actual material usage or service delivery costs differ from estimates, revisions to the estimated warranty liability would be required. Historically the warranty accrual and the expense amounts have been immaterial.

Revenue Recognition — Revenue is recognized when all of the following criteria have been met:

- Persuasive evidence of an arrangement exists. The Company generally relies upon sales contracts or agreements, and customer purchase orders to determine the existence of an arrangement.
- Delivery has occurred. The Company uses shipping terms and related documents, or written evidence of customer acceptance, when applicable, to verify delivery or performance.
- Sales price is fixed or determinable. The Company assesses whether the sales price is fixed or determinable based on the payment terms and whether the sales price is subject to refund or adjustment.
- Collectability is reasonably assured. The Company assesses collectability based on creditworthiness of customers as determined by credit checks and customer payment histories. The Company records accounts receivable net of allowance for doubtful accounts, estimated customer returns, and pricing credits.

The Company recognizes revenue in accordance ASC 605-25, Revenue Recognition – Multiple Element Arrangements, and, in certain transactions, ASC 985 Software – Revenue Recognition.

In multiple-element arrangements, some sales arrangement 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 multiple-element arrangements that include hardware, bundled with professional services, maintenance contracts, and in some cases with its software products, the Company evaluates each element, delivered and undelivered, in an arrangement to determine whether it represents a separate unit of accounting. In these multiple element arrangements, revenue is allocated among all elements, delivered and undelivered, based on a vendor-specific objective evidence ("VSOE"), if available, third-party evidence ("TPE") if VSOE is not available, or estimated selling price ("ESP") if neither VSOE nor TPE is available. VSOE of selling price is based on the price charged when the element is sold separately. TPE of selling price is established by evaluating largely interchangeable competitor products or services in stand-alone sales to similarly situated customers. The best estimate of selling price is established considering multiple factors, including pricing practices in different geographies and through different sales channels, gross margin objectives, internal costs, competitor pricing strategies and industry technology lifecycles. Some of the Company's offerings contain a significant element of proprietary technology and provide substantially unique features and functionality; as a result, the comparable pricing of products with similar functionality typically cannot be obtained. Additionally, as the Company is unable to reliably determine what competitors products' selling prices are on a stand-alone basis, typically the Company is not able to determine TPE for such products. Therefore ESP is used for such products in the selling price hierarchy for allocating the total arrangement consideration.

In multiple-element arrangements that include software, the Company accounts for each element under the standards of ASC 985-605 related to software. When software is a delivered element, the Company uses the residual method (ASC 605-25) for determining the amount of revenue to recognize for the delivered software component if VSOE for all of the undelivered elements has been established. 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.

Revenue from professional services contracts is recognized upon completion of services and customer acceptance, if applicable. Professional services include security system integration, system migration and database conversion services. Revenue from maintenance contracts is deferred and recognized ratably over the period of the maintenance contracts. Certain sales arrangements contain hardware, software and professional service elements where professional services are essential to the functionality of the hardware and software system and a test of the functionality of the complete system is required before the customer accepts the system. As a result, hardware, software and professional service elements are accounted for as one unit of accounting and revenue from these arrangements is recognized upon completion of the project.

Research and Development — Costs to research, design, and develop the Company's products are expensed as incurred and consist primarily of employee compensation and fees for the development of prototype products. Software development costs are capitalized beginning when a product's technological feasibility has been established and ending when a product is available for general release to customers. Generally, the Company's products are released soon after technological feasibility has been established. Costs incurred subsequent to achieving technological feasibility have not been significant and generally have been expensed as incurred. At December 31, 2017, the amount of capitalized software development costs totaled $0.2 million and is included in prepaid expenses and other current assets in the accompanying consolidated balance sheet. No software development costs were capitalized in 2016.

The Company capitalizes certain costs for its internal-use software incurred during the application development stage. Costs related to preliminary project activities and post implementation activities are expensed as incurred. Internal-use software is amortized on a straight line basis over its estimated useful life, generally three years. The estimated useful life is determined based on management's judgment on how long the core technology and functionality serves internal needs and the customer base. Management evaluates the useful lives of these assets on an annual basis and tests for impairment whenever events or changes in circumstances occur that could impact the recoverability of these assets. The Company recorded amortization expense related to software development costs in the amount of $0.2 million and $0.4 million for the years ended December 31, 2017 and 2016, respectively.

Freight Costs — The Company reflects the cost of shipping its products to customers as a cost of revenue. Reimbursements received from customers for freight costs are recognized as product revenue.

Income Taxes — The Company accounts for income taxes in accordance with ASC Topic 740, Income Taxes ("ASC 740"), which requires the asset and liability approach for financial accounting and reporting of income taxes. Deferred income taxes reflect the recognition of future tax consequences of events that have been recognized in the Company's financial statements or tax returns. The carrying value of net deferred tax assets reflects that the Company has been unable to generate sufficient taxable income in certain tax jurisdictions. A valuation allowance is provided to reduce the deferred tax asset to an amount that is more likely than not to be realized. The deferred tax assets are still available for the Company to use in the future to offset taxable income, which would result in the recognition of a tax benefit and a reduction in the Company's effective tax rate. Actual operating results and the underlying amount and category of income in future years could render the Company's current assumptions, judgments and estimates of the realizability of deferred tax assets inaccurate, which could have a material impact on its financial position or results of operations.

The Company accounts for uncertain tax positions in accordance with ASC 740, which clarifies the accounting for uncertainty in income taxes recognized in an enterprise's financial statements. It prescribes a recognition threshold and measurement attribute for the financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return. ASC 740 also provides guidance on derecognition, classification, interest and penalties, accounting in interim periods, disclosure, and transition. Such changes in recognition or measurement might result in the recognition of a tax benefit or an additional charge to the tax provision in the period.

The Company recognizes interest and penalties related to unrecognized tax benefits within the income tax expense line in the accompanying consolidated statement of operations. Accrued interest and penalties are included within the related tax liability line in the consolidated balance sheet. See Note 8, Income Taxes, for further information regarding the Company's tax disclosures.

Stock-based Compensation — The Company accounts for all stock-based payment awards, including employee stock options and restricted stock awards, in accordance with ASC Topic 718, Compensation-Stock Compensation ("ASC 718"). Under the fair value recognition provisions of this topic, stock-based compensation cost is measured at the grant date based on the fair value of the award. Compensation expense for all stock-based payment awards is recognized using the straight-line single-option approach. Employee stock options awards are valued under the single-option approach and amortized on a straight-line basis, net of estimated forfeitures. The value of the portion of the stock options award that is ultimately expected to vest is recognized as expense over the requisite service periods in the

Company's consolidated statements of operations. See Note 3, Stockholders' Equity, for further information regarding the Company's stock-based compensation assumptions and expenses.

The Company has elected to use the Black Scholes pricing model to estimate the fair value of its options, which incorporates various subjective assumptions including volatility, risk-free interest rate, expected life, and dividend yield to calculate the fair value of stock option awards. Since the Company has been publicly traded for many years, it utilizes its own historical volatility in valuing its stock option grants. The expected life of an award is based on historical experience, the terms and conditions of the stock awards granted to employees, as well as the potential effect from options that have not been exercised at the time. The assumptions used in calculating the fair value of stock-based payment awards represent management's estimates. These estimates involve inherent uncertainties and the application of management's judgment. If factors change and the Company uses different assumptions, its stock-based compensation expense could be materially different in the future. In addition, the Company estimates the expected forfeiture rate and recognizes expense only for those awards which are ultimately expected-to-vest shares. If the actual forfeiture rate is materially different from the Company's estimate, the recorded stock-based compensation expense could be different. ASC 718 requires forfeitures to be estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates.

Concentration of Credit Risk — No customer accounted for more than 10% of net revenue for the years ended December 31, 2017 and 2016, respectively. No customer accounted for more than 10% of the Company's accounts receivable balance at December 31, 2017 or 2016. The Company does not require collateral or other security to support accounts receivable. To reduce risk, the Company's management performs ongoing credit evaluations of its customers' financial condition. The Company maintains allowances for potential credit losses in its consolidated financial statements.

Net Loss Per Share — Basic and diluted net loss per share is based upon the weighted average number of common shares outstanding during the period. Diluted net loss per share is based upon the weighted average number of common shares and dilutive-potential common share equivalents outstanding during the period, if applicable. Dilutive-potential common share equivalents are excluded from the computation of net loss per share in the loss periods as their effect would be antidilutive. As the Company has incurred losses from continuing operations during each of the last two fiscal years, shares issuable pursuant to equity awards are excluded from the computation of diluted net loss per share in the accompanying consolidated statements of operations as their effect is anti-dilutive.

Comprehensive Loss — Comprehensive loss for the years ended December 31, 2017 and 2016 has been disclosed within the consolidated statements of comprehensive loss. Other accumulated comprehensive loss includes net foreign currency translation adjustments which are excluded from consolidated net loss.

Foreign Currency Translation and Transactions — The functional currencies of the Company's foreign subsidiaries are the local currencies, except for the Singapore subsidiary, which uses the U.S. dollar as its functional currency. For those subsidiaries whose functional currency is the local currency, the Company translates assets and liabilities to U.S. dollars using period-end exchange rates and translates revenues and expenses using average exchange rates during the period. Exchange gains and losses arising from translation of foreign entity financial statements are included as a component of other comprehensive loss and gains and losses from transactions denominated in currencies other than the functional currencies of the Company are included in the Company's consolidated statements of operations. The Company recognized currency losses of $0.4 million in 2017 and currency gains of less than $0.1 million in 2016.

Recent Accounting Pronouncements

From time to time, new accounting pronouncements are issued by the FASB or other standard setting bodies that the Company adopts as of the specified effective date. Unless otherwise discussed, the Company does not believe that the impact of recently issued standards that are not yet effective will have a material impact on its financial position or results of operations upon adoption.

In March 2016, the FASB issued Accounting Standards Update ("ASU") 2016-09, Compensation – Stock Compensation, which provides guidance to simplify several aspects of accounting for share-based payment transactions, including the accounting for income taxes, forfeitures, statutory tax withholding requirements, as well as classification in the statement of cash flows. The guidance is effective for reporting periods beginning after December 15, 2016. The Company adopted this guidance effective January 1, 2017. The Company's adoption of this standard did not have a significant impact on its consolidated financial statements. No excess income tax benefit or tax deficiencies have been recorded as a result of the adoption and there will be no change to accumulated deficit with respect to previously unrecognized excess tax benefits. The Company is electing to continue to account for forfeitures on an estimated basis. The Company has elected to present the consolidated statements of cash flows on a prospective transition method and no prior periods have been adjusted.

In February 2016, the FASB issued ASU 2016-02, Leases (“ASU 2016-02”), which amends accounting for leases. Under the new guidance, a lessee will recognize assets and liabilities but will recognize expenses similar to current lease accounting. The guidance is effective for reporting periods beginning after December 15, 2018; however early adoption is permitted. The new guidance must be adopted using a modified retrospective approach to each prior reporting period presented with various optional practical expedients. The Company is currently evaluating the impact of the adoption of this guidance will have on its consolidated financial statements.

In May 2014, the FASB issued ASU 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. ASU 2014-09 defines a five step process to achieve this core principle and, in doing so, more judgment and estimates may be required within the revenue recognition process than are required under existing U.S. GAAP. In August 2015, the FASB issued ASU 2015-14, Revenue From Contracts With Customers (Topic 606) (“ASU 2015-14”), which defers the effective date of ASU 2014-09 by one year to annual periods beginning after December 15, 2017, including interim reporting periods within that reporting period. Early adoption is permitted only as of annual reporting periods beginning after December 15, 2016, including interim reporting periods within that reporting period. The new guidance is effective for the Company beginning January 1, 2018. Companies can elect a full retrospective method to recast prior-period financial statements or a modified retrospective method to recognize the cumulative effect as an adjustment to the retained earnings in the initial year. The Company implemented the standard in the first quarter of 2018 on a modified retrospective basis. The Company does not anticipate that this standard will have a material impact on its consolidated financial statements.

2. Fair Value Measurements

The Company determines the fair values of its financial instruments based on a fair value hierarchy, which requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. The classification of a financial asset or liability within the hierarchy is based upon the lowest level input that is significant to the fair value measurement. Under ASC Topic 820, Fair Value Measurement and Disclosures (“ASC 820”), the fair value hierarchy prioritizes the inputs into three levels that may be used to measure fair value:

- Level 1 – Quoted prices (unadjusted) for identical assets and liabilities in active markets;
- Level 2 – Inputs other than quoted prices in active markets for identical assets and liabilities that are observable either directly or indirectly; and
- Level 3 – Unobservable inputs.

Assets and Liabilities Measured at Fair Value on a Recurring Basis

As of December 31, 2017 and 2016, there were no assets or liabilities that are measured and recognized at fair value on a recurring basis. There were no cash equivalents as of December 31, 2017 and 2016.

Assets and Liabilities Measured at Fair Value on a Non-recurring Basis

Certain of the Company's assets, including intangible assets, and privately-held investments, are measured at fair value on a nonrecurring basis if impairment is indicated. Purchased intangible assets are measured at fair value primarily using discounted cash flow projections. For additional discussion of measurement criteria used in evaluating potential impairment involving intangible assets, refer to Note 5, Intangible Assets.

Privately-held investments, which are normally carried at cost, are measured at fair value due to events and circumstances that the Company identified as significantly impacting the fair value of investments. The Company estimates the fair value of its privately-held investments using an analysis of the financial condition and near-term prospects of the investee, including recent financing activities and the investee's capital structure.

As of December 31, 2017 and 2016, the Company had $0.3 million of privately-held investments measured at fair value on a nonrecurring basis which were classified as Level 3 assets due to the absence of quoted market prices and inherent lack of liquidity. The Company reviews its investments to identify and evaluate investments that have an indication of possible impairment. The Company adjusts the carrying value for its privately-held investments for any impairment if the fair value is less than the carrying value of the respective assets on an other-than-temporary basis. The amount of privately-held investments is included in other assets in the accompanying consolidated balance sheets.

As of December 31, 2017 and 2016, there were no liabilities that are measured and recognized at fair value on a non-recurring basis.

Assets and Liabilities Not Measured at Fair Value

The carrying amounts of the Company's accounts receivable, prepaid expenses and other current assets, accounts payable, financial liabilities and other accrued liabilities approximate fair value due to their short maturities.

3. Stockholders’ Equity

Preferred Stock

The Company is authorized to issue 10,000,000 shares of preferred stock, 40,000 of which have been designated as Series A Participating Preferred Stock, par value $0.001 per share, and 5,000,000 of which have been designated as Series B Non-Voting Convertible Preferred Stock, par value $0.001 per share (the “Series B Preferred Stock”). No shares of the Company’s Series A Participating Preferred Stock were outstanding as of December 31, 2017 and 2016. During 2017, the Company’s board of directors (the “Board”) authorized the issuance of up to 5,000,000 shares of the Series B Preferred Stock, 3,000,000 of which were outstanding as of December 31, 2017.

The Board may from time to time, without further action by the Company’s stockholders, direct the issuance of shares of preferred stock in other series and may, at the time of issuance, determine the rights, preferences and limitations of each series, including voting rights, dividend rights and redemption and liquidation preferences. Satisfaction of any dividend preferences of outstanding shares of preferred stock would reduce the amount of funds available for the payment of dividends on shares of the Company’s common stock. Holders of shares of preferred stock may be entitled to receive a preference payment in the event of any liquidation, dissolution or winding-up of the Company before any payment is made to the holders of shares of the Company’s common stock. Upon the affirmative vote of the Board, without stockholder approval, the Company may issue shares of preferred stock with voting and conversion rights which could adversely affect the holders of shares of its common stock.

Private Placement of Series B Preferred Stock

On December 20, 2017, the Company entered into a Securities Purchase Agreement (the “Purchase Agreement”) with each of 21 April Fund, Ltd. and 21 April Fund, LP (collectively, the “Purchasers”), pursuant to which the Company, in a private placement, agreed to issue and sell to the Purchasers an aggregate of up to 5,000,000 shares of the Series B Preferred Stock, $0.001 par value per share (collectively referred to as the “Shares”). The Purchasers agreed to purchase an aggregate of 3,000,000 Shares at a price of $4.00 per share in cash at the initial closing of the transaction, and at the sole option of the Company, an additional 2,000,000 Shares at a price of $4.00 per share in cash at a second closing, if any (the “Private Placement”). The total purchase price payable to the Company is $20,000,000, of which $12,000,000 was paid at the initial closing and $8,000,000 will be paid, if at all, at the second closing. The Company is required to use the proceeds from the issuance of the Shares to pay off existing debt obligations and to fund future acquisitions of technology, business and other assets.

Each Share shall be convertible into the Company’s common stock (i) following the sixth (6th) anniversary of the initial closing of the Private Placement or (ii) if earlier, during the thirty (30) day period following the last trading day of any period of three (3) or more consecutive trading days that the closing market price of the Company’s common stock exceeds $10.00. Each Share is convertible at the option of the holder of shares of Series B Preferred Stock into such number of shares of the Company's common stock determined by taking the accreted value of such Share (purchase price plus accrued but unpaid dividends) and dividing such value by the stated value of such Share ($4.00 per share, subject to adjustment for dilutive issuances, stock splits, stock dividends and the like); provided, however, that the Company shall not convert any Shares if doing so would cause the holder thereof, along with its affiliates, to beneficially own in excess of 19.9% of the outstanding common stock immediately after giving effect to the applicable conversion (the "Ownership Limitation"), unless waiver of this restriction has been effected by the holder requesting conversion of Shares.

Based on the current conversion price, the outstanding shares of the Series B Preferred Stock as of December 31, 2017 would be convertible into 3.0 million shares of the Company's common stock. However, the conversion rate will be subject to adjustment in the event of certain instances, such as if the Company issues shares of its common stock at a price less than $4.00 per common share, subject to a minimum conversion price of $3.27 per share. As of December 31, 2017, none of the contingent conditions to adjust the total common shares to convert the Shares had been met.

Each Share is entitled to an annual dividend of 5% for the first six (6) years following the issuance of such Share and 3% for each year thereafter, with the Company retaining the option to settle each year's dividend after the tenth (10th) year in cash. The dividends accrue and are payable in kind upon such time as the Shares convert into the Company's common stock. In general, the Shares are not entitled to vote except in certain limited cases, including in change of control transactions where the expected price per share distributable to the Company's stockholders is expected to be less than $4.00 per share. The Certificate of Designation with respect to the Series B Preferred Stock further provides that in the event of, among other things, any change of control, liquidation or dissolution of the Company, the holders of the Series B Preferred Stock will be entitled to receive, on a pari passu basis with the holders of the common stock, the same amount and form of consideration that the holders of the Company's common stock receive (on an as-if-converted-to-common-stock basis and without regard to the Ownership Limitation).

Sale of Common Stock

In May 2017, the Company sold an aggregate of 2,845,360 shares of its common stock at a public offering price of $4.85 per share in an underwritten public offering. The Company received net proceeds of approximately $12.6 million from the sale of the common stock in the public offering, after deducting the underwriting discount and other offering related expenses of $1.2 million.

Common Stock Warrants

On August 13, 2014, in connection with the Company's entry into a consulting agreement, the Company issued a consultant a warrant to purchase up to 85,000 shares of the Company's common stock at a per share exercise price of $10.70 (the "2014 Consultant Warrant"). One fourth of the shares under the warrant are exercisable for cash three months from the date the 2014 Consultant Warrant was issued and quarterly thereafter. The 2014 Consultant Warrant expires on August 13, 2019. In the event of an acquisition of the Company, the 2014 Consultant Warrant shall terminate and no longer be exercisable as of the closing of the acquisition. As of December 31, 2017, none of the shares under the 2014 Consultant Warrant had been exercised.

On February 8, 2017, the Company entered into Loan and Security Agreements with each of East West Bank ("EWB") and Venture Lending & Leasing VII, Inc. and Venture Lending & Leasing VIII, Inc. (collectively referred to as "VLL7 and VLL8") as discussed in Note 7, Financial Liabilities. The Loan and Security Agreement with EWB provides for a $10.0 million revolving loan facility (the "Revolving Loan Facility"), and the Loan Security Agreement with VLL7 and VLL8 provides for a term loan in an aggregate principal amount of $10.0 million (the "Term Loan Facility"). In connection with the Company's Revolving Loan Facility, the Company issued to EWB a warrant (the "EWB Warrant") to purchase up to 40,000 shares of the Company's common stock at a per share exercise price of $3.64, and in connection with the Company's Term Loan Facility, issued to each of VLL7 and VLL8 a warrant to purchase 290,000 shares of the Company's common stock at a per share exercise price of $2.00 (the "VLL7 Warrant" and the "VLL8 Warrant," respectively). The Company calculated the fair value of the EWB Warrant, the VLL7 Warrant and the VLL8 Warrant using the Black-Scholes pricing model using the following assumptions: estimated volatility of 78.8%, risk-free interest rate of 1.94%, no dividend yield, and an expected life of five years. The fair values of the EWB Warrant, the VLL7 Warrant and the VLL8 Warrant of $125,000, $1,037,500 and $1,037,500, respectively, were classified as equity as the settlement of the warrants will be in shares and is within the control of the Company. Each of the EWB Warrant, the VLL7 Warrant and the VLL8 Warrant is immediately exercisable for cash or by net exercise and will expire five years after its issuance, or on February 8, 2022. In connection with entering into the Loan and Security Agreements with EWB and VLL7 and VLL8, warrants to purchase an aggregate of 400,000 shares of common stock issued to the Company's previous lender were cancelled.

In connection with securing of the new credit facilities and cancelling of all the warrants previously issued to the previous lender, the Company issued a warrant to a consultant to purchase 60,000 shares of its common stock at an exercise price of $4.60 per share (the "2017 Consultant Warrant"). The Company calculated the fair value of the 2017 Consultant Warrant using the Black Scholes pricing model using the following assumptions: estimated volatility of

78.8%, risk-free interest rate of 1.22%, no dividend yield, and an expected life of two years. The fair value of the 2017 Consultant Warrant of $119,000 was classified as equity as the settlement of the warrant will be in shares and is within the control of the Company. The 2017 Consultant Warrant is immediately exercisable for cash or by net exercise and will expire two years after its issuance, or on February 8, 2019.

On August 14, 2013, in a private placement, the Company issued 834,847 shares of its common stock at a price of $8.50 per share and warrants to purchase an additional 834,847 shares of its common stock with an exercise price of $10.00 per share (the "2013 Private Placement Warrants") to accredited and other qualified investors (the "Investors"). The 2013 Private Placement Warrants had a term of four years and were exercisable beginning six months following the date of issuance. In addition, the placement agent was issued warrants to purchase 100,000 shares of common stock at an exercise price of $10.00 per share as compensation. Subsequent to issuance, warrants to purchase an aggregate of 747,969 shares were exercised. The number of shares issuable upon exercise of the 2013 Private Placement Warrants was subject to adjustment for any stock dividends, stock splits or distributions by the Company, or upon any merger or consolidation or sale of assets of the Company, tender or exchange offer for the Company's common stock, or a reclassification of the Company's common stock. On August 14, 2017, the warrant to purchase the remaining 186,878 warrants expired unexercised.

Below is a summary of outstanding warrants issued by the Company as of December 31, 2017:

Warrant Type	Number of Shares Issuable Upon Exercise	Weighted Average Exercise Price	Issue Date	Expiration Date
2014 Consultant Warrant	85,000	$ 10.70	August 13, 2014	August 13, 2019
East West Bank Warrant	40,000	3.64	February 8, 2017	February 8, 2022
VLL7 and VLL8 Warrants	580,000	2.00	February 8, 2017	February 8, 2022
2017 Consultant Warrant	60,000	4.60	February 8, 2017	February 8, 2019
Total	765,000			

Stock-Based Compensation Plans

The Company has stock-based compensation plans to attract, motivate, retain and reward employees, directors and consultants by providing its Board or a committee of the Board the discretion to award equity incentives to these persons. The Company's stock-based compensation plans consist of the 2007 Stock Option Plan (the "2007 Plan") and the 2011 Incentive Compensation Plan (the "2011 Plan"), as amended. Shares are no longer available for issuance under the Company's 2010 Bonus and Incentive Plan (the "2010 Plan").

Stock Bonus and Incentive Plans

On June 6, 2011, the Company's stockholders approved the 2011 Plan, which is administered by the Compensation Committee of the Board. The 2011 Plan provides that stock options, stock units, restricted shares, and stock appreciation rights may be granted to executive officers, directors, consultants, and other key employees. The Company reserved 400,000 shares of common stock under the 2011 Plan, plus 459,956 shares of common stock that remained available for delivery under the 2007 Plan and the 2010 Plan as of June 6, 2011. In aggregate, as of June 6, 2011, 859,956 shares were available for future grants under the 2011 Plan, including shares rolled over from 2007 Plan and 2010 Plan. Subsequent to June 6, 2011 through December 31, 2015, the number of shares of common stock authorized for issuance under the 2011 Plan had been increased by 1.0 million shares. On May 12, 2016, the Company's stockholders approved an amendment and restatement of the 2011 Plan to, among other things, increase the number of shares of common stock authorized for issuance by 2.0 million shares and extend the term of the 2011 Plan.

Stock Options

A summary of activity for the Company's stock options for the year ended December 31, 2017 follows:

	Number Outstanding	Average Exercise Price per Share	Weighted Average Remaining	Average Intrinsic

				Contractual Term (Years)	Value	
Balance at December 31, 2016	832,941	$	7.11		$	—
Granted	—		—			
Cancelled or Expired	(160,500)		10.58			
Exercised	—		—			
Balance at December 31, 2017	672,441	$	6.28	7.48	$	—
Vested or expected to vest at December 31, 2017	661,204	$	6.31	7.46	$	—
Exercisable at December 31, 2017	467,003	$	6.99	7.11	$	—

The following table summarizes information about stock options outstanding as of December 31, 2017:

	Options Outstanding			Options Exercisable	
Range of Exercise Prices	Number Outstanding	Weighted Average Remaining Contractual Life (Years)	Weighted Average Exercise Price	Number Exercisable	Weighted Average Exercise Price
$4.36 - $7.20	479,810	8.22	$ 4.48	285,359	$ 4.57
$7.50 - $11.30	162,394	5.95	9.27	151,407	9.23
$12.00 - $19.70	17,396	4.50	13.66	17,396	13.66
$21.70 - $29.20	12,841	3.28	25.35	12,841	25.35
$4.36 - $29.20	672,441			467,003	

No stock options were granted during the year ended December 31, 2017. The weighted-average grant date fair value per option for stock options granted during the year ended December 31, 2016 was $4.36. No stock options were exercised during the years ended December 31, 2017 and 2016, respectively.

The fair value of stock option grants was estimated using the Black Scholes pricing model with the following weighted-average assumptions for the year ended December 31, 2016:

	2017	2016
Risk-free interest rate	N/A	1.25%
Expected volatility	N/A	78.4%
Expected term in years	N/A	4.77
Dividend yield	N/A	0.0%

At December 31, 2017, there was $0.6 million of unrecognized stock-based compensation expense, net of estimated forfeitures related to unvested stock options, that is expected to be recognized over a weighted-average period of 1.5 years.

Restricted Stock and Restricted Stock Units

The following is a summary of restricted stock and restricted stock unit (“RSU”) activity for the year ended December 31, 2017:

	Number Outstanding	Weighted Average Fair Value
Balance at December 31, 2016	1,973,459	$ 2.80
Granted	399,551	4.64

Vested	(702,048)		3.19
Forfeited	(210,918)		3.01
Balance at December 31, 2017	1,460,044	$	3.08
Shares vested but not released	312,222		2.64

The fair value of the Company’s restricted stock awards and RSUs is calculated based upon the fair market value of the Company’s common stock at the date of grant. As of December 31, 2017, there was $2.3 million of unrecognized compensation cost related to unvested RSUs granted, which is expected to be recognized over a weighted average period of 2.7 years. As of December 31, 2017, an aggregate of 1,460,044 RSUs were outstanding under the 2011 Plan.

Stock-Based Compensation Expense

The following table illustrates all stock-based compensation expense related to stock options and RSUs included in the consolidated statements of operations for the years ended December 31, 2017 and 2016 (in thousands):

	Year Ended December 31,	
	2017	2016
Cost of revenue	$82	$76
Research and development	480	352
Selling and marketing	651	632
General and administrative	1,267	1,782
Total	$2,480	$2,842

Common Stock Reserved for Future Issuance

Common stock reserved for future issuance as of December 31, 2017 was as follows:

Exercise of outstanding stock options, vesting of RSUs, and issuance of RSUs vested but not released	2,444,707
ESPP	293,888
Shares of common stock available for grant under the 2011 Plan	473,624
Noncontrolling interest in Bluehill ID AG	10,355
Warrants to purchase common stock	765,000
Shares of common stock issuable on conversion of Series B Preferred Stock	5,000,000
Total	8,987,574

Net Loss per Common Share Attributable to Identiv Stockholders' Equity

Basic and diluted net loss per share is based upon the weighted average number of common shares outstanding during the period. The following common stock equivalents have been excluded from diluted net loss per share for the fiscal years ended December 31, 2017 and 2016 because their inclusion would be anti-dilutive:

	December 31,	
	2017	2016
Shares of common stock subject to outstanding RSUs	1,460,044	1,973,459
Shares of common stock subject to outstanding options	672,441	832,941
Shares of common stock subject to outstanding warrants	765,000	671,878
Shares of common stock reserved to acquire remaining share of noncontrolling interest	10,355	10,355
Shares of common stock issuable upon conversion of Series B Preferred Stock	3,000,000	—
Total	5,907,840	3,488,633

Accumulated Other Comprehensive Income

Accumulated other comprehensive income at December 31, 2017 and 2016 consists of foreign currency translation adjustments of $2.7 million and $2.1 million, respectively.

Restricted Stock Unit Net Share Settlements

During the years ended December 31, 2017 and 2016, the Company repurchased 178,207 and 109,192 shares, respectively of common stock surrendered to the Company to satisfy tax withholding obligations in connection with the vesting of RSUs issued to employees.

4. Balance Sheet Components

The Company's inventories are stated at the lower of cost or market. Inventories consist of (in thousands):

	December 31,	
	2017	2016
Raw materials	$3,700	$3,346
Work-in-progress	22	285
Finished goods	7,404	7,965
Total	$11,126	$11,596

Property and equipment, net consists of (in thousands):

	December 31,	
	2017	2016
Building and leasehold improvements	$1,917	$1,884
Furniture, fixtures and office equipment	1,771	2,002
Plant and machinery	9,411	8,848
Purchased software	2,050	1,717
Total	15,149	14,451
Accumulated depreciation	(13,106)	(12,035)
Property and equipment, net	$2,043	$2,416

The Company recorded depreciation expense of $1.3 million and $1.7 million during the years ended December 31, 2017 and 2016, respectively.

Other accrued expenses and liabilities consist of (in thousands):

	December 31,	
	2017	2016
Accrued professional fees	$1,065	$2,371
Accrued restructuring	-	237
Income taxes payable	19	334
Other accrued expenses	936	2,090
Total	$2,020	$5,032

5. Intangible Assets

The following table summarizes the gross carrying amount and accumulated amortization for intangible assets resulting from acquisitions (in thousands):

	Existing Technology	Customer Relationship	Total
Amortization period (in years)	11.75	4.0 – 11.75	
Gross carrying amount at December 31, 2016	$ 4,600	$ 10,639	$15,239
Accumulated amortization	(2,809)	(6,610)	(9,419)
Intangible Assets, net at December 31, 2016	$ 1,791	$ 4,029	$5,820
Gross carrying amount at December 31, 2017	$ 4,600	$ 10,639	$15,239
Accumulated amortization	(3,257)	(7,617)	(10,874)
Intangible Assets, net at December 31, 2017	$ 1,343	$ 3,022	$4,365

Each period, the Company evaluates the estimated remaining useful lives of purchased intangible assets and whether events or changes in circumstances warrant a revision to the remaining period of amortization. If a revision to the remaining period of amortization is warranted, amortization is prospectively adjusted over the remaining useful life of the intangible asset. Intangible assets subject to amortization are amortized on a straight-line basis over their useful lives as outlined in the table above. The Company performs an evaluation of its amortizable intangible assets for impairment at the end of each reporting period. The Company did not identify any impairment indicators during the years ended December 31, 2017 and 2016.

The following table illustrates the amortization expense included in the consolidated statements of operations for the years ended December 31, 2017 and 2016 (in thousands):

	Year Ended December 31,	
	2017	2016
Cost of revenue	$448	$448
Selling and marketing	1,007	1,007
Total	$1,455	$1,455

The estimated annual future amortization expense for purchased intangible assets with definite lives over the next five years is as follows (in thousands):

2018	$1,455
2019	1,455
2020	1,455
Thereafter	—
Total	$4,365

6. Long-Term Payment Obligation

Hirsch Acquisition – Secure Keyboards and Secure Networks. Prior to the 2009 acquisition of Hirsch by the Company, effective November 1994, Hirsch had entered into a settlement agreement (the “1994 Settlement Agreement”) with two limited partnerships, Secure Keyboards, Ltd. (“Secure Keyboards”) and Secure Networks, Ltd. (“Secure Networks”). At the time, Secure Keyboards and Secure Networks were related to Hirsch through certain common shareholders and limited partners, including Hirsch’s then President Lawrence Midland, who resigned as President of the Company effective July 31, 2014. Immediately following the acquisition, Mr. Midland owned 30% of Secure Keyboards and 9% of Secure Networks. Secure Networks was dissolved in 2012 and Mr. Midland owned 24.5% of Secure Keyboards upon his resignation effective July 31, 2014.

On April 8, 2009, Secure Keyboards, Secure Networks and Hirsch amended and restated the 1994 Settlement Agreement to replace the royalty-based payment arrangement under the 1994 Settlement Agreement with a new, definitive installment payment schedule with contractual payments to be made in future periods through 2020 (the

"2009 Settlement Agreement"). The Company was not an original party to the 2009 Settlement Agreement as the acquisition of Hirsch occurred subsequent to the 2009 Settlement Agreement being entered into. The Company has, however, provided Secure Keyboards and Secure Networks with a limited guarantee of Hirsch's payment obligations under the 2009 Settlement Agreement (the "Guarantee"). The 2009 Settlement Agreement and the Guarantee became effective upon the acquisition of Hirsch on April 30, 2009. The Company's annual payment to Secure Keyboards and Secure Networks in any given year under the 2009 Settlement Agreement is subject to an increase based on the percentage increase in the Consumer Price Index during the previous calendar year.

The final payment to Secure Networks was made on January 30, 2012 and the final payment to Secure Keyboards is due on January 30, 2021. The Company's payment obligations under the 2009 Settlement Agreement will continue through the calendar year period ending December 31, 2020, unless the Company elects at any time on or after January 1, 2012 to earlier satisfy its obligations by making a lump-sum payment to Secure Keyboards. The Company does not intend to make a lump-sum payment and therefore a portion of the payment obligation amount is classified as a long-term liability.

The Company included $0.3 million and $0.4 million of interest expense during the years ended December 31, 2017 and 2016, respectively, in its consolidated statements of operations for interest accreted on the long-term payment obligation.

The ongoing payment obligation in connection with the Hirsch acquisition as of December 31, 2017 is as follows (in thousands):

2018	$1,237
2019	1,286
2020	1,433
2021	369
Present value discount factor	(439)
Total	3,886
Less: Current portion - payment obligation	(888)
Long-term payment obligation	$2,998

7. Financial Liabilities

Financial liabilities consist of (in thousands):

	December 31,	
	2017	2016
Secured term loan	$5,000	$10,000
Bank revolving loan facility	8,736	8,300
Total before discount and debt issuance costs	13,736	18,300
Less: Current portion of financial liabilities	(9,829)	(8,119)
Less: Current portion of unamortized discount and debt issuance costs	(404)	(181)
Less: Long-term portion of unamortized discount and debt issuance costs	(582)	(221)
Long-term financial liabilities	$2,921	$9,779

Bank Term Loan and Revolving Loan Facility

On March 31, 2014, the Company entered into a credit agreement (as amended, the “Credit Agreement”) with Opus Bank. The Credit Agreement provided for a term loan in an aggregate principal amount of $10.0 million and an additional $10.0 million revolving loan facility. On February 8, 2017, the Company entered into new Loan and Security Agreements. In connection with the closing of such agreements, the Company repaid all outstanding amounts under the Credit Agreement. In evaluating the transaction, the Company compared the net present value cash flows under the existing Credit Agreement and the new Loan and Security Agreements to determine whether the terms of the new debt facility and the existing facility were "substantially different." As the net present value of cash flows varied by more than 10%, the Company concluded that the transaction should be accounted for as a debt extinguishment. As a result, the Company recorded a gain on extinguishment of debt totaling $1.0 million, representing the difference between the reacquisition price of the previous debt facility, net of cancelled warrants previously issued to Opus Bank, and its net carrying amount.

On February 8, 2017, the Company entered into Loan and Security Agreements with each of EWB and VLL7 and VLL8. The Loan and Security Agreement with EWB provides for a $10.0 million revolving loan facility, and the Loan Security Agreement with VLL7 and VLL8 provides for a term loan in an aggregate principal amount of $10.0 million (the "Term Loan"). The obligations of the Company under each of the Loan and Security Agreements are secured by substantially all assets of the Company.

The Revolving Loan Facility bears interest at prime rate plus 2.0% and matures and becomes due and payable on February 8, 2019. Interest is payable monthly beginning on March 1, 2017. The Company may voluntarily prepay amounts outstanding under the Revolving Loan Facility, without prepayment charges. In the event the Revolving Loan Facility is terminated prior to its maturity, the Company would be required to pay an early termination fee in the amount of 1.0% of the revolving line, and an additional cash early termination fee of 1.0% if terminated prior to February 8, 2018. Additional borrowing requests under the Revolving Loan Facility are subject to various customary conditions precedent, including satisfaction of a borrowing base test as more fully described in the Revolving Loan Facility.

The Term Loan matures on August 8, 2020. Payments under the Term Loan Facility are interest-only for the first twelve months at a per annum rate of 12.5%, followed by principal and interest payments amortized over the remaining term of the Term Loan. If the Company elects to prepay the Term Loan before its maturity, all accrued and unpaid interest outstanding at the prepayment date will be due and payable, together with all the scheduled interest that would have accrued and been payable through the stated maturity of the Term Loan, provided that at any time after the Company has made at least twelve scheduled amortization payments of principal and interest on the Term Loan, the Company shall only be required to pay 80% of the scheduled interest that would have accrued and been payable through the stated maturity of the Term Loan.

The Company is obligated to pay customary fees and expenses, including customary facility fees for credit facilities of this size and type, in the aggregate amount of approximately $120,000, in connection with the closing of the two facilities. An additional facility fee of $40,000 will be payable in connection with the Revolving Loan Facility on February 8, 2018.

Each of the Revolving Loan Facility and the Term Loan Facility contain customary representations and warranties and customary affirmative and negative covenants, including, limits or restrictions on the Company's ability to incur liens, incur indebtedness, make certain restricted payments, merge or consolidate and dispose of assets. The Revolving Loan Facility also contains various financial covenants, including but not limited to a liquidity covenant requiring the Company to maintain at least $4.0 million of cash. In addition, each of the Revolving Loan Facility and the Term Loan Facility contains customary events of default that entitle EWB or VLL7 and VLL8, as appropriate, to cause any or all of the Company's indebtedness under the Revolving Loan Facility or the Term Loan Facility, respectively, to become immediately due and payable. The events of default (some of which are subject to applicable grace or cure periods), include, among other things, non-payment defaults, covenant defaults, cross-defaults to other material indebtedness, bankruptcy and insolvency defaults and material judgment defaults. Upon the occurrence and during the continuance of an event of default, EWB and VLL7 and VLL8 may terminate their lending commitments and/or declare all or any part of the unpaid principal of all loans, all interest accrued and unpaid thereon and all other amounts payable under the Loan and Security Agreements to be immediately due and payable.

As of December 31, 2017, the Company was in compliance with all financial covenants under the Term Loan. As of December 31, 2017, the Company was not in compliance with the minimum debt service coverage ratio requirement under the Revolving Loan Facility. During the allotted cure period, on January 31, 2018, the Company and EWB amended the Revolving Loan Facility (the “Third Amendment”) removing certain financial covenants, including the minimum debt service coverage ratio.

The proceeds of the Term Loan and the initial draw under the Revolving Loan Facility, after payment of fees and expenses, were used to repay all outstanding amounts under the Credit Agreement with Opus Bank. In connection with the repayment, warrants to purchase an aggregate of 400,000 shares of common stock issued to Opus Bank were cancelled. The proceeds of any additional draws under the Revolving Loan Facility will be used for working capital and other general corporate purposes.

On December 28, 2017, the Company paid down an aggregate principal amount of $5.0 million of the $10.0 million outstanding principal balance of its Term Loan with VLL7 and VLL8. The Company paid to VLL7 and VLL8 approximately $5.9 million, consisting of $5.0 million in outstanding principal, and $0.9 million of accrued and unpaid interest outstanding at the prepayment date, together with all scheduled interest that would have accrued and been payable through the stated maturity of the Term Loan. As a result, the Company recorded a loss on extinguishment of debt totaling $1.8 million, representing the difference between the reacquisition price of the repaid portion of the Term Loan and the its net carrying amount.

On January 31, 2018, the Company entered the Third Amendment with EWB. Under the Third Amendment, the Revolving Loan Facility was increased from $10.0 million to $12.0 million, the interest rate was reduced from prime rate plus 2.0% to prime rate plus 1.0%, and a non-formula line of credit sublimit was added not to exceed $3.0 million. In addition, certain financial covenants were amended, including the definition of EBITDA, and certain reporting requirements have been streamlined.

On February 5, 2018, the Company entered into an amendment (the “Fourth Amendment”) to its Loan and Security Agreement with EWB. Under the Fourth Amendment, EWB agreed to include as Permitted Indebtedness, as defined in the Loan and Security Agreement, the issuance of $2.0 million in subordinated unsecured promissory notes associated with the acquisition of 3VR Security, Inc., a California corporation (“3VR”), subject to certain terms and conditions. In addition, EWB agreed to include certain 3VR indebtedness payable to 3VR’s lender, which remained outstanding subsequent to the acquisition, as Permitted Indebtedness, subject to the Company repaying in full amounts outstanding within 5 business days of the closing of the acquisition.

On February 14, 2018, the Company completed the acquisition of 3VR and on February 21, 2018, the Company paid 3VR's lender $3.6 million in full repayment of all indebtedness outstanding of 3VR.

On March 6, 2018, the Company entered into an amendment (the "Fifth Amendment") to its Loan and Security Agreement with EWB. Under the Fifth Amendment, the Revolving Loan Facility was increased from $12.0 million to $16.0 million. In addition, certain definitions were amended, including the definition of Borrowing Base.

The following table summarizes the timing of repayment obligations for the Company's long-term financial liabilities for the next three years under the current terms of the Term Loan Facility at December 31, 2017 (in thousands):

	2018	2019	2020	Total
Bank term loan facility	$1,497	$2,014	$1,489	$5,000

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8. Income Taxes

Loss before income taxes for domestic and non-U.S. operations is as follows (in thousands):

	2017	2016
Loss from operations before income taxes and noncontrolling interest:		
U.S.	$(5,617)	$(13,284)
Foreign	(2,749)	(287)
Loss from operations before income taxes and noncontrolling interest	$(8,366)	$(13,571)

The benefit (provision) for income taxes consisted of the following (in thousands):

	December 31, 2017	December 31, 2016
Deferred:		
Federal	$—	$—
State	—	—
Foreign	—	—
	$—	$—
Current		
Federal	$—	$—
State	(33)	(25)
Foreign	247	(107)
Total current	214	(132)
Total benefit (provision) for income taxes	$214	$(132)

Significant items making up deferred tax assets and liabilities are as follows (in thousands):

	December 31, 2017	December 31, 2016
Deferred tax assets:		
Allowances not currently deductible for tax purposes	$1,177	$2,844
Net operating loss carryforwards	56,989	64,741
Accrued and other	1,977	7,149
	60,143	74,734
Less valuation allowance	(58,248)	(71,023)
	1,895	3,711

Deferred tax liability:		
Depreciation and amortization	(1,085)	(2,220)
Other	(810)	(1,491)
	(1,895)	(3,711)
Net deferred tax liability	$—	$—

Management assesses the available positive and negative evidence to estimate if sufficient future taxable income will be generated to use the existing deferred tax assets. A significant piece of objective negative evidence evaluated was the cumulative loss incurred over the three-year period ended December 31, 2017. Such objective evidence limits the ability to consider other subjective evidence such as the Company's projections for future growth.

A valuation allowance of $58.3 million and $71.0 million at December 31, 2017 and December 31, 2016, respectively, has been recorded to offset the related net deferred tax assets as the Company is unable to conclude that it is more likely than not that such deferred tax assets will be realized. The net deferred tax liabilities are primarily from foreign tax liabilities as well as intangibles acquired as a result of the acquisition of Hirsch, which are not deductible for tax purposes.

On December 22, 2017, the President of the United States signed into law the Tax Cuts and Jobs Act (the "Act"). The Act amends the Internal Revenue Code to reduce tax rates and modify policies, credits, and deductions for individuals and businesses. For businesses, the Act reduces the corporate federal tax rate from a maximum of 35% to a flat 21% rate. The rate reduction took effect on January 1, 2018.

At December 31, 2017, the Company had a net deferred tax asset before valuation allowance totaling $58.3 million. Under generally accepted accounting principles, the Company uses the asset and liability method of accounting for income taxes. Under this method, deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax basis. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The Company's net deferred tax asset of $58.3 million was determined at December 31, 2017 based on the current enacted federal tax rate of 21%, or the rate of the statutory rate applicable to the respective foreign jurisdiction. As a result of the reduction in the corporate income tax rate from 35% to 21% under the Act, the Company has calculated a decrease in net deferred assets of $15.8 million and a corresponding decrease of $15.8 million in the valuation allowance which resulted in a net zero effect to the Company's consolidated financial statements at December 31, 2017.

The Act also amended Internal Revenue Code Section 172 which governs the utilization of net operating losses ("NOLs"). Prior rules generally allowed NOLs to be carried back two years and forward 20 years, after which time the NOL's expired. The amendment by the Act disallows any carryback of NOL's arising in a taxable year ending after December 31, 2017, but allows an indefinite carryforward of such losses, but such losses may only offset a maximum of 80 percent of a taxpayer's pre-NOL taxable income.

Further, the Act provides for a one-time "deemed repatriation" of accumulated foreign earnings for the year ended December 31, 2017. No repatriation tax was provided with respect to undistributed earnings of foreign subsidiaries due to a net foreign earnings and profits deficit position.

As of December 31, 2017, the Company has net operating loss carryforwards of $108.5 million for federal, $34.5 million for state and $125.7 million for foreign income tax purposes. Certain of the Company's state and foreign loss carryforwards have started expiring and will continue to expire through 2037 if not utilized.

The Tax Reform Act of 1986 limits the use of net operating loss and tax credit carryforwards in certain situations where changes occur in stock ownership. The Company completed its acquisition of Bluehill ID AG on January 4, 2010, which resulted in a stock ownership change as defined by the Reform Act of 1986. This transaction resulted in limitations on the annual utilization of federal and state net operating loss carryforwards. As a result, the Company reevaluated its available deferred tax assets, and the loss carryforward amounts, excluding the valuation allowance, presented above have been adjusted for the limitation resulting from the change in ownership in accordance with the provisions of the Reform Act of 1986.

The benefit (provision) for income taxes reconciles to the amount computed by applying the statutory federal tax rate to the loss before income taxes from operations is as follows (in thousands):

	December 31,	
	2017	2016
Income tax benefit at statutory federal tax rate of 34%	$2,845	$4,711
State taxes, net of federal benefit	(22)	(17)
Foreign taxes provisions provided for at rates other than U.S	(687)	(424)

statutory rate		
Federal rate adjustment	(15,780)	—
Change in valuation allowance	13,931	(4,064)
Permanent differences	200	—
Other	(273)	(338)
Total benefit (provision) for income taxes	214	(132)

The Company applies the provisions of, and accounted for uncertain tax positions in accordance with ASC 740. ASC 740 clarifies the accounting for uncertainty in income taxes recognized in an entity's financial statements. It prescribes a recognition threshold and measurement attribute for the financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return. ASC 740 also provides guidance on de-recognition, classification, interest and penalties, accounting in interim periods, disclosure, and transition.

A reconciliation of the beginning and ending amount of unrecognized tax benefits with an impact on the Company's consolidated balance sheets or results of operations is as follows (in thousands):

	2017	2016
Balance at January 1	$2,874	$3,223
Additions based on tax positions related to the current year	2	1
Additions for tax positions of prior years	2	—
Reductions in prior year tax positions	—	(350)
Balance at December 31	$2,878	$2,874

While timing of the resolution and/or finalization of tax audits is uncertain, the Company does not believe that its unrecognized tax benefits as presented in the above table would materially change in the next 12 months. The reduction to the amount of unrecognized tax benefits during 2016 was primarily due to the expiration of statutes of limitations on tax attributes carried forward for prior years.

As of December 31, 2017 and 2016, the Company recognized liabilities for unrecognized tax benefits of $2.8 million and $2.8 million, respectively, which were accounted for as a decrease to deferred tax assets. Since there was a full valuation allowance against these deferred tax assets, there was no impact on the Company's consolidated balance sheets or results of operations for the years 2017 and 2016. Also the subsequent recognition, if any, of these previously unrecognized tax benefits would not affect the effective tax rate. Such recognition would result in adjustments to other tax accounts, primarily deferred taxes. The amount of unrecognized tax benefits, which, if recognized would affect the tax rate is $0.1 million as of December 31, 2017 and 2016.

The Company recognizes interest accrued related to unrecognized tax benefits and penalties as income tax expense. During fiscal 2017, the Company recorded a reduction to accrued penalties of $1,000 and an increase in accrued interest of $4,000 related to the unrecognized tax benefits noted above. As of December 31, 2017, the Company has recognized a total liability for penalties of $14,000 and interest of $32,000. During fiscal 2016, the Company recorded a reduction to accrued penalties of $2,000 and an increase in accrued interest of $4,000 related to the unrecognized tax benefits noted above. As of December 31, 2016, the Company has recognized a total liability for penalties of $13,000 and interest of $28,000.

The Company files U.S. federal, U.S. state and foreign tax returns. The Company is under federal tax examination for tax year ended December 31, 2015. The proposed adjustments will result in adjustment of NOLs within tax years 2015 and 2016 and will have no net impact on its deferred tax assets or income tax provision. These adjustments will be recorded by the Company once the audit is finalized. The Company generally is no longer subject to tax examinations for years prior to 2013. However, if loss carryforwards of tax years prior to 2013 are utilized in the U.S., these tax years may become subject to investigation by the tax authorities.

9. Segment Reporting and Geographic Information

ASC Topic 280, Segment Reporting ("ASC 280") establishes standards for the reporting by public business enterprises of information about operating segments, products and services and by geographic areas. The method for determining what information to report is based on the way management organizes the operating segments within the Company for making operating decisions and assessing financial performance. An operating segment is defined as a component of an enterprise that engages in business activities from which it may earn revenue and incur expenses and about which separate financial information is available to its chief operating decision makers ("CODM"). The Company's CODM is considered its CEO.

The CODM reviews financial information and business performance for each operating segment. The Company evaluates the performance of its operating segments at the revenue and gross profit levels. The Company does not report total assets, capital expenditures or operating expenses by operating segment as such information is not used by the CODM for purposes of assessing performance or allocating resources or has not been accounted for at the segment level.

Net revenue and gross profit information by segment for the years ended December 31, 2017 and 2016 are as follows (in thousands):

	Year Ended December 31, 2017	2016
Premises:		
Net revenue	$24,154	$24,696
Gross profit	13,669	14,034
Gross profit margin	57 %	57 %
Identity:		
Net revenue	14,293	12,902
Gross profit	5,117	5,015
Gross profit margin	36 %	39 %
Credentials:		
Net revenue	21,772	17,992
Gross profit	3,374	4,427
Gross profit margin	15 %	25 %
All Other:		
Net revenue	—	578
Gross profit	—	253
Gross profit margin	—	44 %
Total:		
Net revenue	60,219	56,168
Gross profit	22,160	23,729
Gross profit margin	37 %	42 %
Operating expenses:		
Research and development	6,146	6,520
Selling and marketing	13,452	14,032
General and administrative	7,241	11,309
Restructuring and severance	(49)	3,088
Total operating expenses:	26,790	34,949
Loss from operations	(4,630)	(11,220)
Non-operating income (expense):		
Interest expense, net	(2,590)	(2,378)
Loss on extinguishment of debt	(788)	—
Foreign currency (losses) gains, net	(358)	27
Loss before income taxes and noncontrolling interest	$(8,366)	$(13,571)

Geographic net revenue is based on the customer's ship-to location. Information regarding net revenue by geographic region is as follows (in thousands):

	Year Ended December 31, 2017	2016
Americas	$40,018	$38,135

Europe and the Middle East	7,887		8,589	
Asia-Pacific	12,314		9,444	
Total	$60,219		$56,168	
Revenues:				
Americas	67	%	68	%
Europe and the Middle East	13	%	15	%
Asia-Pacific	20	%	17	%
Total	100	%	100	%

Long-lived assets by geographic location as of December 31, 2017 and 2016 are as follows (in thousands):

	December 31,	
	2017	2016
Property and equipment, net:		
Americas	$868	$1,100
Europe and the Middle East	89	162
Asia-Pacific	1,086	1,154
Total property and equipment, net	$2,043	$2,416

The Company’s net revenue is represented by the following product categories as of December 31, 2017 and 2016 (in thousands):

	Year Ended December 31,	
	2017	2016
Logical and physical access control readers	$18,601	$17,671
Controller panels	14,637	14,919
Tags and transponders	13,089	10,890
Access cards and provisioning	8,396	7,107
Services	3,816	3,258
Third party access control products	1,014	1,645
Software	666	100
Other	—	578
Total	$60,219	$56,168

10. Restructuring and Severance

In the first quarter of 2016, the Company implemented a worldwide restructuring plan designed to refocus the Company’s resources on its core business segments, including physical access and transponders, and to consolidate its operations in several worldwide locations. The restructuring plan included reducing the Company’s non-manufacturing employee base, reallocating overhead roles into direct business activities and eliminating certain management and executive roles. In 2017, the Company recorded a credit resulting from actual expenditures being less than originally accrued. In 2016, the Company incurred restructuring and severance costs of $3.1 million.

All unpaid restructuring and severance accruals are included in other accrued expenses and liabilities within current liabilities in the consolidated balance sheet at December 31, 2016. Restructuring and severance activities during the years ended December 31, 2017 and December 31, 2016 were as follows (in thousands):

Year Ended
December 31,

	2017	2016
Balance at beginning of period	$237	$633
Restructuring expense incurred for the period	(49)	3,088
Other cost reduction activities for the period	—	—
Payments and non-cash item adjustment during the period	(188)	(3,484)
Balance at end of period	$—	$237

11. Legal Proceedings

On December 16, 2015, the Company and certain of its present and former officers and directors were named as defendants in a putative class action lawsuit filed in the United States District Court for the Northern District of California, entitled Rok v. Identiv, Inc., et al., Case No. 15-cv-05775, alleging violations of Section 10(b) of the Exchange Act of 1934 and Rule 10b-5 promulgated thereunder and Section 20(a) of the Exchange Act of 1934. On May 3, 2016, the court-appointed lead plaintiff Thomas Cunningham in the Rok lawsuit filed an amended complaint and a notice of dismissal without prejudice of all current or former officers and directors other than Jason Hart and Brian Nelson. On June 6, 2016, the Company, Jason Hart, and Brian Nelson filed a motion to dismiss for failure to state a claim upon which relief can be granted in the Rok lawsuit; on August 5, 2016, the court granted those motions with leave for the lead plaintiff to file a second amended complaint. On September 12, 2016, the lead plaintiff in the Rok lawsuit filed a second amended complaint. On October 10, 2016, the Company, Jason Hart, and Brian Nelson filed a motion to dismiss that second amended complaint for failure to state a claim upon which relief can be granted in the Rok lawsuit; on January 4, 2017, the court granted those motions with prejudice and entered judgment for the Company and the other defendants and against the lead plaintiff. On February 6, 2017, the lead plaintiff initiated an appeal of the court's decision in the Ninth Circuit Court of Appeals. Following the lead plaintiff's routine request to extend filing deadlines, which the Court of Appeals approved, the lead plaintiff's opening appellate brief was filed on June 14, 2017. Following Jason Hart's routine request to extend filing deadlines, which the Court of Appeals approved, the answering briefs of the Company and the other defendants were filed on August 14, 2017. Following the lead plaintiff's routine request to extend filing deadlines, which the Court of Appeals approved, the lead plaintiff's optional reply brief was filed on October 5, 2017. The Ninth Circuit Court of Appeals held oral argument on March 13, 2018. On March 23, 2018, the Ninth Circuit issued an order affirming the dismissal with prejudice. In the interim, on January 3, 2018, lead plaintiffs filed a motion under Federal Rules of Civil Procedure Rule 60(b) in the trial court to vacate the January 4, 2017 judgment of dismissal. On February 9, 2018, following additional briefing, the trial court denied the motion.

In addition, three shareholder derivative actions were filed between January and February 2016. On January 1, 2016, certain of the Company's present and former officers and directors were named as defendants, and the Company was named as nominal defendant, in a shareholder derivative lawsuit filed in the United States District Court for the Northern District of California, entitled Oswald v. Humphreys, et al., Case No. 16-cv-00241-CRB, alleging breach of fiduciary duty and waste claims. On January 25, 2016, certain of the Company's present and former officers and directors were named as defendants, and the Company were named as nominal defendant, in a shareholder derivative lawsuit filed in the Superior Court of the State of California, County of Alameda, entitled Chopra v. Hart, et al., Case No. RG16801379, alleging breach of fiduciary duty claims. On February 9, 2016, certain of the Company's present and former officers and directors were named as defendants, and the Company were named as nominal defendant, in a shareholder derivative lawsuit filed in the Superior Court of the State of California, County of Alameda, entitled Wollnik v. Wenzel, et al., Case No. HG16803342, alleging breach of fiduciary duty, corporate waste, gross mismanagement, and unjust enrichment claims. These lawsuits generally allege that the Company made false and/or misleading statements and/or failed to disclose information in certain public filings and disclosures between 2013 and 2015. Each of the lawsuits seeks one or more of the following remedies: unspecified compensatory damages, unspecified exemplary or punitive damages, restitution, declaratory relief, equitable and injunctive relief, and reasonable costs and attorneys' fees. On May 2, 2016, the court in the Chopra lawsuit entered an order staying proceedings in the Chopra lawsuit in favor of the Oswald lawsuit, based on a stipulation to that effect filed by the parties in the Chopra lawsuit on April 28, 2016. Similarly, on June 28, 2016, the court in the Wollnik lawsuit entered a stipulated order staying proceedings in the Wollnik lawsuit in favor of the Oswald lawsuit. On June 17, 2016, the plaintiff in the Oswald lawsuit filed an amended complaint. On August 1, 2016, the Company filed a motion to dismiss for failure by plaintiff to make a pre-lawsuit demand on the Board, which motion was heard on October 14, 2016. The judge in the Oswald lawsuit issued an order on November 7, 2016 granting the Company's motion to dismiss, without prejudice. In addition, the court stayed the case so that plaintiff could exercise whatever rights he had under Section 220 of the Delaware General Corporation Law. On or around November 30, 2016, the plaintiff purported to serve a books and records demand under Section 220 of the Delaware General Corporation Law. The Company responded to that demand. On March 21, 2017, the Company and the plaintiff in the Oswald lawsuit filed a stipulation and proposed order lifting the stay of the case, granting the plaintiff leave to amend, and setting a briefing schedule. That stipulation proposed that the judge's stay of the case entered November 7, 2016 be lifted, that a stay of proceedings as to the individual defendants that the judge previously entered remain in place, that the plaintiff may file a second amended complaint on or before April 10, 2017, that the Company may file a motion to dismiss that second amended complaint on or before May 12, 2017, that the plaintiff's opposition to such a motion to dismiss shall be filed on or before June 12, 2017, that the Company's reply in support of such a motion shall be filed on or before June 30, 2017, and that the hearing on such a motion to dismiss shall be held on August 11, 2017 or such other date as the court may order. On March 22, 2017, the court entered an order approving that stipulation. The plaintiff in the Oswald lawsuit filed his second amended complaint on April 10, 2017. The Company then filed a motion to dismiss that second amended complaint on May 12, 2017, the plaintiff filed an opposition to that motion to dismiss on June

12, 2017, and the Company filed a reply in support of the motion on June 30, 2017. The hearing on that motion to dismiss was rescheduled by stipulation of the parties to September 22, 2017 and then further rescheduled by the court to October 6, 2017. The hearing on that motion to dismiss was held on October 6, 2017, and that day the court entered a minute entry indicating the motion would be denied. On October 22, 2017, the court issued its written order denying the motion to dismiss on the basis of demand futility. On December 15, 2017, the court held a status conference. On January 3, 2018, the court entered a stipulated order setting a response and briefing schedule for defendants to the second amended complaint. Pursuant to the schedule, defendants filed motions to dismiss under Rule 12(b)(6) on January 16, 2018. Plaintiff filed his opposition brief on February 14, 2018. Defendants' reply briefs are due on March 2, 2018. The court heard argument on the motions to dismiss on March 23, 2018 and took the matters under submission. On October 18, 2017, the court in the Wollnik lawsuit conducted a case management conference, at the conclusion of which the court scheduled a complex determination hearing for November 28, 2017. The Company filed a notice of non-opposition to complex case designation and request for coordination with the Chopra lawsuit on October 24, 2017. The plaintiff in the Wollnik lawsuit filed a statement of non-opposition to complex case designation on or about November 27, 2017. The court continued the complex determination hearing to April 3, 2018. The Company intends to vigorously defend against these lawsuits. The Company cannot currently predict the impact or resolution of each of these lawsuits or reasonably estimate a range of possible loss, if any, which could be material, and the resolution of these lawsuits may harm the Company's business and have a material adverse impact on its financial condition.

From time to time, the Company could be subject to claims arising in the ordinary course of business or be a defendant in additional lawsuits. The outcome of such claims or other proceedings cannot be predicted with certainty and may have a material effect on the Company's financial condition, results of operations or cash flows.

12. Commitments and Contingencies

The Company leases its facilities, certain equipment, and automobiles under non-cancelable operating lease agreements. Those lease agreements existing as of December 31, 2017 expire at various dates during the next five years.

The Company recognized rent expense of $1.6 million and $1.5 million for the years ended December 31, 2017 and 2016, respectively, in its consolidated statements of operations.

The following table summarizes the Company's principal contractual commitments, excluding the financial liabilities and long-term payment obligation, as of December 31, 2017 (in thousands):

	Operating Leases	Purchase Commitments	Other Contractual Commitments	Total
2018	$ 1,275	$ 11,342	$ 25	$12,642
2019	1,122	—	12	1,134
2020	906	—	12	918
2021	653	—	12	665
2022	415	—	12	427
Thereafter	35	—	—	35
Total	$ 4,406	$ 11,342	$ 73	$15,821

Purchase commitments for inventories are highly dependent upon forecasts of customer demand. Due to the uncertainty in demand from its customers, the Company may have to change, reschedule, or cancel purchases or purchase orders from its suppliers. These changes may lead to vendor cancellation charges on these purchases or contractual commitments.

The Company provides warranties on certain product sales for periods ranging from 12 to 24 months, and allowances for estimated warranty costs are recorded during the period of sale. The determination of such allowances requires the Company to make estimates of product return rates and expected costs to repair or to replace the products under warranty. The Company currently establishes warranty reserves based on historical warranty costs for each product line combined with liability estimates based on the prior 12 months' sales activities. If actual return rates and/or repair and replacement costs differ significantly from the Company's estimates, adjustments to recognize additional cost of sales may be required in future periods. Historically the warranty accrual and the expense amounts have been immaterial.

13. Subsequent Events

On January 31, 2018, the Company entered into the Third Amendment to its Loan and Security Agreement with EWB. Under the Third Amendment, the revolving loan facility under the Loan and Security Agreement was increased from $10.0 million to $12.0 million, the interest rate was reduced from prime rate plus 2.0% to prime rate plus 1.0%, and a non-formula line of credit sublimit was added not to exceed $3.0 million. In addition, certain financial covenants were amended, including the definition of EBITDA, and certain reporting requirements have been streamlined.

On February 5, 2018, the Company entered into the Fourth Amendment to its Loan and Security Agreement with EWB. Under the Fourth Amendment, EWB agreed to include as Permitted Indebtedness, as defined in the Loan and Security Agreement, the issuance of $2.0 million in subordinated unsecured promissory notes associated with the acquisition of 3VR, subject to certain terms and conditions. In addition, EWB agreed to include certain 3VR indebtedness, which remained outstanding subsequent to the acquisition, to one of its lenders as Permitted Indebtedness, subject to the Company repaying in full amounts outstanding within 5 business days of the closing of the acquisition.

On February 14, 2018, the Company completed the acquisition of 3VR, pursuant to an Agreement and Plan of Merger (the "Merger Agreement") by and among the Company, Eagle Acquisition, Inc., a California corporation and a wholly owned subsidiary of the Company ("Merger Sub"), 3VR, and Fortis Advisors LLC, a Delaware limited liability company, acting as Security Holder Representative. Pursuant to the Merger Agreement, at the effective time, Merger Sub merged with and into 3VR and 3VR became a wholly-owned subsidiary of the Company (the "Acquisition"). Capitalized terms used and not otherwise defined herein have the meanings set forth in the Merger Agreement.

Under the terms of the Merger Agreement, at the closing of the acquisition, the Company was obligated to pay an aggregate consideration of approximately $6.9 million, consisting of (i) approximately $1.6 million in cash, (ii) the issuance of subordinated unsecured promissory notes by the Company in an aggregate principal amount of $2.0 million, and (iii) the issuance of shares of the Company's common stock with a value of approximately $3.3 million. An aggregate of $1.0 million of the Company's common stock issued at the closing of the transaction will be held back for up to 12 months following the closing for the satisfaction of certain indemnification claims.

Additionally, in the event that the surviving corporation achieves $24.1 million in product shipments in 2018, the Company will be obligated to issue a further earn-out consideration of $3.5 million payable in shares of the Company's common stock (subject to certain conditions) with a potential maximum earn-out value of $7.0 million in the event that such shipments exceed $48.2 million. Further, in calendar year 2019, the Company may also be obligated to pay, in cash, and subject to certain conditions, contingent consideration equal to the lesser of (A) 35% of the gross margin of certain products sold and services rendered by 3VR in 2018 pursuant to a supply arrangement and (B) $25.0 million, each subject to adjustments.

On February 14, 2018, the Company completed the acquisition of 3VR. As part of the transaction, the Company assumed indebtedness payable to 3VR's lender and on February 21, 2018, the Company paid 3VR's lender $3.6 million in full repayment of all indebtedness outstanding of 3VR.

On March 6, 2018, the Company entered into the Fifth Amendment to its Loan and Security Agreement with EWB. Under the Fifth Amendment, the revolving loan facility under the Loan and Security Agreement was increased from $12.0 million to $16.0 million. In addition, certain definitions were amended, including the definition of Borrowing Base.

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

Not applicable.

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

As of the end of the fiscal year ended December 31, 2017, as required in Rule 13a-15(b) under the Exchange Act, we carried out an evaluation under the supervision and with the participation of members of our senior management, including our CEO and CFO, of the effectiveness of the design and operation of the Company's disclosure controls and procedures (as defined in Rule 13a-15(e) under the Exchange Act). Disclosure controls and procedures are those controls and other procedures that are designed to provide reasonable assurance that the information required to be disclosed in our SEC reports that we file or submit under the Exchange Act (i) is recorded, processed, summarized and reported within the time periods specified in SEC rules and forms, and (ii) is accumulated and communicated to our management, including our CEO and CFO, as appropriate to allow timely decisions regarding required disclosure.

Based on our evaluation, our management, including our CEO and CFO, concluded that as of December 31, 2017, our disclosure controls and procedures were effective at the reasonable assurance level.

Management's Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as defined in Rule 13a-15(f) under the Exchange Act, to provide reasonable assurance regarding the reliability of our financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles in the United States, or U.S. GAAP. Internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of consolidated financial statements for external purposes in accordance with U.S. GAAP. 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 consolidated financial statements in accordance with U.S. GAAP, and that receipts and expenditures of the Company are being made only in accordance with authorizations of management and or directors; 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 interim or annual consolidated financial statements.

A control system, no matter how well designed and operated, can only provide reasonable assurance that the objectives of the control system are met. Because there are inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within the Company have been or will be detected.

A deficiency in internal control over financial reporting exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent or detect misstatements on a timely basis. A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the company's annual or interim financial statements will not be prevented or detected on a timely basis.

In connection with the audit of the Company's financial statements as of and for the year ended December 31, 2015, management identified a material weakness in internal control over financial reporting during 2015, and the material weakness was ongoing. Management determined that the design and operating effectiveness of the Company's controls over the financial statement close process related to the application of our accounting policies and the presentation of disclosures in the financial statements had been inadequate. Specifically, this material weakness arose from insufficient review and oversight of the recording of complex and non-routine transactions, including revenue transactions, due to an insufficient number of accounting personnel with appropriate knowledge, experience or training in U.S. GAAP.

A number of remediation actions and organizational changes were enacted to address specific control weaknesses identified in our revenue and expenditure cycles. During the course of 2016, as part of our restructuring initiatives announced in the first quarter of 2016, we streamlined our global operations, transitioned to a single accounting system across substantially all our businesses, and strengthened our global accounting and finance function in Orange County, California. In 2017, we implemented procedures and controls over the financial statement close process, reallocated worldwide accounting resources, and continued to strengthen our accounting and finance team by hiring additional personnel with U.S. GAAP experience. We believe these initiatives allow for the necessary review and oversight of the recording complex and non-routine transactions. Management has determined that with the remediation measures undertaken in 2016 and through June 30, 2017, the material weakness has been fully remediated as of June 30, 2017. Our conclusion has not been audited by our independent registered public accounting firm.

Our management, including our CEO and CFO, assessed our internal control over financial reporting as of December 31, 2017. In making the assessment of internal control over financial reporting, our management based its assessment on the criteria issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO") in "Internal Control — Integrated Framework of 2013." Our management's assessment included evaluation of such elements as the design and operating effectiveness of key financial reporting controls, process documentation, accounting policies, and our overall control environment. This assessment is supported by testing and monitoring performed by our internal accounting and finance organization, but has not been reviewed by our independent registered public accounting firm.

Based on management's assessment, management has concluded that the Company's internal control over financial reporting was effective as of December 31, 2017.

Changes in Internal Controls over Financial Reporting

We have made no changes to our internal control over financial reporting during the three months ended December 31, 2017 that have materially affected, or that are reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

Not applicable.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required by Item 10 concerning our directors will be set forth under the captions “Business Experience of Directors” and “Policy for Director Recommendations and Nominations” in our Proxy Statement relating to our 2018 Annual Meeting of Stockholders, referred to in this Annual Report on Form 10-K as the “Proxy Statement,” which we expect to file within 120 days of the end of our fiscal year pursuant to General Instruction G(3) of Form 10-K. Such information is incorporated herein by reference. Certain information required by this item concerning executive officers is set forth in Part I of this Report under the caption “Executive Officers of the Registrant” and is incorporated herein by reference. The information required by this item concerning compliance with Section 16(a) of the Exchange Act is incorporated by reference to the section captioned “Section 16(a) Beneficial Ownership Reporting Compliance” that will be set forth in our Proxy Statement. The information required by this item concerning our code of ethics is incorporated by reference to the section captioned “Code of Conduct and Ethics” in our Proxy Statement. The information required by this item concerning the Audit Committee of our board of directors is incorporated by reference to the section captioned “Committees of the Board of Directors” in our Proxy Statement.

ITEM 11. EXECUTIVE COMPENSATION

The information required by Item 11 will be contained in our Proxy Statement under the captions “Compensation of Directors” and “Executive Compensation”, which information is incorporated herein by reference.

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

The information required by Item 12 will be set forth under the captions “Security Ownership of Certain Beneficial Owners and Management” and “Equity Compensation Plan Information” in our Proxy Statement, which information is incorporated herein by reference.

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

The information required by Item 13 will be set forth under the captions “Certain Relationships and Related Transactions” and “Director Independence” in our Proxy Statement, which information is incorporated herein by reference.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information required by Item 14 will be set forth under the captions “Principal Accountant Fees and Services” and “Policy on Audit Committee Pre-Approval of Audit and Permissible Non-Audit Services of Our Independent Registered Public Accountants” in our Proxy Statement, which information is incorporated herein by reference.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a) The following documents are filed as a part of this report:

1. Financial Statements: Consolidated Financial Statements filed as part of this report are listed under Item 8. Financial Statements and Supplementary Data.

2. Financial Statement Schedules: None.

3. Exhibits: See Item 15(b) below.

3. Exhibits

Exhibit Number	Description of Document
2.1†	Share Purchase Agreement dated March 30, 2010 between SCM Microsystems, Inc. d/b/a/ Identive Group, Dr. George Levy, Mr. Matt McDaniel, GL Investments, LLC, Mr. Hugo Garcia, Mr. Stan Kenney and RockWest Technology Group LLC. (Incorporated by reference to Exhibit 2.1 to the Company's Current Report on Form 8-K filed on March 31, 2010.)
2.2†	Agreement and Plan of Merger dated February 6, 2018 among the Company, Eagle Acquisition, Inc., 3VR Security, Inc., and Fortis Advisors LLC, as Securityholder Representative. (Incorporated by reference to Exhibit 2.1 to the Company's Current Report on Form 8-K filed on February 6, 2018.)
3.1	Fourth Amended and Restated Certificate of Incorporation. (Incorporated by reference to Exhibit 3.1 to the Company's Registration Statement on Form S-4/A, filed on November 10, 2009 (SEC File No. 333-162618).)
3.2	Certificate of Amendment to Fourth Amended and Restated Certificate of Incorporation. (Incorporated by reference to Exhibit 3.4 to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2010.)
3.3	Certificate of Amendment to Fourth Amended and Restated Certificate of Incorporation. (Incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed on June 17, 2010.)
3.4	Certificate of Amendment to Fourth Amended and Restated Certificate of Incorporation. (Incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed on June 7, 2011.)
3.5	Certificate of Amendment to Fourth Amended and Restated Certificate of Incorporation. (Incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed on May 23, 2014.)
3.6	Certificate of Amendment to Fourth Amended and Restated Certificate of Incorporation, as amended. (Incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed on May 18, 2016.)
3.7	Amended and Restated Bylaws. (Incorporated by reference to Exhibit 3.2 to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2002.)
4.1	Specimen Common Stock Certificate. (Incorporated by reference to Exhibit 4.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2010.)
4.2	Certificate of Designation of Rights, Preferences and Privileges of Series A Participating Preferred Stock of SCM Microsystems, Inc. (Incorporated by reference to Exhibit 3.3 to the Company's Registration Statement on Form 8-A filed on November 14, 2002.)
4.3	Certificate of Designation of Preferences, Rights and Limitations of Series B Non-Voting Convertible Preferred

Stock dated December 21, 2017. (Incorporated by reference to Exhibit 3.1 to the Company's Current Report on

Form 8-K filed on December 21, 2017.)

4.4	Warrant issued to East West Bank dated February 8, 2017. (Incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed on February 14, 2017.)
4.5	Warrant issued to Venture Lending & Leasing VII, Inc. dated February 8, 2017. (Incorporated by reference to Exhibit 4.2 to the Company's Current Report on Form 8-K filed on February 14, 2017.)
4.6	Warrant issued to Venture Lending & Leasing VIII, Inc. dated February 8, 2017. (Incorporated by reference to Exhibit 4.3 to the Company's Current Report on Form 8-K filed on February 14, 2017.)
10.1*	Form of Director and Officer Indemnification Agreement. (Incorporated by Reference to Exhibit 10.1 to the Company's Annual Report on Form 10-K for the year ended December 31, 2015).
10.2	Amended and Restated Settlement Agreement dated April 8, 2009 among Hirsch Electronics Corporation, Secure Keyboards, Ltd. and Secure Networks, Ltd. (Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on May 4, 2009.)
10.3	Limited Guarantee dated April 8, 2009 by SCM Microsystems, Inc. in favor of Secure Keyboards, Ltd. and Secure Networks, Ltd. (Incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed on April 9, 2009.)
10.4*	2011 Incentive Compensation Plan, as amended through March 17, 2016. (Incorporated by reference to Exhibit 10.2 of the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2016.)

Exhibit Number	Description of Document
10.5*	2011 Employee Stock Purchase Plan. (Incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed on June 7, 2011.)
10.6*	Letter Agreement dated September 14, 2015 between the Company and Steven Humphreys. (Incorporated by reference to Exhibit 10.2 of the Company's Current Report on Form 8-K filed on September 16, 2015.)
10.7*	Offer Letter dated January 19, 2017 between the Company and Sandra Wallach. (Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on February 17, 2017.)
10.8	Share Purchase Agreement dated December 10, 2013 between Bluehill ID AG, Identive Services AG and Sandpiper Assets SA regarding the sale and purchase of shares of and loans provided to Multicard AG. (Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on December 26, 2013.)
10.9	Share Purchase Agreement dated December 10, 2013 between Bluehill ID AG and Sandpiper Assets SA regarding the sale and purchase of shares of and loans provided to Payment Solution AG. (Incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed on December 26, 2013.)
10.10	Loan and Security Agreement dated February 8, 2017 between the Company and East West Bank. (Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on February 14, 2017.)
10.11^	First Amendment to Loan and Security Agreement dated March 27, 2017 between the Company and East West Bank.
10.12^	Second Amendment to Loan and Security Agreement dated December 19, 2017 between the Company and East West Bank.
10.13	Loan and Security Agreement dated February 8, 2017 between the Company and Venture Lending & Leasing VII, Inc., and Venture Lending & Leasing VIII, Inc. (Incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed on February 14, 2017.)
10.14	Supplement to the Loan and Security Agreement dated February 8, 2017 between the Company and Venture Lending & Leasing VII, Inc., and Venture Lending & Leasing VIII, Inc. (Incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K filed on February 14, 2017.)
10.15	Securities Purchase Agreement dated December 21, 2017 among the Company, 21 April Fund, Ltd. and 21 April Fund, LP. (Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on December 21, 2017.)
10.16	Stockholder Agreement dated December 21, 2017 among the Company, 21 April Fund, Ltd. and 21 April Fund, LP. (Incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed on December 21, 2017.)
21.1^	Subsidiaries of the Registrant.
23.1^	Consent of Independent Registered Public Accounting Firm.
31.1^	Certification of Chief Executive Officer pursuant to Rule 13a-14(a) of the Securities Exchange Act of 1934.

31.2^	Certification of Chief Financial Officer pursuant to Rule 13a-14(a) of the Securities Exchange Act of 1934.
32+	Certification of Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

†Schedules and attachments have been omitted pursuant to Item 601(b)(2) of Regulation S-K. The registrant undertakes to furnish supplemental copies of any of the omitted schedules and attachments upon request by the Securities and Exchange Commission.

^ Filed herewith.

* Denotes management compensatory contract or arrangement.

+ Furnished herewith and not “filed” for purposes of Section 18 of the Securities and Exchange Act of 1934, as amended (the “Exchange Act”). Such certifications will not be deemed to be incorporated by reference into any filings under the Securities Act of 1933 or the Exchange Act, except to the extent that the registrant specifically incorporates by reference.

ITEM 16. FORM 10-K SUMMARY

Not applicable.

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.

Registrant
IDENTIV, INC.

By: /s/ Steven Humphreys
Steven Humphreys
Chief Executive Officer

March 28, 2018

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENT, that each person whose signature appears below constitutes and appoints Steven Humphreys and Sandra Wallach, and each of them, his or her true and lawful attorneys in fact, each with full power of substitution, for him or her in any and all capacities, to sign any amendments to this report on Form 10 K and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that each of said attorneys in fact or their substitute or substitutes may do or cause to be done by virtue hereof.

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

Signature	Capacity in Which Signed	Date
/s/ Steven Humphreys Steven Humphreys	Chief Executive Officer (Principal Executive Officer)	March 28, 2018
/s/ Sandra wallach Sandra Wallach	Chief Financial Officer and Secretary (Principal Financial and Accounting Officer)	March 28, 2018
/s/ JAMES E. OUSLEY James E. Ousley	Chairman of the Board and Director	March 28, 2018
/s/ Nina B. Shapiro Nina B. Shapiro	Director	March 28, 2018
/s/ Gary Kremen Gary Kremen	Director	March 28, 2018