CONTROL4 CORP
Form 10-K
February 15, 2017
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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10 K

(Mark One)

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

For the fiscal year ended December 31, 2016

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 001 36017

Control4 Corporation

(Exact name of registrant as specified in its charter)

Delaware	42 1583209
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
11734 S. Election Road	
Salt Lake City, Utah	84020
(Address of principal executive offices)	(Zip Code)

(801) 523 3100

(Registrant's telephone number, including area code)

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

Title of each class	Name of each exchange on which registered
Common Stock, $0.0001 par value per share	The NASDAQ Stock Market LLC

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

None

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

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

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

Indicate by check mark whether the registrant has submitted electronically 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 (§ 229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10 K or any amendment to this Form 10 K.

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

Large accelerated filer	Accelerated filer	Non accelerated filer (do not check if a smaller reporting company)	Smaller reporting company

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

The aggregate market value of voting and non voting common equity held by non affiliates of the registrant as of June 30, 2016 was approximately $160.2 million (based on a closing sale price of $8.16 per share as reported for the NASDAQ Global Select Market on June 30, 2016). For purposes of this calculation, shares of common stock held by officers, directors and their affiliated holders and shares of common stock held by persons who hold more than 10% of the outstanding common stock of the registrant have been excluded from this calculation because such persons may be deemed to be affiliates. This determination of executive officer or affiliate status is not necessarily a conclusive determination for other purposes.

As of February 10, 2017, 23,932,862 shares of the registrant's Common Stock, $0.0001 par value, were outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive Proxy Statement relating to its 2016 Annual Meeting of Stockholders are incorporated by reference into Part III of this Annual Report on Form 10 K where indicated. Such Proxy Statement will be filed with the U.S. Securities and Exchange Commission ("SEC") within 120 days after the end of the fiscal year to which this report relates.

Control4 Corporation

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For Fiscal Year Ended December 31, 2016

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Cautionary Note Regarding Forward-Looking Statements

This Annual Report on Form 10-K (“Form 10-K”) contains “forward-looking statements” that involve risks and uncertainties, as well as assumptions that, if they never materialize or prove incorrect, could cause our results to differ materially from those expressed or implied by such forward-looking statements. All statements other than statements of historical fact contained in this Form 10-K are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. Such forward-looking statements include any expectation of earnings, revenues or other financial items including without limitation statements about the accretive effect of any acquisitions; any statements of the plans, strategies and objectives of management for future operations or growth; factors that may affect our operating results; statements related to adding employees; statements related to future capital expenditures; statements related to future economic conditions or performance; statements as to industry trends or market opportunities and other matters that do not relate strictly to historical facts or statements of assumptions underlying any of the foregoing. In some cases, you can identify forward-looking statements by terminology such as “may,” “will,” “should,” “could,” “expects,” “plans,” “anticipates,” “believes,” “estimates,” “predicts,” “potential” or “intends” or the negativ terms or other comparable terminology. We caution investors that any forward-looking statements are made as of the date they were first issued and are based on management’s beliefs, expectations, and on assumptions made by, and information currently available to, management. Forward-looking statements are subject to risks, assumptions and uncertainties, many of which involve factors or circumstances that are beyond Control4’s control. Control4’s actual results could differ materially from those stated or implied in forward-looking statements due to a number of factors, including but not limited to, those discussed in the section titled “Risk Factors” included in this Form 10-K, as well as other documents that may be filed by the Company from time to time with the SEC. Control4 urges investors to consider these factors carefully in evaluating the forward-looking statements contained in this Form 10-K and not to give any such forward-looking statement any undue reliance. Moreover, we operate in a very competitive and rapidly changing environment. New risk factors emerge from time to time and it is not possible for management to predict all such risk factors, nor can we assess the impact of all such risk factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements. The forward-looking statements included in this Form 10-K represent Control4’s views as of the date of this Form 10-K, and the Company anticipates that subsequent events and developments will cause its views to change. Control4 undertakes no intention or obligation to update or revise any forward-looking statements, whether as a result of new information, future events, or otherwise.

References in this Form 10-K to the “Company,” “Control4,” “we,” “us,” and “our” refer to Control4 Corporation and, where appropriate, its subsidiaries, unless otherwise stated.

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PART I.

ITEM 1. Business

Overview

Control4 is a leading provider of smart home and business solutions that are designed to personalize and enhance how consumers engage with an ever-changing connected world. Our entertainment, smart lighting, comfort and convenience, safety and security, and networking solutions unlock the potential of connected devices, making entertainment systems easier to use and more accessible, homes and businesses more comfortable and energy efficient, and individuals more secure. Our premium smart home and small business solutions provide consumers with the ability to integrate audio, video, lighting, temperature, security, communications, network management and other functionalities into a unified automation solution, customized to match their lifestyles and business needs. Our advanced software, delivered through our controller and user-interface products together with various cloud services power this customized experience, enabling cohesive interoperability with thousands of connected Control4 and third-party devices.

Consumer need for simplicity and a personalized experience, combined with advances in technology, are driving rapid growth in the connected home market. As the "Internet of "Things" forms the way we live and work, consumers are looking for affordable ways to extend and enhance the interoperability of connected devices in their homes and businesses, driving growth in the mainstream home automation market.

We were founded in 2003 to deliver a premium home automation solution by enabling consumers to unify their connected devices into a personalized system. We strive to create solutions that enable customers to purchase our products at an accessible and affordable entry point, while retaining flexibility to expand to include additional devices, services and features through every type of project, from a single-room all the way to a luxurious, fully-integrated whole-home experience. We believe that our solution is a leader in the mainstream home automation market by providing connected, integrated and extensible control of over 10,100 third-party devices and services. These devices and services span a broad range of product categories including audio, video, lighting, temperature, security, communications, network management and cloud services. Our platform capabilities provide consumers with solutions that are easy to use and manage, comprehensive, personalized, flexible and affordable.

Based on our analysis, we estimate that we have automated more than 276,000 homes and businesses representing cumulative sales of more than 563,000 of our controllers, which include our automation software. We sell and deliver our solutions through our worldwide network of over 4,900 active direct dealers and 46 distributors and have solutions installed in 97 countries. In 2016, our top 100 dealers represented 19% of our total revenue and our top 10 dealers represented 5% of our total revenue.

We generated revenue of $208.8 million, $163.2 million and $148.8 million in 2016, 2015 and 2014, respectively. We had net income of $13.0 million in 2016, a net loss of $1.7 million in 2015 and net income of $8.2 million in 2014.

Our Industry

Within the last decade, the pace of innovation in the electronics industry has accelerated rapidly. Network-aware devices—such as televisions, smartphones, tablets, thermostats, audio systems, lighting, blinds, security systems, cameras, video doorbell stations and other appliances form the basis for the "connected controllable home." Home automation technology integrates network aware and enabled devices in the connected home, unlocking the collective potential of these devices to work together to improve consumers' lives, and with proliferation of connectable devices, we believe that the appeal of integrated home automation will continue to expand to an even broader base of consumers.

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Whole home or business automation solutions unify the control of audio, video, lighting, temperature, security, communications and other devices in the connected home or business to provide consumers with improved convenience, comfort, energy efficiency and security. The key functional elements of home or business automation include:

- Control. Controlling devices is the most basic capability of home automation solutions. From a single interface, consumers can operate a wide array of devices using wired or wireless connections. With the growth in smartphones and tablets, control functionality is increasingly extended to these mobile devices;

- Automation. After initial programming, automation enables devices to function without additional human intervention. Automation also enables various devices to work in concert to perform more complex tasks and to take actions based on external conditions;

- Personalization. Personalization enables home automation solutions to be tailored to the unique lifestyle requirements of individual consumers and their families. Personalization unlocks the full potential of home automation to enhance, enrich and simplify the lives of consumers; and

- Connectivity. An advanced networking system with the ability to provide reliable, scalable services for audio and video distribution and cloud-based management services for both the monitoring and repair of wireless and wired automation solutions, provides a foundational layer for home automation.

We believe new technology will continue to enhance the automation experience through artificial intelligence, gesture control, presence and location awareness and advancements in voice control.

Our Solution

The Control4 solution, built around our advanced software platform and utilizing our network management devices and cloud services functions as the operating system of the home, integrating audio, video, lighting, temperature, security, communications and other devices into a unified automation solution that enhances our consumers' lives. We unlock the potential of connected devices, making entertainment systems easier to use, homes more comfortable and energy efficient, and families more secure.

The Control4 solution integrates many third-party devices and systems into a unified, easy-to-use solution for mainstream consumers. As a result, our solution provides the consumer with the following benefits:

- Easy to Use. Our solution is designed to be simple and intuitive. Through our unified software platform, consumers can easily interact with their entire automated home without learning multiple interfaces or numerous remote controls. We have designed our solution so that anyone, from a young child to a grandparent, can pick up a Control4 device (including a smartphone or tablet with Control4's app), push a button and watch a movie;

- Broad Device Interoperability. Our open and flexible platform provides consumers with access to a broad universe of third-party devices that become connected and interoperable through our solution. Our platform is currently interoperable with over 10,100 third-party devices, and we continually add additional integration with new devices in order to ensure that Control4 is able to integrate with the typical home's connectable and controllable devices;

- Advanced Personalization. Our adaptable solution enables our consumers to personalize the features and functionality of their Control4 system. Our modular design also enables the smooth integration of new third-party products to meet the evolving needs of our consumers as their lifestyles change;

- Attractive Entry Point. With our Entertainment and Automation series of controllers, or the EA Series, we have reduced the price point for entry-level consumers wanting to start with a single room multi-media automation experience to approximately $500 (excluding installation costs). Projects can then scale in sophistication and scope from a single room to a fully-integrated whole-home experience;

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- Professional Installation and Support. As the number and types of connected devices continues to grow, the need for local professional consultation, installation and support is essential for a successful home automation experience. We have built a global network of over 4,900 active certified independent dealers. Independent dealers certified on our full range of products receive in-depth training and on-going education and support, enabling them to help consumers develop and install their personalized home automation experiences. To further increase consumer satisfaction, we also maintain a small Customer Advocacy & Care Group that works directly with consumers to understand unresolved questions and concerns and coordinate with their dealer to reach a resolution;

- Cloud Services. We have built a secure infrastructure to provide an array of cloud-based services to enhance the homeowner and dealer experience, which include remote customer system access and control, remote dealer management capabilities and voice control; and,

- Scalability. Our solution provides customers with the ability to extend and enhance the automation capabilities of their system as their needs evolve. Customers who initially purchase an entry level, one-room solution could later build a comprehensive home automation system. The extensibility of the system empowers customers to invest in solutions that fit their current needs.

Our Growth Strategy

Our primary goal is to be the leading provider of comprehensive home automation solutions that provide a premium experience for our customers. We believe we differentiate ourselves through our operating system which orchestrates the thousands of devices consumers choose to install in their homes. The following are key elements of our growth strategy:

- Enhance Our Software Platform and Solutions. We believe that our success to-date has been largely driven by our software platform's ability to deliver personalized solutions for the end consumer. In 2016, we released a redesigned expanded family of controllers, the EA series, with enhanced functionality including independent audio streaming. In addition, our recent release of our key software, Control4 OS 2.9, features increased integration support for third party devices, more personalization for the homeowner, and new customization options for our dealers;

- Strengthen and Scale Our Distribution Network. We have developed a global network of over 4,900 active, independent, authorized direct dealers and 46 distributors to sell, install and support our solutions. We intend to continue to expand and optimize our dealer and distributor network to ensure that we have sufficient geographic coverage across both existing and new markets. We will also continue to devote significant resources to increase the productivity and competency of our dealers and distributors by providing them with ongoing training, tools and support. In 2016, we improved and expanded our training centers in Salt Lake City, Charlotte, and Chicago. Additionally, in 2016, we opened new training centers in Frankfurt, Germany and Melbourne, Australia, and relocated to a larger facility in Shanghai, China;

· Enhance Our Services. In addition to automating devices within the home, our solution also enables a wide variety of service and application opportunities. We plan to continue to enhance our cloud-based services which provide consumers with remote home monitoring, support and control capabilities from any Internet-connected mobile device or computer. In 2016, we announced our ability to integrate with Amazon Alexa, the popular voice service that powers Amazon Echo and other Alexa-enabled devices, including Echo Dot, Amazon Tap and Amazon Fire TV. The new Control4 Smart Home Skill provides homeowners with the convenience of whole-home automation through simple and intuitive voice commands that can activate smart home scenes and control individual devices. In addition, we recently released BakPak 4.1, the intelligent cloud-based management system for dealers, which enables dealers to rapidly respond to customer connectivity issues, proactively manage controlled devices, and provide support through visibility of customer networks and automation systems within connected homes across a dealer's customer base;

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· Pursue Technology Licensing Opportunities. We continue to make our technology available to third parties through licensing agreements. We make our device auto-discovery technology, Simple Device Discovery Protocol ("SDDP"), available on a royalty-free basis to third parties to streamline and automate the setup, identification and configuration of their devices into our system. As of December 31, 2016, 207 third parties had licensed SDDP from us, representing 2,000 SDDP enabled devices. We also plan to expand our licensing activities to leverage third-party distribution channels, grow our partner relationships through our integration certification program for third-party products, simplify the home automation experience for dealers and consumers, and increase interoperability; and

· Pursue Strategic Acquisitions. As the operating system of the connected home, we believe we are ideally positioned to identify, acquire and integrate strategic acquisitions that are complementary to our current offerings, strengthen and expand our technology foundation, enhance our market positioning, distribution channels and sales, and are consistent with our overall growth strategy. For example, in January 2016, we acquired Pakedge Device & Software, Inc. ("Pakedge"), a leading and award winning developer and manufacturer of networking products, power distribution and management solutions, as well as cloud network-managed services for both wireless and wired networking solutions in the connected home and business; and in January 2015, we acquired Nexus Technologies Pty, Ltd. ("Nexus"), a leading distributed audio/video provider, including its full line of Leaf branded products ("Leaf").

Our Products and Services

The primary benefits we provide consumers and dealers lie in the value and competitive differentiation of our software platform in our integrated solution. We deliver value and differentiation to consumers and generate revenue by embedding our software into a range of physical products.

Software Platform

At the center of the Control4 product line is the Control4 Home Operating System, which we refer to as the C4 OS, and the associated application software and software development kits, or SDKs. The high-level software components include:

· Director. Director is a real-time, extensible home operating system that runs on our controllers. It is responsible for monitoring and receiving events from numerous devices and services, processing those events according to consumer personalized settings, and then dispatching commands to the appropriate devices to perform predefined actions;

· User Interface Application. The user interface for our Control4 Operating System displays intuitive and rich graphical user interfaces on televisions, in-wall and table-top touch panels, smartphones and tablets, as well as list-based devices such as remote controls with LCD text-displays;

- Composer. Composer is a software application that enables trained and certified independent Control4 dealers and installers to design, configure and personalize a Control4 home automation system for consumers. Composer "Home Edition" enables consumers to view and configure certain features of their dealer installed and Control4 managed devices;

- Control4 Drivers. Control4 creates drivers for all of our internal hardware, and also provides Driverworks SDK (software development kit) to third parties in order to enable dealers, programmers and device manufacturers to independently develop and test custom two-way interface drivers to support the integration of a new device or device model into our system, or to customize and enhance an existing driver. DriverWorks SDK has enabled 10,100 different products and services to be incorporated into the Control4 ecosystem;

- I/O Servers. We maintain dedicated IP servers, Zigbee servers, and Z-Wave servers allowing connected homes to communicate with devises on various types of wireless standards; and,

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- Cloud-Based Services and Tools. 4Sight is a subscription service that enables end customers to remotely access, monitor and adjust settings in their homes (such as lights, temperature settings, door locks, gates and cameras), receive event-based email alerts from their system. 4Sight also enables voice control of the Control4 system through Amazon Alexa. BakPak is a customer account management system for dealers, enabling rapid response to customer connectivity issues, proactive device management, and greater visibility of networks and automation systems within each connected home.

Products with Embedded Software and Services

Our products leverage our software platform to provide consumers with a comprehensive and easy-to-use connected home experience. We designed our software platform to be extensible, which has allowed us to improve and augment the functionality of hardware products (both those designed by us and by others) over time. We also design and manufacture our products via contract manufacturers as well as certify partner products for sale through our dealers. Our products and services include:

- Controllers. Our controllers run our Director software to monitor, process and automate events, statuses and actions for numerous devices and services, creating a comprehensive connected home experience. Currently we offer three Entertainment and Automation series controllers: (1) the EA-1 is designed for a single-room audio/video entertainment automation, such as a family-room, home-theater, a study, or bedroom; (2) the EA-3 is designed to integrate and control automation in small-to-mid-sized homes; and (3) the EA-5 is designed to integrate and control automation in large homes and estates. Controllers are the hub of our systems and represented 34% of our total revenue in 2016.

- Interface Devices. We offer touch panels, handheld remote controls and keypads as interface devices. We also develop and deliver software applications for Apple iOS and Android smartphones and tablets that enable these personal devices to become control interfaces to Control4 connected homes, both on-premises and remotely.

- Networking Devices. We offer advanced networking products with a range of routers, switches, wireless access points, power control, and management solutions for the connected home and business.

- Audio Solutions. Our EA series controllers offer high-resolution audio with bit depth up to 24bit and sample rates up to 192kHz. In addition, we offer audio distribution and amplification products that scale from single room systems to whole home distributed audio systems. We offer 4-zone and 8-zone power amplifiers, 4x4 and 8x8 matrix amplifiers, a 16x16 audio matrix switch, and a single-zone wireless amplifier for retrofit installations. These products make up the backbone of our distributed audio solution. Consumers are able to listen to their personal music library as well as streaming music services via our music streamer, which is built into our controllers. Consumers can also enjoy music available on their smartphone, tablet or computer by wirelessly streaming their selection to their home audio system using AirPlay, DLNA or Bluetooth technologies.

- Video Solutions. We offer a broad line of video matrix switches ranging from 4x4 to 20x20, which includes HDMI as well as HDBaseT switches that are capable of distributing HD video images up to 100 meters over cat5/6e cable. Within this product offering is a line of video matrix switches that support 4K video distribution. This product line also includes a variety of additional extender kits, mounting kits, and various packages for maximum flexibility in offering systems that allow customers to watch what they want, when and where they want to watch it.

- Lighting Products. We offer a suite of lighting products that provide personalized control and energy management. Our suite of wireless light switches, dimmers and keypads can revitalize an existing home or complement new home construction. We offer innovative in-wall wireless switches and dimmers for 120V, 240V and 277V electrical loads, which meet the requirements of North America, Europe, Asia and many other international markets. We also offer centralized lighting systems, where all of the lighting control can

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be managed on a remote panel. In addition to providing lighting control, our keypads can be programmed to operate other systems in the home, such as a lighting scene or audio control.

· Comfort Products. Our wireless multi-stage thermostat, jointly developed with climate control specialist Aprilaire, is completely programmable, allowing the homeowner to create schedules that fit their lifestyle, comfort and economical needs. Through the Control4 operating system, we also integrate with third-party comfort products (such as automated blinds and pool controls) that provide additional energy savings, convenience and efficiency.

· Security Products. We offer video doorbell station products that allow our customers to see who is at the door from their network-enabled smartphone, tablet or Control4 interface. In addition, we distribute certified third-party products, including IP cameras, NVRs, deadbolts, motion sensors, garage access systems and water leak detection systems, from our security partners such as Baldwin, Lilin, Nyce, Kwikset and Yale. We also integrate with over 2,200 network video recorder products and surveillance cameras sold by five of the top security monitoring manufacturers.

· Communication Products. We offer full motion video and high quality audio intercom capability through our in-wall and tabletop touchscreens, as well as our exterior weather-resistant video doorbell stations.

Our Distribution Network

In 2005, we started selling our solutions through a network of around 450 independent dealers. Since that time, our distribution network has grown to over 4,900 active direct dealers and 46 distributors in 97 countries. Our direct independent dealer network is comprised of 3,900 dealers who offer our full range of products and 1,000 dealers selling only Pakedge branded products. Our distributors are comprised of 29 distributors who offer our full range of products and 17 distributors offering only Pakedge branded products. Dealers range in size from small family businesses to large enterprises.

Our dealers are independent home automation and networking specialists that have significant experience in designing, installing and servicing both low- and high-voltage systems including music, video, security, networking, communications and temperature control. Every authorized dealer of Control4's full line of products has gone through extensive training and has passed the necessary certification tests—either in one of Control4's training facilities located in the United States, the United Kingdom, Germany, Australia, China, or India or in a training facility operated by 29 of our distributors. In order to become certified to sell and install our solutions, every installer for each dealer must complete course work and pass pre-training examinations, as well as pass rigorous testing at the conclusion of the multi-day formal training.

We sell directly through dealers in the United States, Canada, the United Kingdom and 48 other countries. We partner with 46 distributors to serve 46 additional countries. Our distributors recruit, train and manage dealers within their region and also help dealers find country specific solutions for unique needs based on the special home automation market characteristics within each country. In recent years, we have moved more toward a dealer-direct model in specific international regions, and we have added, and continue to add, sales and support staff, namely in the United Kingdom, China, India, Australia and Germany.

During the years ended December 31, 2016, 2015 and 2014, respectively, none of our dealers or distributors accounted for more than 5% of our revenue. None of our dealers or distributors have minimum or long-term purchase obligations. Dealer orders are typically placed on a project-by-project basis. As such, our dealers do not typically carry significant levels of inventory. The resulting just-in-time model helps reduce dealer inventory investment. Our dealers around the world are each responsible for local marketing, selling, installing and servicing our solution for the consumer.

Our Partners

The home automation market is made up of a collection of thousands of electronically controllable products made by hundreds of key manufacturers. We believe that our success has come, in part, due to our ability to establish

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relationships with many of these manufacturers. As of December 31, 2016, 97 separate manufacturers had formally submitted 1,689 devices to us for Control4 certification so that our worldwide dealer and distributor network can be assured that these third-party devices work optimally with our platform.

Third-party manufacturers are currently selling over 2,000 different products representing 39 brands (including brands such as Sony, Yale and Denon) through our online store. Our online store provides manufacturers valuable reach into our trained dealer network, and it helps our dealers gain easy access to products that they know are certified by Control4. We also partner with other companies for purposes of strategic initiatives.

Our Research and Development

Our flexible research and development model relies upon a combination of in-house staff and offshore design and manufacturing partners to improve and enhance our existing products and services, as well as develop new products, features and functionality in a cost-effective manner. We believe that our software platform is critical to expanding our leadership position within the mainstream home automation market. As a result, we devote much of our research and development resources to software development. We work closely with our dealers and their consumers to understand their current and future needs and have designed a product development process that captures and integrates feedback from our consumers.

As of December 31, 2016, we had 226 employees in our research and development organization, most of whom were located at our headquarters in Salt Lake City, Utah. Our research and development expenses were $36.0 million in 2016, $32.4 million in 2015, and $27.4 million in 2014. We intend to continue to invest in research and development to expand our solutions and capabilities in the future.

Our Manufacturing

We outsource the manufacturing of our hardware products to contract manufacturers. The majority of our hardware products are manufactured by Sanmina Corporation (“Sanmina”), iLife Technology Co., Ltd (“iLife”), and Remote Control Systems, Inc. (“RCS”) at their facilities located in China and Korea, with additional manufacturing performed by several other contract manufacturers located throughout Asia. Our agreement with Sanmina expires in June 2017, after which it automatically renews for successive one-year terms unless either party give written notice of its intent to terminate the agreement at least 90 days’ notice prior to the end of the then current term, or at any other time with at least 120 days’ written notice. The current term of our agreement with iLife expires in February 2018 and will automatically renew for successive one-year periods thereafter unless either (i) iLife gives written notice of its intent to terminate the agreement at least 180 days’ prior to the end of the then current term, or (ii) Control4 gives written notice of its intent to terminate the agreement at least 30 days’ prior to the intended termination date. Our agreement with RSC automatically renewed for a one-year term in September 2016 and will continue to renew for successive one-year periods unless either party gives written notice of its intent to terminate the agreement at least 120 days' prior to the end of the then current term.

Our manufacturing partners assemble our products using our design specifications, quality assurance programs and standards. These partners procure components and assemble our products based on our demand forecasts. These forecasts represent our estimates of future demand for our products based upon historical trends and analysis from our sales and product management functions. We maintain fulfillment centers in Salt Lake City, Utah; York, England; and Melbourne, Australia.

We have multiple sources for most of our components. However, we do depend on single source manufacturers for certain critical components, including processors and touch panels. We can choose to change processor and memory modules for any of our products, but because of high implementation costs and significant lead times, we generally choose to make these changes only upon development of new products. We also rely on certain custom connectors, cables and mechanical enclosures for our hardware products that are single sourced because of the high tooling costs of sourcing the components from multiple suppliers. In each of these cases, we own the drawings and design of these custom components.

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Our Marketing

Our marketing team supports our sales channel with dealer-directed advertising and promotions, lead-generation, social media engagements and training events, as well as the design and production of consumer-facing, customizable collateral, point-of-sale video and showroom signs and advertising. Our website is the anchor of our online and social media strategy, from which we direct leads to our independent dealers. Control4's bi-annual magazine, Home Smart Home, features lifestyle stories of Control4 installations from around the world and is available for download on our website helps drive demand for our solutions and leads for our dealers.

We continue to focus on lead generation through online marketing and qualifying inbound leads for our dealers. As interested consumers go online to research home automation solutions, we help direct them to dealers in their markets. To better qualify these leads and direct them to interested dealers, we employ a small team of telemarketers. In addition to speaking directly to prospects, these inside representatives work closely with dealers, to assist them in direct customer outreach.

We are active participants at global industry conferences and maintain a significant presence at CEDIA trade shows. Beyond CEDIA in the United States, we exhibit at ISE, the annual industry trade show held in Amsterdam, as well as participate in CEDIA-specific events and tradeshows throughout China to assist in the recruitment and training of new dealers in that region. We are frequently featured in the trade press and maintain strong relationships with the industry's key analysts and associations. We believe that partnering with device manufacturers, leveraging co-marketing partnerships, expanding our sales channels and increasing our brand recognition among consumers are key components of our growth strategy.

Our Competition

The market for home automation systems is fragmented, highly competitive and continually evolving. Our current competitors fall into several categories:

· providers that focus primarily on the luxury segment of the home automation market, including Savant, Crestron, Lutron and Elan;

· providers of point products that address a narrow set of networking, control and automation capabilities, including Sonos, Nest, Universal Remote Control, Logitech, Luxul, Ruckus, Ring and Roku;

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providers of managed home automation and security services, including ADT, AT&T, Comcast and Vivint (which in turn may utilize third-party software from companies including Alarm.com and iControl);

- providers of device control platforms such as Apple HomeKit, Wink and SmartThings; and,

- large technology companies such as Apple, Google, Amazon and Samsung that offer device control capabilities within some of their own products, applications and services, and are engaged in ongoing development efforts to address the broader home automation market.

In the past, companies that provide popular point solutions have eliminated or restricted, and may again eliminate or restrict, our ability to control and integrate with their products.

Given the growth dynamics of this market, there are many new and existing companies targeting portions of the mainstream home automation market. To the extent that consumers adopt products, applications and services from a single large technology company, or if any of these companies broaden their home automation capabilities, we will face increased competition.

The principal competitive factors in our market include the:

- breadth of home automation capabilities provided;

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- simplicity of use and installation;
- interoperability with third-party devices;
- price and total cost of ownership;
- sales reach and local installation and support capabilities; and
- brand awareness and reputation.

We believe that our home automation solution competes favorably with respect to these factors. Nevertheless, many of our competitors have substantially greater financial, technical and other resources, greater name recognition, larger sales and marketing budgets, broader distribution channels, and larger and more mature intellectual property portfolios than we do.

Our Intellectual Property

Our success and ability to compete effectively depend in part on our ability to protect our proprietary technology and to establish and adequately protect our intellectual property rights. To accomplish these objectives, we rely on a combination of patent, trademark, copyright and trade secret laws in the United States and other jurisdictions, as well as license agreements, confidentiality agreements and other contractual protections.

As of December 31, 2016, we owned 57 issued United States patents (20 of which are design patents) that are scheduled to expire between 2025 and 2034, with respect to utility patents, and between 2020 and 2029, with respect to design patents. We continue to file patent applications in multiple jurisdictions and as of December 31, 2016, we had 12 patent applications published and 5 patent applications pending in the United States. We also had 10 issued patents and 4 pending patent applications under foreign jurisdictions and treaties such as Canada, Australia, New Zealand, the United Kingdom and the European Patent Convention.

We also rely on several registered and unregistered trademarks to protect our brand. As of December 31, 2016, we had the following registered trademarks: (a) Control4, Control4 My Home, the Control4 Design, the 4 Design, 4Store, 4Sight, Mockupancy, Pakedge, Pakedge SectorMaxx, Pakedge TruStream, Smartwav, Stealth Ports, BakPak and the BakPak and Pakedge Device&Software Inc. design in the United States, (b) Control4 in Brazil, Canada, China, the European Union, India and Mexico, (c) the Control4 Design in China, and (d) the 4 Design in Brazil, China, the

European Union and Mexico. As of December 31, 2016, we also had 4 trademark applications, for various marks, pending in Brazil, China, and India.

We have filed for United States copyright protection for our source code for all major releases of our software. We also license software from third parties for integration into or use with our products, including open-source software and other commercially available software.

In addition, we seek to protect our intellectual property rights by requiring our employees and independent contractors involved in development to enter into agreements acknowledging that all inventions, trade secrets, works of authorship, developments, concepts, processes, improvements and other works generated by them on our behalf are our intellectual property, and assigning to us any rights, including intellectual property rights, that they may claim in those works.

Employees

As of December 31, 2016, we had 546 employees, including 451 employees in the United States and 95 employees internationally. None of our employees are represented by a labor union with respect to his or her employment with us. We have not experienced any work stoppages and we consider our relations with our employees to be good.

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Available Information

We were incorporated in Delaware in 2003. Our principal executive offices are located at 11734 South Election Road, Salt Lake City, Utah 84020, and our telephone number is (801) 523-3100. Our principal website address is www.control4.com. Information contained on our website does not constitute a part of, and is not incorporated by reference into, this Form 10-K or in any other report or document we file with the Securities and Exchange Commission (“SEC”).

Control4, Control4 My Home, the Control4 Design, the 4 Design, 4Store, 4Sight, Mockupancy, Pakedge, Pakedge SectorMaxx, Pakedge TruStream, Smartwav, Stealth Ports, and BakPak are registered trademarks or trademarks of Control4 Corporation in the United States and, in certain cases, in other countries. This Form 10-K contains additional trade names, trademarks and service marks of other companies. We do not intend our use or display of these companies’ trade names, trademarks or service marks to imply a relationship with, or endorsement or sponsorship of us by, these other companies.

We are an emerging growth company as defined in the Jumpstart Our Business Startups Act of 2012 (the “JOBS Act”). We will remain an emerging growth company until the earliest to occur of: the last day of the fiscal year in which we have more than $1.0 billion in annual revenue; the date we qualify as a “large accelerated filer,” with at least $700 million of equity securities held by non-affiliates determined as of the last business day of the previous second fiscal quarter; the issuance, in any three-year period, by us of more than $1.0 billion in non-convertible debt securities; or December 31, 2018, the last day of the fiscal year ending after the fifth anniversary of our initial public offering.

We file reports with the SEC, including Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and any other filings required by the SEC. Through our website, we make available free of charge our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and all amendments to those reports, as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC.

The public may read and copy any materials we file with, or furnish to, the SEC at the SEC’s Public Reference Room at 100 F Street, NE, Washington, DC 20549. The public may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC maintains an Internet site (www.sec.gov) that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC.

ITEM 1A. Risk Factors

A description of certain risks and uncertainties associated with our business is set forth below. You should carefully consider such risks and uncertainties, together with the other information contained in this report, and in our other public filings. Factors that could cause our business, financial condition or operating results to differ materially from the plans, projections and other forward-looking statements included in the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations" and elsewhere in this report and in our other public filings include, but are not limited to, the following risks and uncertainties which could cause our business, financial condition or operating results to be harmed substantially and the market price of our stock to decline, perhaps significantly.

Risks Related to Our Business and Industry

We have incurred operating losses in the past, may incur operating losses in the future, and may not achieve or maintain profitability.

We began our operations in 2003. For most of our history, we have experienced net losses and negative cash flows from operations. As of December 31, 2016, we had an accumulated deficit of $82.6 million. We expect our operating expenses to increase in the future as we expand our operations. Furthermore, as a public company, we incur additional legal, accounting and other expenses that we did not incur as a private company. If our revenue does not grow to offset any increased expenses, we will not be profitable. After achieving profitability in 2013 and 2014 of $3.5 million

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and $8.2 million respectively, we sustained a net loss of $1.7 million in 2015. Our net income for the year ended December 31, 2016 is $13.0 million, but we may incur significant losses in the future for a number of reasons, including without limitation the other risks and uncertainties described herein. Additionally, we may encounter unforeseen operating or legal expenses, difficulties, complications, delays in manufacturing and selling our products and other unknown factors that may result in losses in future periods. If these losses exceed our expectations or our revenue growth expectations are not met in future periods, our financial performance will be harmed.

The markets in which we participate are highly competitive and many companies, including large technology companies, retailers, broadband and security service providers, and other managed service providers, are actively targeting the home automation market. Our failure to differentiate ourselves and compete successfully with these companies would make it difficult for us to add and retain consumers, and our sales and profitability could be adversely affected.

The market for home automation is fragmented, highly competitive and continually evolving. A number of technology companies, including industry leaders such as Amazon, Apple, Google, Honeywell, Lutron and Samsung, offer device control capabilities among some of their own products, applications and services and are engaged in ongoing development efforts to address even broader segments of the home automation market. For example, Apple as recently released Apple HomeKit, with smart outlets that allows users to implement some aspects of home automation. These large technology companies already have broad consumer awareness and sell a variety of devices for the home, and consumers may choose their offerings instead of ours, even if we offer superior products and services. Additionally, these and other companies may further expand into our industry by developing their own solutions or by acquiring other providers. Similarly, many managed service providers, such as cable TV, telephone and security companies, are offering services that provide device control capability within the home for an additional monthly service fee. For example, Comcast's Xfinity service offers residential security, energy and automation services and Vivint has recently made a significant effort to market its smart home services. These managed service providers have the advantage of leveraging their existing consumer base, network of installation and support technicians and name recognition to gain traction in the home automation market. In addition, consumers may prefer the monthly service fee with little to no upfront cost offered by some of these managed service providers over a larger upfront cost with little to no monthly service fees.

We expect competition from these large technology companies, retailers and managed service providers to increase in the future. This increased competition could result in pricing pressure, reduced sales, lower margins or the failure of our solutions to achieve or maintain broad market acceptance. To remain competitive and to maintain our position as a leading provider of automation and control solutions for the connected home, we will need to invest continuously in product development, marketing, dealer and distributor service and support, and product delivery infrastructure. We may not have sufficient resources to continue to make the investments in all of the areas needed to maintain our competitive position. In addition, most of our competitors have longer operating histories, greater name recognition, larger consumer bases and significantly greater financial, technical, sales, marketing and other resources than us, which may provide them with an advantage in developing, marketing or servicing new solutions. Increased competition could reduce our market share, revenue and operating margins, increase our operating costs, harm our competitive position or otherwise harm our business and results of operations.

Consumers may choose to adopt point products that provide control of discrete home functionality rather than adopting our unified home automation solution. If we are unable to increase market acceptance of the benefits of our unified solution, our revenue may not continue to grow, or it may decline.

Many vendors have emerged, and may continue to emerge, to provide point products with advanced functionality for use in the home, such as a thermostat or alarm system that can be controlled by an application on a smartphone. We expect more and more consumer electronic and consumer appliance products to be network-aware and connected—each very likely to have its own smart device (phone or tablet) application. Consumers may be attracted to the relatively low costs of these point products and the ability to expand their home control solution over time with minimal upfront costs, despite the disadvantages of this approach. While we have built our solution to be flexible and support third-party point products, the adoption of these products may reduce the revenue we receive for each installation. It is therefore important that we provide attractive top quality products in many areas, such as lighting, audio, video, thermostats and security, and establish broad market awareness and acceptance of these solutions as well as

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the advantages of integrating them in a unified solution. If a significant number of consumers in our target market choose to rely solely on the functionality included in point products rather than acquiring our unified automation solution, then our business, financial condition and results of operations will be harmed, and we may not be able to achieve sustained growth or our business may decline.

Providers of luxury integrated installations with long operating histories, established markets, broad user bases and proven consumer acceptance, may be successful in expanding their offerings in the mainstream home automation market, or otherwise compete against our solutions, which may reduce our market share and harm our growth and future prospects.

Many companies with which we directly compete have been operating in this industry for many years, and as a result, have established significant name recognition in the home automation industry. For example, Crestron, a provider of luxury integrated installations, has been in business for over 40 years and has become an established presence in the home automation industry. Another provider of luxury integrated installations is Savant Systems. Given the strong growth potential of the market, we expect there to be many new entrants in the future. To the extent these providers are able to develop more affordable or attractive products or otherwise compete with our solutions across any of our target demographics, our growth may be constrained and our business could suffer.

Since we rely on third-party dealers and distributors to sell and install our solutions, we do not have a direct sales pipeline, which makes it difficult for us to accurately forecast future sales and correctly predict manufacturing requirements.

We depend on our independent dealer and distributor network to sell and install our solution. As a result, we do not directly develop or control our sales pipeline, making it difficult for us to accurately predict future sales. In addition, because the production of certain of our products requires long lead times, we enter into agreements for the manufacture and purchase of certain of our products well in advance of the time in which those products will be sold. These contracts are based on our best estimates of our near-term product needs. If we underestimate consumer demand, we may forego revenue opportunities, lose market share and damage our relationships. Conversely, if we overestimate consumer demand, we may purchase more inventory than we are able to sell at any given time, or at all. If we fail to accurately estimate demand for our products, we could have excess or obsolete inventory, resulting in a decline in the value of our inventory, which would increase our costs of revenues and reduce our liquidity. Our failure to accurately manage inventory relative to demand would adversely affect our results of operations.

We have relatively limited visibility regarding the consumers that ultimately purchase our products, and we often rely on information from third-party dealers and distributors to help us manage our business. If we are unable to obtain timely or accurate information, our ability to quickly react to market changes and effectively manage our business may be harmed.

We sell our solutions through independent dealers and distributors. These dealers and distributors work with consumers to design, install, update and maintain their home automation installations. While we are able to track orders from dealers and distributors and have access to certain information about the configurations of the Control4 systems they install that we receive through our controllers, we also rely on these dealers and distributors to provide us with information about consumer behavior, product and system feedback, consumer demographics, buying patterns and information about our competitors. We use this channel sell-through data, along with other metrics, to assess consumer demand for our solutions, develop new products, adjust pricing and make other strategic business decisions. Our channel sell-through data is subject to limitations due to collection methods and the third-party nature of the data and thus may not be complete or accurate. In addition, from time to time we collect information directly from consumers through surveys that we conduct and other methods, but the consumers who chose to participate self-select and vary by geographic region and from period to period, which may impact the usefulness of the results. If we do not receive consumer information on a timely or accurate basis, or if we do not properly interpret this information, our ability to quickly react to market changes and effectively manage our business may be harmed.

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Our quarterly results of operations have fluctuated and may continue to fluctuate. As a result, we may fail to meet or exceed the expectations of investors or securities analysts, which could cause our stock price to decline.

Our quarterly revenue and results of operations have fluctuated and may continue to fluctuate as a result of a variety of factors, many of which are outside of our control. In the past when our quarterly revenue or results of operations have fallen below the consensus expectations of securities analysts, the price of our common stock has declined. If our quarterly revenue or results of operations fall below the consensus expectations of investors or securities analysts in the future, the price of our common stock could decline again, perhaps substantially. Fluctuations in our results of operations may be due to a number of factors, including but not limited to:

· Demand for and market acceptance of our solutions;

· Our ability to continue to develop and maintain relationships with productive independent dealers and distributors and incentivize them to continue to market, sell, install and support our solutions;

· The ability of our contract manufacturers to continue to manufacture high-quality products, and to supply sufficient products to meet our demands;

· The timing and success of acquisitions, new product introductions or upgrades by us or by our competitors;

· The strength of regional, national and global economies;

· The strength of the U.S. dollar relative to other currencies and the impact this has on dealer and distributor margins and their ability to competitively sell our products to consumers;

· The impact of harsh seasonal weather, natural disasters or manmade problems such as terrorism;

· Changes in our business and pricing policies, or those of our competitors;

· Competition, including entry into the industry by new competitors and new offerings by existing competitors;

· The impact of seasonality on our business;

· A systemic impairment or failure of one or more of our products that erodes dealer and/or end user confidence;

· Political or regulatory changes in the markets in which we operate;

· The cost and availability of component parts used in our products;

· Aggressive business tactics by our competitors, including: selling at a discount, offering products on a bundled basis at no charge, extensive marketing efforts, and providing financing incentives;

· The amount and timing of expenditures, including those related to expanding our operations, increasing research and development, introducing new solutions or costs related to disputes and litigation; and

· Changes in the price or payment terms for our solutions.

Due to the foregoing factors and the other risks discussed herein, you should not rely on quarter-to-quarter comparisons of our results of operations as an indication of our future performance, nor should you consider any revenue growth or results of operations in any quarter to be indicative of our future performance.

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If we are unable to develop new solutions, sell our solutions into new markets, or further penetrate our existing markets, our revenue may not grow as expected or it may decline.

Our ability to increase sales will depend in large part on our ability to enhance and improve our solutions, to introduce new solutions in a timely manner, to sell into new markets, and to further penetrate our existing markets. The success of any enhancement or new product or solution depends on several factors, including the timely completion, introduction and market acceptance of enhanced or new solutions, the ability to attract, retain and effectively train product development, sales and marketing personnel (among others), the ability to develop relationships with independent dealers and distributors and the effectiveness of our marketing programs. Any new product or solution we develop or acquire may not be introduced in a timely or cost-effective manner, and may not achieve the broad market acceptance necessary to generate significant revenue. Any new markets into which we attempt to sell our solutions, including new vertical markets and new countries or regions, may not be receptive. Our ability to further penetrate our existing markets depends on the quality of our solutions and our ability to design our solutions to meet consumer demand. Moreover, we are frequently required to enhance and update our solutions as a result of changing standards and technological developments, which makes it difficult to recover the cost of development and forces us to continually qualify new solutions with our consumers. If we are unable to successfully develop or acquire new solutions, enhance our existing solutions to meet consumer requirements, sell solutions into new markets, or sell our solutions to additional consumers in our existing markets, our revenue may not grow as expected or it may decline.

Our success depends, in part, on our ability to develop and expand our global network of independent dealers and distributors.

As of December 31, 2016, we have 4,900 active direct dealers and 46 distributors authorized to sell, install and support our solutions. We rely on our independent dealers and distributors to provide consumers with a successful Control4 home automation experience. In some cases, dealers may choose not to offer our solution and instead offer a product from one of our competitors or, in other cases, the dealer may simply discontinue its operations. In order to continue our growth and expand our business, it is important that we continue to add new dealers and distributors and ensure that most of our existing relationships remain productive. We must also work to expand our network of dealers and distributors to ensure that we have sufficient geographic coverage and technical expertise to address new markets and technologies. While it is difficult to estimate the total number of available dealers in our markets, there are a finite number of dealers that are able to perform the types of technical installations required for home automation systems. In the event that we saturate the available dealer pool, or if market or other forces cause the available pool of dealers to decline, it may be increasingly difficult to grow our business. As consumers' home automation options grow, it is important that we enhance our dealer footprint by broadening the expertise of our dealers, working with larger and more sophisticated dealers and distributors and expanding our line of mainstream consumer products that our dealers and distributors offer. If we are unable to expand our network of independent dealers and distributors, or maintain the relationships with our existing dealers and distributors, including dealers and distributors we added as a result of our acquisition of Pakedge, our business could be harmed.

We rely on our independent dealers and distributors to sell our solution, and if our dealers and distributors fail to perform, our ability to sell and distribute our products and services will be limited, and our results of operations may be harmed.

Substantially all of our revenue is generated through the sales of our solution by our authorized dealers and distributors. Our dealers and distributors are independent businesses that voluntarily sell our products as well as the products of other companies to consumers. We provide our dealers and distributors with specific training programs to assist them in selling, installing and servicing our products, but we cannot assure that these steps will be effective. We have observed, and expect to continue to observe, high volatility in the monthly, quarterly and annual sales performance of individual dealers and distributors. Although we can make estimated forecasts of cumulative sales of large numbers of dealers and distributors, we cannot assure their accuracy collectively or individually. Accordingly, we may not be able to reduce or slow our spending quickly enough if our actual sales fall short of our expectations. As a result, we expect that our revenues, results of operations and cash flows may fluctuate significantly on a quarterly basis. We believe that period-to-period comparisons of our revenues, results of operations and cash flows may not be meaningful and should not be relied upon as an indication of future performance.

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Our independent dealers and distributors may be unsuccessful in marketing, selling, installing and supporting our products and services. If we are unable to provide high-quality products at competitive prices and to develop and maintain effective sales incentive programs for our dealers and distributors, we may not be able to incentivize them to sell our products to consumers. Our dealers and distributors may also market, sell and support products and services that are competitive with ours, and may devote more resources to the marketing, sales, and support of such competitive products. Our dealers and distributors may have incentives to promote our competitors’ products to the detriment of our own, or may cease selling our products altogether. Our agreements with our dealers and distributors may generally be terminated for any reason by either party with advance notice. We cannot assure that we will retain these dealers and distributors, or that we will be able to secure additional or replacement dealers and distributors. For example, in February 2015, we announced that we were transitioning from a single distributor to a direct-to-dealer sales model in Germany, and in February 2016, we announced a similar transition in Australia. This transition may create disruption in the established channels and our sales and results of operations may be impacted in connection with this or any similar change in our sales process in the future.

In addition, while we take certain steps to protect ourselves from liability for the actions of our dealers and distributors, such as including contractual provisions limiting our liability with both consumers and dealer/distributors, consumers may still seek to recover amounts from us for any damages caused by independent dealers in connection with system installations, or the failure of a system to perform properly due to an incorrect installation by a dealer, and, in the event of litigation with respect to these matters, we cannot guarantee that our contractual protections will be enforced. Furthermore, dealers and distributors may initiate claims against us related to any failure or perceived failure to operate our business in accordance with our contracts and the law. In addition, our independent dealers and distributors may use our name and our brand in ways we do not authorize, and any such improper use may harm our reputation or expose us to liability for their actions.

If we fail to effectively manage our existing sales channels, or if our dealers or distributors are unsuccessful in fulfilling the orders for our products, then our results of operations may be harmed.

We have entered into several strategic arrangements and intend to pursue additional strategic opportunities in the future. If the intended benefits from our strategic relationships are not realized, our results of operations may be harmed.

We are in the process of growing our relationships with strategic partners in order to increase awareness of our solutions and to attempt to reach markets that we cannot currently address cost-effectively. If these relationships do not develop in the manner we intend, our future growth could be impacted. Any loss of a major partner or distribution channel or other channel disruption could harm our results of operations and make us more dependent on alternate channels, damage our reputation, increase pricing and promotional pressures from other partners and distribution channels, increase our marketing costs, or harm buying and inventory patterns, payment terms or other contractual terms.

If we do not maintain the compatibility of our solutions with third-party products and applications that our consumers use, demand for our solutions could decline.

Our solutions are designed to interoperate with a wide range of other third-party products, including products in the areas of music, video, lighting, temperature and security, and we benefit from our relationships with partners that allow our system to provide integrated and extensible control of over 10,100 third party devices and services. If we do not support the continued integration of our solutions with third-party products and applications, including through the provision of application programming interfaces, proxies and drivers that enable data to be transferred readily between our solutions and third-party products and applications, demand for our solutions could decline and we could lose sales. We will also be required to make our solutions compatible with new or additional third-party products and applications that are introduced into the markets that we serve. In addition, companies that provide certain point solutions have eliminated or restricted, and may in the future, eliminate or restrict, our ability to integrate with, control and otherwise be compatible with these products. As a result, we may not be successful in making our solutions compatible with these third-party products and applications or lose functionality in existing systems to the extent that they depend on the ability to integrate with third-party products, which could reduce demand for our solutions. In addition, if prospective

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consumers require customized features or functions that we do not offer, then the market for our solutions may be harmed.

If we are unable to adapt to technological change and implement technological and aesthetic enhancements to our products, this could impair our ability to remain competitive.

The market for home automation and control solutions is characterized by rapid technological change, frequent introductions of new products and evolving industry standards. However, product development often requires significant lead-time and upfront investment and our ability to attract new consumers and increase revenue from existing consumers will depend in significant part on our ability to accurately anticipate changes in industry standards and to continue to enhance existing solutions or introduce new solutions in a timely basis to keep pace with technological developments. This is true of all of our products, but is particularly important with respect to our user interface and other products that our consumers interface with directly. Similarly, if any of our competitors implement new technologies before we are able to implement them, those competitors may be able to provide more effective products than ours, possibly at lower prices, which could impact sales and decrease our market share. Any delay or failure in the introduction of new or enhanced solutions could harm our business, results of operations and financial condition.

We currently rely on contract manufacturers to manufacture our products and on component vendors to supply parts used in our products. The majority of our components are supplied by a single source. Any disruption in our supply chain, or our failure to successfully manage our relationships with our contract manufacturers or component vendors could harm our business.

Our reliance on contract manufacturers reduces our control over the assembly process, exposing us to risks, including reduced control over quality assurance, production costs and product supply. We rely on a limited number of contract manufacturers to manufacture substantially all of our products. We also do business with a number of component vendors, and the parts they supply may not perform as expected. For certain of our products and components, we rely on a sole-source manufacturer or supplier. For the year ended December 31, 2016, three contract manufacturers, Sanmina, RCS and iLife, manufactured approximately 62% of our inventory purchases. Most of our contract manufacturers and component vendors are located outside of the United States, and all of them may be subject to political, economic, social and legal uncertainties that may harm our relationships with them If we fail to manage our relationships with our contract manufacturers, component vendors or shipping partners effectively, or if our contract manufacturers, component vendors or shipping partners experience delays, disruptions, capacity constraints or quality control problems in their operations, our ability to ship products may be impaired and our competitive position and reputation could be harmed. In addition, any adverse change in our contract manufacturers', component vendors' or shipping partners' financial or business condition could disrupt our ability to supply quality products to our dealers and distributors. If we are required to change contract manufacturers, component vendors, or shipping partners we may lose revenue, incur increased costs or damage our relationships, or we might be unable to find a new contract manufacturer or component vendor on acceptable terms, or at all. In addition, qualifying a new contract manufacturer or component vendor could be an expensive and lengthy process. If we experience increased demand that our contract manufacturers or component vendors are unable to fulfill, or if they are unable to provide us with adequate supplies of high-quality products for any reason, we could experience a delay in our order fulfillment, and our business, results of operations and financial condition would be harmed.

Changes in to import/export regulatory regimes and duties could negatively impact our business.

The current presidential administration in the U.S. has made comments suggesting that it is not supportive of certain existing international trade agreements, and at this time, it remains unclear what this administration will or will not do with respect to these international trade agreements and U.S. tax provisions related to international commerce. Additional or increased import taxes or duties in the U.S. could negatively impact our cost structures. If the United States were to withdraw from or materially modify international trade agreements, or change tax provisions related to the global manufacturing and sales of our products, our financial condition and results of operations could be adversely affected.

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Growth of our business may depend on market awareness and a strong brand, and any failure to develop, broaden, protect and enhance market awareness of our products could hurt our ability to retain or attract consumers.

Because of the competitive nature of the mainstream home automation market, we believe that building and maintaining market awareness, brand recognition and goodwill may be material to our success. This will depend largely on our ability to continue to provide high-quality solutions, and we may not be able to do so effectively. We may choose to engage in a broader marketing campaigns to further promote our brand, but this effort may not be successful. Our efforts in developing our brand may be affected by the marketing efforts of our competitors, negative publicity and social media commentary, and our reliance on our independent dealers, distributors and strategic partners to install our products and promote our brand effectively. If we are unable to cost-effectively maintain and increase positive awareness of our brand, our business, results of operations and financial condition could be harmed.

We operate in the emerging and evolving home automation market, which may develop more slowly or differently than we expect. If the mainstream home automation market does not grow as we expect, or if we cannot expand our solutions to meet the demands of this market, our revenue may decline, fail to grow or fail to grow at an accelerated rate, and we may incur additional operating losses.

The market for home automation and control solutions is developing, and it is uncertain whether, how rapidly or how consistently this market will develop, and even if it does develop, whether our solutions will achieve and sustain high levels of demand and market acceptance. Some consumers may be reluctant or unwilling to use our solutions for a number of reasons, including satisfaction with traditional solutions, concerns for additional costs and lack of awareness of our solutions. Unified home automation solutions such as ours have traditionally been luxury purchases for the high end of the residential market, and while our solutions target the high end of the market, we also have solutions that target middle- and entry-level home owners, including our EA-1 controller which we released in January 2016 that is designed to control smaller, single room projects. Our ability to expand the sales of our solutions to a broader consumer base depends on several factors, including market awareness of our solutions, the timely completion, introduction and market acceptance of our solutions, the ability to attract, retain and effectively train sales and marketing personnel, the ability to develop relationships with independent dealers and distributors, the effectiveness of our marketing programs, the costs of our solutions and the success of our competitors. If we are unsuccessful in developing and marketing our home automation solutions to mainstream consumers, or if these consumers do not perceive or value the benefits of our solutions, the market for our solutions might not continue to develop or might develop more slowly than we expect, either of which would harm our revenue and growth prospects.

Our consumers may experience service failures or interruptions due to defects in the software, infrastructure, third-party components or processes that comprise our existing or new solutions, or due to errors in product installation or servicing by our independent dealers, any of which could harm our business.

Our solutions may contain undetected defects in the software, infrastructure, third-party components or processes. If these defects lead to service failures after introduction of or an upgrade to a product or solution by an independent dealer, we could be subject to liability for such failures and we could experience harm to our branded reputation and our business could suffer. We may find defects in new or upgraded solutions, resulting in loss of, or delay in, market acceptance of our solutions, which could harm our business, results of operations and financial condition.

In addition to failures due to product defects, because our solutions are installed by independent dealers, if they do not install or maintain our solutions correctly or if the underlying network or infrastructure in a home or business is not sufficiently robust, our solutions may not function properly. If the improper installation or maintenance of our solutions leads to service failures of a product or solution, we could experience harm to our branded reputation, claims by our consumers, dealers, distributors, strategic partners or developers or lost revenue during the period required to address the cause of the problem, each of which could harm our business, results of operations and financial condition.

Any defect in, or disruption to, our solutions could cause consumers to remove their products, not to purchase additional products from us, prevent potential consumers from purchasing our solutions, or harm our reputation. The nature of the solutions we provide, including our interface with home security solutions, may expose us to greater risks of liability for system failure or even installation errors by our independent dealers than may be inherent in other

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businesses. Substantially all of our dealer agreements contain provisions limiting our liability to dealers and our consumers in an attempt to reduce this risk. However, in the event of litigation with respect to these matters, we cannot be sure that these limitations will be enforced, and defending a lawsuit, regardless of its merit, could be costly, divert management's attention, affect our ability to obtain or maintain liability insurance on acceptable terms and could harm our business. In addition, there can be no assurance that we are adequately insured for these risks. Certain of our insurance policies and the laws of some states may limit or prohibit insurance coverage for punitive or certain other types of damages or liability arising from gross negligence. Although we currently maintain some warranty reserves, we cannot be sure that these warranty reserves will be sufficient to cover future liabilities. Furthermore, we may be required to indemnify our dealers, distributors and other partners against certain liabilities they may incur as a result of defects of our products.

Our networking solutions business may be harmed if users perceive our solution as the cause of a slow or unreliable network connection, or in the event of a high-profile network failure, even though certain technical problems experienced by users may not be caused by our products.

Our networking solutions have been deployed in many different locations and user environments and are capable of providing connectivity to many different types of Wi-Fi-enabled devices operating a variety of applications. The ability of our products to operate effectively can be negatively impacted by many different elements unrelated to our products. For example, a user's experience may suffer from an incorrect setting in a Wi-Fi device. Although certain technical problems experienced by users may not be caused by our products, users often may perceive the underlying cause to be a result of poor performance of the wireless network. This perception, even if incorrect, could harm our business and reputation. Similarly, a high-profile network failure may be caused by improper operation of the network or failure of a network component that we did not supply, but users and other service providers may perceive that our products were implicated, which, even if incorrect, could harm our business, operating results and financial condition.

Failure to maintain the security of our information and technology networks, including information relating to our dealers, distributors, partners, consumers and employees, could adversely affect our business. Furthermore, without limiting the preceding sentence, if security breaches in connection with the delivery of our products and services allow unauthorized third parties to obtain control of or otherwise access consumers' networks or appliances, our reputation, business, results of operations and financial condition could be harmed.

The legal, regulatory and contractual environment surrounding information security, privacy and fraud is constantly evolving and companies that collect and retain such information are under increasing attack by cyber- criminals around the world. We are dependent on information technology networks and systems, including the Internet, to process, transmit and store electronic information and, in the normal course of our business, we collect and retain certain information, including financial information, from and pertaining to our dealers, distributors, partners, consumers and employees. The protection of dealer, distributor, partner, consumer and employee data is important to us, and we devote significant resources to addressing security vulnerabilities in our products and information technology systems. However, the security measures that we put in place cannot guarantee security, and our information technology infrastructure may be vulnerable to criminal cyber-attacks or data security incidents due to employee or dealer negligence, error, malfeasance, or other vulnerabilities. Cyber security attacks are increasingly sophisticated, change frequently, and often go undetected until after an attack has been launched. We may fail to identify these new and complex methods of attack, or fail to invest sufficient resources in security measures. We have and will continue to experience cyber-attacks, and we cannot be certain that advances in cyber-capabilities or other developments will not permit compromise or breach the technology protecting the networks that access our products and services and repositories where we store this information.

We have acquired a number of companies over the years and may continue to do so in the future. While we make significant efforts to address any information technology security issues with respect to our acquisitions, we may still inherit such risks when we integrate the acquired products and systems.

In addition, consumers can use our tools to access their automation systems remotely, and certain of our employees and independent dealers can monitor access and update certain of our products and services through the Internet. Security breaches by third parties or by, or originating from, one or more of our dealers, distributors or

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employees, that allow unauthorized third parties to obtain control of our consumers' appliances through our products or to obtain, collect, use or disclose any the personal data of consumers, could harm our reputation, business, results of operations and financial condition. Furthermore, although we do not recommend or approve of port forwarding for remote access to our solutions, certain of our dealers have in the past and may in the future enable port forwarding, which could create security vulnerabilities in a consumer's home network. If a security breach occurs, our reputation, business, results of operations and financial condition could be harmed. In addition, even the perception that there is a security risk associated with home automation devices generally, or that we or our dealers, distributors or employees have improperly used our technology or mishandled personal information, could have a negative effect on our business. This negative perception may be increased in the event of a security breach or cyber-attack impacting one of our competitors or their products and services.

Additionally, we design and sell solutions that allow our customers to wirelessly access sensitive data on their network and to remotely manage and operate devices and applications that contain, transmit and store a variety of information. We use data encryption and other procedural, physical and electronic security measures to protect our internal systems and data, and we include various security mechanisms in our products and services, but these security measures cannot provide absolute protection against breaches and attacks.

Data security and information technology infrastructure and security are critical to supporting business objectives; failure of our systems to operate effectively could adversely affect our business and reputation.

Continually implementing up-to-date data security tools and procedures and maintaining privacy standards that comply with ever-changing privacy regulations in multiple jurisdictions is challenging. Though it is difficult to determine what harm may directly result from any specific interruption or security breach, any failure or perceived failure to maintain performance, reliability, security and availability of systems or the actual or potential theft, loss, fraudulent use or misuse of our products or associated confidential information, including personally identifiable data of a dealer, distributor, partner, consumer, and employee, could result in:

· harm to our reputation or brand, which could lead some consumers to stop using certain of our products or services, reduce or delay future purchases of our products or services, use competing products or services, or materially and adversely affect the overall market perception of the security and reliability of our services and home automation products generally;

· individual and/or class action lawsuits, which could result in financial judgments against us and that would cause us to incur legal fees and costs;

· legal or regulatory enforcement action, which could result in fines and/or penalties and which would cause us to incur legal fees and costs; and/or

- additional costs associated with responding to the interruption or security breach, such as investigative and remediation costs, the costs of providing individuals and/or data owners with notice of the breach, legal fees, the costs of any additional fraud detection activities, or the costs of prolonged system disruptions or shutdowns.

Any of these actions could materially adversely impact our business and results of operations.

Because we store, process, and use data, some of which contains personal information, we are subject to complex and evolving federal, state, and foreign laws and regulations regarding privacy, data protection, and other matters. Many of these laws and regulations are subject to change and uncertain interpretation, and could result in investigations, claims, changes to our business practices, increased cost of operations, and declines in user growth, retention, or engagement, any of which could seriously harm our business.

We are subject to a variety of laws and regulations in the United States and other countries that involve matters central to our business, including user privacy, rights of publicity, data protection, content, intellectual property, distribution, electronic contracts and other communications, competition, protection of minors, consumer protection,

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taxation, and online-payment services. These laws can be particularly restrictive in countries outside the United States. Both in the United States and abroad, these laws and regulations constantly evolve and remain subject to significant change. In addition, the application and interpretation of these laws and regulations are often uncertain, particularly in the new and rapidly evolving industry in which we operate. Because we store, process, and use data, some of which contains personal information, we are subject to complex and evolving federal, state, and foreign laws and regulations regarding privacy, data protection, and other matters. Many of these laws and regulations are subject to change and uncertain interpretation, and could result in investigations, claims, changes to our business practices, increased cost of operations, and declines in user growth, retention, or engagement, any of which could seriously harm our business.

Several proposals are pending before federal, state, and foreign legislative and regulatory bodies that could significantly affect our business. For example, a revision to the 1995 European Union Data Protection Directive is currently being considered by European legislative bodies that may include more stringent operational requirements for data processors and significant penalties for non-compliance. In addition, the General Data Protection Regulation in the European Union, which will go into effect on May 25, 2018, may require us to change our policies and procedures and, if we are not compliant, may seriously harm our business.

In addition, we have in the past relied on adherence to U.S.-EU and U.S.-Swiss Safe Harbor Frameworks as agreed to and set forth by the U.S. Department of Commerce, and the European Union and Switzerland, which established a means for legitimating the transfer of personally identifiable information ("PII"), by U.S. companies doing business in Europe from the European Economic Area to the U.S. However, on October 6, 2015 European Union Court of Justice invalidated the U.S.-EU Safe Harbor Framework. On July 12, 2016 the European Commission formally adopted the new EU – U.S. Privacy Shield, which again provides a safe harbor for the transfer of data outside the European Economic Area to companies that self-certify under this framework. In September 2016, Control4 submitted its self-certification application pursuant to the Privacy Shield. As part of this self-certification, we have committed to abide by the Privacy Shield principles with respect to any PII transferred. We publicly post our privacy policies and practices concerning our processing, use and disclosure of PII. Our publication of our privacy policy and other statements we publish that provide promises and assurances about privacy and security could subject us to potential state, federal or other regulatory action or other liabilities if they are found to be deceptive or misrepresentative of our practices or if we fail to take adequate measures to ensure that we adhere to applicable regulations.

We encounter seasonality in sales, which could harm the amount, timing and predictability of our revenue and cause our stock price to fluctuate.

We have little recurring revenue or backlog, and our revenue is generated from orders of our solutions from new and existing consumers, each of which may cause our quarterly results to fluctuate. In addition, we may experience seasonality in the sales of our solutions. Historically, our revenue is generally highest in the fourth quarter and lowest in the first quarter. Seasonal variations in our sales may lead to significant fluctuations in our cash flows and results of operations on a quarterly basis and this may cause our stock price to fluctuate.

We may not generate significant revenue as a result of our current research and development efforts.

We have made and expect to continue to make significant investments in research and development and related product opportunities. For the year ended December 31, 2016, we spent $36 million on research and development expenses. High levels of expenditures for research and development could harm our results of operations, especially if not offset by corresponding future revenue increases. We believe that we must continue to dedicate a significant amount of resources to our research and development efforts to maintain our competitive position. However, it is difficult to estimate when, if ever, we will generate significant revenue as a result of these investments.

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Our strategy includes pursuing acquisitions and our potential inability to successfully integrate newly-acquired technologies, assets, businesses, or personnel may harm our financial results.

We believe part of our growth will be driven by acquisitions of other companies or their technologies, assets and businesses. For example, we acquired Nexus in January 2015 and Pakedge in January 2016. These acquisitions and any future acquisitions we complete will give rise to risks, including:

- Incurring higher than anticipated capital expenditures and operating expenses;
- Failing to assimilate the operations and personnel, or failing to retain the key personnel of the acquired company or business;
- Failing to integrate the acquired technologies, or incurring significant expense to integrate acquired technologies into our solutions;
- Disrupting our ongoing business;
- Dissipating or diverting our management resources;
- Failing to maintain uniform standards, controls and policies;
- Incurring significant accounting charges;
- Impairing relationships with employees, dealers, distributors, partners or consumers;
- Finding that the acquired technology, assets or business does not further our business strategy, that we overpaid for the technology, assets or business, or that we may be required to write off acquired assets or investments partially or entirely;
- Failing to realize the expected synergies of the transaction;
- Being exposed to unforeseen liabilities and contingencies that were not identified during diligence conducted prior to acquiring the company, including but not limited to the risk that the products or services of the acquired company violate third-party intellectual property rights; and

· Being unable to generate sufficient revenue from acquisitions to offset the associated acquisition costs.

Fully integrating an acquired technology, asset, business, or personnel into our operations may take a significant amount of time and resources. We may not be successful in overcoming these risks or any other problems encountered with such acquisitions. To the extent we do not successfully avoid or overcome the risks or problems related to any such acquisitions, our results of operations and financial condition could be harmed. Acquisitions also could impact our financial position and capital needs, or could cause fluctuations in our quarterly and annual results of operations.

Acquisitions could include significant goodwill and intangible assets. The amortization of such intangible assets would reduce our profitability and there may be future impairment charges that would reduce our stated earnings. We may incur significant costs in our efforts to engage in strategic transactions and these expenditures may not result in successful acquisitions.

Future acquisitions of technologies, assets or businesses, that are paid for partially or entirely through the issuance of stock or stock rights, could dilute the ownership of our existing stockholders.

We expect that the consideration we might pay for any future acquisitions of technologies, assets or businesses could include stock, rights to purchase stock, cash or some combination of the foregoing. If we issue stock or rights to

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purchase stock in connection with such future acquisitions, net income (loss) per share and then-existing holders of our common stock may experience dilution.

We may pursue business opportunities that diverge from our current business model, which may cause our business to suffer.

We may pursue business opportunities that diverge from our current business model, including expanding our solutions, investing in new and unproven technologies, and expanding our existing sales channels or adding new sales channels, including through acquisitions such as our recent acquisition of Pakedge and its networking technologies. We can offer no assurance that any such new business opportunities will prove to be successful. Among other negative effects, our pursuit of such business opportunities could reduce operating margins and require more working capital, or materially and adversely affect our business, financial condition, results of operations and cash flows.

Our gross margins can vary significantly depending on multiple factors, which can result in fluctuations in our results of operations.

Our gross margins are likely to vary due to consumer demand, product mix, new product introductions, unit volumes, commodity and supply chain costs, product delivery costs, geographic sales mix, excess and obsolete inventory and the complexity and functionality of new product innovations. In particular, if we are not able to introduce new solutions in a timely manner at the cost we expect, or if consumer demand for our solutions is less than we anticipate, or if there are product pricing, marketing and other initiatives by our competitors to which we need to react that lower our margins, then our overall gross margin will be less than we project. The impact of these factors on gross margins can create unanticipated fluctuations in our results of operations, which may cause volatility in our stock price.

If we are unable to substantially utilize our net operating loss or tax credit carryforwards, our financial results will be harmed.

As of December 31, 2016, our net operating loss (“NOL”) carryforward amounts for U.S. federal income and state tax purposes were $59.5 million and $61.0 million, respectively. In addition to the NOL carryforwards, as of December 31, 2016, we had U.S. federal and state tax credit carryforwards of $7.1 million and $2.8 million, respectively. While we have generated profits at times in the past, there is no assurance that we will be able to generate sufficient taxable income to utilize our NOLs or tax credits before they expire.

If we are unable to manage our growth and diverse and complex operations, our reputation in the market and our ability to generate revenue from new or existing consumers may be harmed.

Because our operations are geographically diverse and complex, our personnel resources and infrastructure could become strained and our reputation in the market and our ability to successfully implement our business plan may be harmed. The growth in the size, complexity and diverse nature of our business and the expansion of our product lines and consumer base have placed increased demands on our management and operations, and further growth, if any, may place additional strains on our resources in the future. Our ability to effectively compete and to manage our plan to continue to expand our headcount and operations may depend on, among other things:

· Maintaining institutional knowledge by retaining and expanding the core competencies critical to our operations in our senior management and key personnel;

· Increasing the productivity of our existing employees;

· Attracting, training, motivating and retaining our employees, particularly our technical employees, senior management and key personnel;

· Maintaining existing productive relationships and developing new productive relationships with independent contract manufacturers, dealers and distributors;

· Improving our operational, financial and management controls; and

· Improving our information reporting systems and procedures.

If we do not manage the size, complexity and diverse nature of our business effectively, we could experience delayed product releases and longer response times by our dealers in assisting our consumers in implementing our solutions, and could lack adequate resources to support our consumers on an ongoing basis, any of which could harm our reputation in the market, our ability to successfully implement our business plan and our ability to generate revenue from new or existing consumers.

If we fail to retain our key employees, our business would be harmed and we might not be able to implement our business plan successfully.

Given the complex nature of the technology on which our business is based and the speed with which such technology advances, our future success is dependent, in large part, upon our ability to attract and retain highly qualified executive, managerial, engineering, and sales and marketing personnel. Competition for talented personnel is intense, and we cannot be certain that we can retain our executive, managerial, engineering, and sales and marketing personnel, or that we can attract, assimilate or retain such personnel in the future. Our inability to attract and retain such personnel could harm our business, results of operations and financial condition.

Downturns in general economic and market conditions, including but not limited to downturns in housing markets and reductions in consumer spending, may reduce demand for our solutions, which could harm our revenue, results of operations, financial condition and cash flows.

Our revenue, results of operations and cash flows depend on the overall demand for our solutions, which can be significantly reduced in economic environments characterized by market and interest rate volatility, decreased consumer confidence, high unemployment, declines in residential remodeling and housing starts, fluctuating exchange rates, and diminished growth expectations in the U.S. economy and abroad. During periods of weak or unstable economic and market conditions, providers of products and services that represent discretionary purchases, such as our home automation products, are disproportionately affected. In addition, during these periods, the number of independent dealers and distributors may decline as the prospects for home building and home renovation projects diminish, which may have a corresponding impact on our growth prospects. Furthermore, during challenging economic times consumers may face issues in gaining timely access to sufficient credit, which could impair their ability to make timely payments. There is also an increased risk during these periods that an increased percentage of our dealers will file for bankruptcy protection, which may harm our reputation, revenue, profitability and results of operations. We cannot predict the timing, strength or duration of any economic slowdown, instability or recovery, generally or within any particular geography or industry. Any downturns in the general economic conditions of the geographies and industries in which we operate, or any other factors negatively impacting housing markets or consumer spending, could materially and adversely impact our revenue, results of operations, financial condition and cash flows.

If our estimates or judgments relating to our critical accounting policies are based on assumptions that change or prove to be incorrect, our results of operations could fall below expectations of securities analysts and investors, resulting in a decline in our stock price.

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the amounts reported in our consolidated financial statements and accompanying notes. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances, as provided in "Management's Discussion and Analysis of Financial Condition and Results of Operations," the results of which form the basis for making judgments about the carrying values of assets, liabilities and equity, and the amount of revenue and expenses that are not readily apparent from other sources. Significant assumptions and estimates used in preparing our consolidated financial statements include, or may in the future include, those related to revenue recognition, allowance for doubtful accounts, inventories, product warranties, income taxes and stock-based compensation expense. Our results of operations may be harmed if our assumptions change or if actual circumstances differ from those in our assumptions, which could cause our results of operations to fall below the expectations of securities analysts and investors, resulting in a decline in our stock price.

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Changes in existing financial accounting standards or practices, or taxation rules or practices, may harm our results of operations.

Changes in existing accounting or taxation rules or practices, new accounting pronouncements or taxation rules, or varying interpretations of current accounting pronouncements or taxation practice could harm our results of operations or the manner in which we conduct our business.

Mergers or other strategic transactions involving our competitors could weaken our competitive position, which could harm our results of operations.

Our industry is highly fragmented, and we believe it is likely that some of our existing competitors will consolidate or be acquired. In addition, some of our competitors may enter into new alliances with each other or may establish or strengthen cooperative relationships with systems integrators, third-party consulting firms or other parties. For example, over the past few years, Google Inc. acquired Nest Labs, a manufacturer of thermostats and smoke detectors; Nest Labs acquired Dropcam, a home-monitoring camera company; Apple Inc. introduced HomeKit, a framework for communicating with and controlling connected devices in a user's home; and Samsung Electronics Co., Ltd. recently announced its agreement to acquire connected technologies company, Harman International Industries. Transactions such as these, as well as any additional consolidations, acquisitions, alliances or cooperative relationships, or new product introductions by companies in our industry, could lead to pricing pressure, reduce our market share or result in a competitor with greater financial, technical, marketing, service and other resources than ours, all of which could harm our business, results of operations and financial condition.

We are an "emerging growth company," and any decision on our part to comply with certain reduced disclosure requirements applicable to emerging growth companies could make our common stock less attractive to investors.

We are an "emerging growth company," as defined in the Jumpstart Our Business Startups Act of 2012 (the "JOBS Act"), and we may take advantage of certain exemptions from various reporting requirements that are applicable to other public companies that are not "emerging growth companies," including not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act, reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements, and exemptions from the requirements of holding an annual non-binding advisory vote on executive compensation and nonbinding stockholder approval of any golden parachute payments not previously approved. If we choose not to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act, our auditors will not be required to opine on the effectiveness of our internal control over financial reporting. As a result, investors may become less comfortable with the effectiveness of our internal controls and the risk that material weaknesses or other deficiencies in our internal controls go undetected may increase. If we choose to provide reduced disclosures in our periodic reports and proxy statements while we are an emerging growth company, investors would have access to less information and analysis about our executive compensation, which may make it difficult for investors to evaluate our executive compensation practices. We cannot predict if investors will find our common stock less attractive because we may rely on these exemptions and provide reduced disclosure. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may be harmed. We will remain an "emerging growth company" until the earliest to occur of: the last day of the fiscal year in which we have more than $1.0 billion in annual revenue; the date we qualify as a "large accelerated filer," with at least $700 million of equity securities held by non-affiliates determined as of the last business day of the previous second fiscal quarter; the issuance, in any three-year period, by us of more than $1.0 billion in non-convertible debt securities; or the last day of the fiscal year ending after the fifth anniversary of our initial public offering.

In addition, Section 107 of the JOBS Act provides that an emerging growth company can take advantage of the extended transition period provided in Section 7(a)(2)(B) of the Securities Act of 1933, as amended (the "Securities Act"), for complying with new or revised accounting standards. In other words, an emerging growth company can delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. However, we have chosen to "opt out" of such extended transition period, and as a result, we will comply with new or revised accounting standards on the relevant dates on which adoption of such standards is required for non-emerging growth

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companies. Section 107 of the JOBS Act provides that our decision to opt out of the extended transition period for complying with new or revised accounting standards is irrevocable.

Failure to achieve and maintain effective internal control over financial reporting could result in our failure to accurately report our financial results. Any inability to report and file our financial results accurately and timely could harm our business and adversely impact investor confidence in our company and, as a result, the value of our common stock.

Effective internal controls are necessary for us to produce reliable financial reports and are important to helping prevent financial fraud. If we cannot provide reliable financial reports or prevent fraud, our business and results of operations could be harmed, investors could lose confidence in our reported financial information, and the trading price of our stock could drop significantly. We are required to perform system and process evaluation and testing of our internal control over financial reporting to allow management to report on the effectiveness of our internal control over financial reporting, as required by Section 404 of the Sarbanes-Oxley Act, or Section 404. This assessment includes disclosure of any material weaknesses identified by our management in our internal control over financial reporting. However, our auditors will not be required to formally opine on the effectiveness of our internal control over financial reporting pursuant to Section 404 until we are no longer an “emerging growth company” as defined in the JOBS Act, and we continue to take advantage of the exemptions available to us through the JOBS Act. We expect that our auditors will be required to formally opine on the effectiveness of our internal controls no later than our Annual Report on Form 10-K for the fiscal year ended December 31, 2018.

Our compliance with Section 404 may require us to continue to incur substantial expense and expend significant management efforts. We may not be able to remediate any future material weaknesses, or to complete our evaluation, testing and any required remediation in a timely fashion. During the evaluation and testing process, if we identify one or more material weaknesses in our internal control over financial reporting, we will be unable to assert that our internal controls are effective. If we are unable to assert that our internal control over financial reporting is effective, or if our auditors are unable to express an opinion on the effectiveness of our internal controls when they are required to issue such opinion, investors could lose confidence in the accuracy and completeness of our financial reports, which could harm our stock price.

Our failure to raise additional capital or generate cash flows necessary to expand our operations, invest in new technologies and otherwise respond to business opportunities or unforeseen circumstances in the future could reduce our ability to compete successfully and harm our results of operations.

We believe that our existing cash and cash equivalents will be sufficient to meet our anticipated cash requirements for at least the next 12 months. We may need to raise additional funds, and we may not be able to obtain additional debt or equity financing on favorable terms, if at all. If we raise additional equity financing, our security holders may experience significant dilution of their ownership interests and the value of shares of our common stock could decline. If we engage in debt financing, we may be required to accept terms that restrict our ability to incur additional indebtedness, force us to maintain specified liquidity or other ratios or restrict our ability to pay dividends or make acquisitions. If we need additional capital and cannot raise it on acceptable terms, if at all, we may not be able to, among other things:

- Develop and enhance our solutions;
- Continue to expand our research and development, sales and marketing organizations;
- Hire, train and retain employees;
- Respond to competitive pressures or unanticipated working capital requirements; or
- Pursue acquisition opportunities.

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Our inability to do any of the foregoing could reduce our ability to compete successfully and harm our results of operations.

We may be subject to additional tax liabilities, which would harm our results of operations.

We are subject to income, sales, use, value added, tariffs and other taxes in the United States and other countries in which we conduct business, which laws and rates vary greatly by jurisdiction. Certain jurisdictions in which we do not collect sales, use, value added, tariffs or other taxes on our sales may assert that such taxes are applicable, which could result in tax assessments, penalties and interest, and we may be required to collect such taxes in the future. Significant judgment is required in determining our worldwide provision for income taxes and evaluating our uncertain tax positions. These determinations are highly complex and require detailed analysis of the available information and applicable statutes and regulatory materials. In the ordinary course of our business, there are many transactions and calculations where the ultimate tax determination is uncertain. Although we believe our tax estimates are reasonable, the final determination of tax audits and any related litigation could be different from our historical tax practices, provisions and accruals. If we receive an adverse ruling as a result of an audit, or we unilaterally determine that we have misinterpreted provisions of the tax regulations to which we are subject, our tax provision, results of operations or cash flows could be harmed. In addition, liabilities associated with taxes are often subject to an extended or indefinite statute of limitations period. Therefore, we may be subject to additional tax liability (including penalties and interest) for any particular year for extended periods of time depending on the specific statute of limitations in the relevant jurisdiction.

Our business is subject to the risks of earthquakes, fire, power outages, floods and other catastrophic events, and to interruption by man-made problems such as terrorism.

A significant natural disaster, such as an earthquake, fire or a flood, or a significant power outage could harm our business, results of operations and financial condition. Natural disasters could affect our manufacturing vendors’ or logistics providers’ ability to perform services such as manufacturing products or assisting with shipments on a timely basis. Three of our contract manufacturers that manufactured 62% of our inventory purchases for the year ended December 31, 2016, have manufacturing facilities located in China and Korea. In the event our manufacturing vendors’ information technology systems or manufacturing or logistics abilities are hindered by any of the events discussed above, shipments could be delayed or cancelled, resulting in missing financial targets, such as revenue and shipment targets, for a particular quarter. Further, if a natural disaster occurs in a region from which we derive a significant portion of our revenue, such as metropolitan areas in North America, consumers in those regions may delay or forego purchases of our solutions from dealers and distributors, which may harm our results of operations for a particular period. In addition, acts of terrorism, including cyber terrorism or crime, could cause disruptions in our business or the business of our manufacturers, logistics providers, dealers, distributors, consumers or the economy as a whole. Given our typical concentration of sales at the end of each month and quarter, any disruption in the business of our manufacturers, logistics providers, dealers, distributors and consumers that impacts sales at the end of our quarter could have a greater impact on our quarterly results. All of the aforementioned risks may be augmented if the disaster recovery plans for us and our suppliers prove to be inadequate. To the extent that any of the above results in delays or cancellations of orders, or delays in, or cancellations of the manufacture, deployment or shipment of our products, our business, financial condition and results of operations would be harmed.

Global or regional economic, political and social conditions could harm our business and results of operations.

External factors such as potential crime, terrorist attacks, acts of war, financial crises, trade friction or geopolitical and social turmoil in those parts of the world that serve as markets for our solutions, such as Europe, Asia or elsewhere, could harm our business and results of operations. These uncertainties may cause our consumers to reduce discretionary spending on their home and make it difficult for us to accurately plan future business activities. More generally, these geopolitical, social and economic conditions could result in increased volatility in worldwide financial markets and economies that could harm our sales. We are not insured for losses or interruptions caused by terrorist acts or acts of war. The occurrence of any of these events or circumstances could harm our business and results of operations.

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Failure to comply with laws and regulations could harm our business.

Our business is subject to regulation by various federal, state, local and foreign governmental agencies, including agencies responsible for monitoring and enforcing employment and labor laws, workplace safety, product safety, environmental laws, consumer privacy and protection laws, anti-bribery laws, import/export controls, federal securities laws and tax laws and regulations. As we continue to develop new products, acquire companies with new product lines and expand our geographical footprint to market and sell products in new jurisdictions, we may become subject to additional rules and regulations, and these regulatory requirements may be different from or more stringent than those in the United States and Europe. While we have obtained these certifications for many of our products currently sold in these new jurisdictions, we continue to work towards full compliance for all of our products sold. Delays in meeting, or failure to meet, these certification standards may cause us to miss market opportunities and may hinder us from entering and selling our products in those markets. Noncompliance with applicable regulations or requirements could subject us to investigations, sanctions, enjoinders of future shipments, mandatory product recalls, seizures, enforcement actions, disgorgement of profits, fines, damages, civil and criminal penalties or injunctions. If any governmental sanctions are imposed, or if we do not prevail in any possible civil or criminal litigation, our business, results of operations and financial condition could be materially harmed. In addition, responding to any action will likely result in a significant diversion of management's attention and resources and an increase in professional fees. Enforcement actions and sanctions could further harm our business, results of operations and financial condition.

Governmental regulations affecting the import or export of our products could harm our revenues.

The U.S. and various foreign governments have imposed controls, export license requirements and restrictions on the import or export of some technologies, especially encryption technology, and may impose additional or broader controls, export license requirements and restrictions on the import or export of some technologies in the future. In addition, from time to time, governmental agencies have proposed additional regulation of encryption technology, such as requiring the escrow and governmental recovery of private encryption keys. Although we do not believe that any of our products currently require an export license, if our products or components of our products become subject to governmental regulation of encryption technology or other governmental regulation of imports or exports, we may be required to obtain import or export approval for such products, which could increase our costs and harm our international and domestic sales and our revenue. In addition, failure to comply with such regulations could result in penalties, costs and restrictions on export privileges, which would harm our results of operations.

New regulations related to "conflict minerals" may force us to incur additional expenses, may result in damage to our business reputation and may adversely impact our ability to conduct our business.

Pursuant to the Dodd-Frank Wall Street Reform and Consumer Protection Act (the "Dodd-Frank Act"), we are required to adhere to certain reporting and other requirements regarding the use of certain minerals and derivative metals (referred to as "conflict minerals," regardless of their actual country of origin) in our products. Some of these metals are commonly used in electronic equipment and devices, including our products. These requirements require that we investigate, disclose and report whether or not any such metals in our products originated from the Democratic Republic of Congo or adjoining countries. We do not directly source any of our own raw conflict minerals, rather we have an extremely complex supply chain, with numerous suppliers, many of whom may not be obligated to investigate their own supply chains, for the components and parts used in each of our products. As a result, we may incur significant costs to comply with the diligence and disclosure requirements, including costs related to determining the source of any of the relevant metals used in our products and other potential changes to products or sources of supply as a consequence of such verification activities. Because these regulations are relatively new, we and the companies comprising our supply chain each have a limited history of investigating, disclosing and reporting use of these minerals, and there is a limited history of regulatory guidance regarding compliance with these requirements. In addition, because our supply chain is so complex, we may not be able to sufficiently verify the origin of all relevant metals used in our products through the due diligence procedures that we implement, which may harm our business reputation. We may incur reputational damage if we determine that any of our products contain minerals or derivative metals that are not conflict free or if we are unable to sufficiently verify the source for all conflict minerals used in our products through the procedures we may implement. Furthermore, key components and parts that can be shown to be “conflict free” may not be available to us in sufficient quantity, or at all, or may only be available at significantly higher cost to us. If we are not able to meet customer

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requirements, customers may choose to disqualify us as a supplier. Any of these outcomes could adversely affect our business, financial condition or operating results.

Health care reform could increase our cost of labor

In March 2010, the Patient Protection and Affordable Care Act (the “ACA”) was signed into U.S. law. The ACA is comprehensive U.S. health care legislation that includes provisions that subject us to potential penalties unless we offer certain employees minimum essential health care coverage that is affordable and provides minimum value. Recent changes, especially the employer mandate and employer penalties that became effective January 1, 2015, may increase our labor costs significantly in future years. In order to comply with the employer mandate provision of the ACA, we offer health care coverage to all applicable employees eligible for coverage under the ACA. Designating employees as eligible is complex, and is subject to challenge by employees and the Internal Revenue Service. While we believe we have properly identified eligible employees, a later determination that we failed to offer the required health coverage to eligible employees could result in penalties that may harm our business or reputation. We cannot be certain that compliant insurance coverage will remain available to us on reasonable terms, and we could face additional risks arising from future changes to the ACA or other legislation that repeals and replaces in whole or in part the ACA.

We incur increased costs and demands upon management as a result of complying with the laws and regulations affecting public companies, which could harm our results of operations and our ability to attract and retain qualified executives and board members.

As a public company, we have incurred and will continue to incur significant legal, accounting and other expenses that we did not incur as a private company, including costs associated with public company reporting and corporate governance requirements. These requirements include compliance with Section 404 and other provisions of the Sarbanes-Oxley Act of 2002, the Dodd-Frank Act, as well as rules implemented by the Securities and Exchange Commission (“SEC”), The NASDAQ Stock Market LLC, and other applicable securities or exchange-related rules and regulations. In addition, our management team has also had to adapt to the requirements of being a public company. Complying with these rules and regulations substantially increases our legal and financial compliance costs and makes some activities more difficult, time consuming or costly. These compliance requirements and costs will increase once we are no longer an “emerging growth company,” as defined in the JOBS Act, which will occur December 31, 2018 at the latest.

Government regulations of wireless networking in the United States or internationally may result in unanticipated costs and failure to comply with such laws and regulations could harm our business.

Our wireless communication and networking products operate through the transmission of radio signals and radio emissions are subject to regulation in the United States and in other countries in which we do business. In the United States, various federal agencies, including the Federal Communications Commission ("FCC"), and various state agencies have promulgated regulations that concern the use of radio/electromagnetic emissions standards. Member countries of the European Union have enacted similar standards concerning electrical safety and electromagnetic compatibility and emissions. As these regulations and standards evolve, and if new regulations or standards are implemented, we will be required to modify our products or develop and support new versions of our products, and our compliance with these regulations and standards may become more burdensome. The failure of our products to comply, or delays in compliance, with the various existing and evolving industry regulations and standards could prevent or delay introduction of our products, which could harm our business. Our inability to alter our products to address these requirements and any regulatory changes may have a material adverse effect on our business, operating results and financial condition. In addition, dealer and end user uncertainty regarding future policies may also affect demand for wireless networking products, including our products.

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Risks Related to Our International Operations

In recent years, a significant amount of our revenue has come from sales outside of the United States, and we are therefore subject to a number of risks associated with international sales and operations.

We have a limited history of marketing, selling, installing and supporting our products and services internationally. However, international revenue (excluding Canada) accounted for 21% of our total revenue for the year ended December 31, 2016, and we expect that percentage to grow in the future. As a result, we must hire and train experienced personnel to staff and manage our foreign operations. To the extent that we experience difficulties in recruiting, training, managing, and retaining international dealers, distributors, and international staff, and specifically staff related to sales management and sales personnel, we may experience difficulties in productivity in foreign markets.

If we are not able to increase the sales of our solutions to consumers located outside of North America, our results of operations or revenue growth may be harmed. In addition, in connection with our expansion into foreign markets, we are a receiver of currencies other than the U.S. dollar. Accordingly, changes in exchange rates, and in particular a strengthening of the U.S. dollar, will negatively affect our net sales as expressed in U.S. dollars. There is also a risk that we will have to adjust local currency product pricing due to competitive pressures when there has been significant volatility in foreign currency exchange rates.

Conducting and launching operations on an international scale requires close coordination of activities across multiple jurisdictions and time zones and consumes significant management resources. Our limited experience in operating our business outside of the United States increases the risk that our current and any future international expansion efforts will not be successful. Conducting international operations subjects us to risks that, generally, we do not face in the United States, including:

- Fluctuations in currency exchange rates;
- Unexpected changes in foreign regulatory requirements;
- Longer accounts receivable payment cycles and difficulties in collecting accounts receivable;
- Difficulties in managing and staffing international operations, including differences in labor laws, which may result in higher personnel-related liabilities and expenses;

- Potentially adverse tax consequences, including the complexities of foreign value added tax systems and restrictions on the repatriation of earnings;
- Localization of our solutions and other materials, including translation into foreign languages and associated expenses;
- Localization of applicable agreements under applicable foreign law and differing legal standards and risks;
- The burdens of complying with a wide variety of foreign laws and different legal standards, including laws and regulations related to privacy, the transfer of personal information across borders, and data security and limitations on liability;
- Increased financial accounting and reporting burdens and complexities;
- Political, social and economic instability abroad, terrorist attacks and security concerns in general, including crime and cyber security; and
- Reduced or varied protection for intellectual property rights in some countries.

The impact of any one of these could harm our international business and, consequently, our results of operations generally. Additionally, operating in international markets also requires significant management attention and financial resources. We cannot be certain that the investment and additional resources required in establishing, acquiring or integrating operations and personnel in other countries will produce desired levels of revenue or profitability.

We conduct a significant amount of business in the European Union, including through our office located in England, and our operations may be affected by the results of the recent referendum vote by the United Kingdom to leave the European Union.

On June 23, 2016, the citizens of the United Kingdom approved a referendum to leave the European Union ("Brexit"), which led to significant market volatility around the world, as well as political, economic and legal uncertainty. In addition, the Brexit vote triggered a devaluing of the pound sterling relative to the euro and the U.S. dollar, and in Europe we generally sell our products and incur expense in local currencies including the pound sterling and the euro, but incur exchange rate gains and losses for U.S. dollar denominated assets and liabilities including intercompany and third-party accounts receivables and payables. While we enter into forward contracts to help offset our exposure to movements in foreign currency exchange rates relative to some of these U.S. dollar denominated balances, there is no guarantee that we will correctly anticipate the optimal amounts of such offsets in the future.

The long-term nature of the United Kingdom's relationship with the European Union is unclear and there is considerable uncertainty when any relationship will be agreed and implemented. During this time, negotiations will take place to unravel all of the existing legal, political and financial frameworks and obligations, and put new structures in place. At this stage, it is uncertain what the final results of these negotiations will be and, given the lack of comparable precedent, it is unclear how Brexit will affect economic conditions in the United Kingdom, the European Union, or globally, and Control4 specifically. Because Control4 has sales throughout the European Union and offices in England and Germany, it is possible that Brexit may require us to restructure some or all of our operations, and depending on what is negotiated, could impair our ability to transact business in other countries in the European Union. In addition, the fluctuation in currencies and market conditions may adversely affect our business, results of operations and financial condition.

Due to the global nature of our business, we could be harmed by violations of the U.S. Foreign Corrupt Practices Act, the U.K. Bribery Act or similar anti-corruption laws in other jurisdictions in which we operate, or various international trade and export laws.

The global nature of our business creates various domestic and local regulatory challenges. The U.S. Foreign Corrupt Practices Act (the "FCPA"), the U.K. Bribery Act 2010 (the "U.K. Bribery Act"), and similar anti-corruption laws in other jurisdictions generally prohibit companies and their intermediaries from making improper payments to government officials for the purpose of obtaining or retaining business. In addition, U.S.-based companies are required to maintain records that accurately and fairly represent their transactions and have an adequate system of internal accounting controls. We operate in areas of the world that experience corruption by government officials to some degree and, in certain circumstances, compliance with anti-corruption laws may conflict with local customs and practices. Although we periodically train our employees and agents about these anti-corruption laws, we cannot assure that our training is effective in reducing the risks attendant to such anti-corruption laws. Our global operations require us to import from and export to several countries, which geographically stretches our compliance obligations. In addition, changes in such laws could result in increased regulatory requirements and compliance costs, which could harm our business, financial condition and results of operations. Our employees or other agents may engage in prohibited conduct and render us responsible under the FCPA, the U.K. Bribery Act or similar anti-corruption laws. If we are found to be in violation of the FCPA, the U.K. Bribery Act or other anti-corruption laws (either due to acts or inadvertence of our employees, or due to the acts or inadvertence of others), we could suffer criminal or civil penalties or other sanctions, which could harm our business.

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Risks Related to Our Intellectual Property

If we fail to protect our intellectual property and proprietary rights adequately, our business could be harmed.

We believe that proprietary technology is essential to establishing and maintaining our leadership position. We seek to protect our intellectual property through trade secrets, confidentiality, non-compete, non-solicitation and nondisclosure agreements, and by registering numerous patents, trademarks, copyrights, and/or domain names in various justifications, as well as using other measures, some of which afford only limited protection. We also rely on patent, trademark, trade secret and copyright laws to protect our intellectual property. Despite our efforts to protect our proprietary rights, unauthorized parties may attempt to copy aspects of our technology or to obtain and use information that we regard as proprietary. Our means of protecting our proprietary rights may not be adequate or our competitors may independently develop similar or superior technology, or design around our intellectual property. In addition, the laws of some foreign countries do not protect our proprietary rights to as great an extent as the laws of the United States. Intellectual property protections may also be unavailable, limited or difficult to obtain and enforce in some countries, which could make it easier for competitors to capture market share. Our failure or inability to adequately protect our intellectual property and proprietary rights could harm our business, financial condition and results of operations.

To prevent substantial unauthorized use of our intellectual property rights, it may be necessary to prosecute actions for infringement and/or misappropriation of our proprietary rights against third parties. Any such action could result in significant costs and diversion of our resources and management's attention, and we cannot assure that we will be successful in such action. Furthermore, many of our current and potential competitors have the ability to dedicate substantially greater resources to enforce their intellectual property rights than we do. Accordingly, despite our efforts, we may not be able to prevent third parties from infringing upon or misappropriating our intellectual property.

An assertion by a third-party that we are infringing its intellectual property could subject us to costly and time-consuming litigation and lead to expensive licenses or significant liabilities in the event of an adverse judgment.

The industries in which we compete are characterized by the existence of a large number of patents, copyrights, trademarks and trade secrets, and by frequent litigation based on allegations of infringement or other violations of intellectual property rights. We have been subject to patent litigation in the past and we may be subject to similar litigation in the future. Given that our solution integrates with almost all network aware products, the risk that our solution may be subject to these allegations is exacerbated. As we seek to extend our solutions, we could be constrained by the intellectual property rights of others, including patent holding companies.

We are defendants in legal proceedings related to intellectual property rights from time to time (a summary of current litigation and outstanding claims that if determined adversely to us, we believe would have a material adverse effect on our business, results of operations, financial condition or cash flows, if any, is set forth below in Part I Item 3, Legal Proceedings), and in the past, we have entered into settlement agreements relating to contractual claims and alleged patent infringements, which have included future royalty payments on certain products, the payment of a lump sum amount for alleged past damages, and/or the payment of a fixed amount in exchange for a covenant not to sue.

We might not prevail in any current or future intellectual property infringement litigation given the complex technical issues and inherent uncertainties in such litigation. Defending such claims, regardless of their merit, could be time-consuming and distracting to management, result in costly litigation or settlement, cause development delays or require us to enter into royalty or licensing agreements. In addition, we currently have a limited portfolio of issued patents compared to our larger competitors, and therefore may not be able to effectively utilize our intellectual property portfolio to assert defenses or counterclaims, or negotiate cross-licenses in response to patent infringement claims or litigation brought against us by third parties. Further, litigation may involve patent holding companies or other adverse patent owners who have no relevant products or revenues and against which our potential patents provide no deterrence, and many other potential litigants have the capability to dedicate substantially greater resources to enforce their intellectual property rights and to defend claims that may be brought against them. If our solutions exceed the scope of in-bound licenses or violate any third-party proprietary rights, we could be required to withdraw those solutions from the market, re-develop those solutions or seek to obtain licenses from third parties, which might not be available on reasonable terms or at all. Any efforts to re-develop our solutions, obtain licenses from third parties on favorable terms

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or license a substitute technology might not be successful and, in any case, might substantially increase our costs and harm our business, financial condition and results of operations. If we were compelled to withdraw any of our solutions from the market, our business, financial condition and results of operations could be harmed.

We are generally obligated to indemnify our independent dealers, distributors and partners for certain expenses and liabilities resulting from intellectual property infringement claims regarding our products, which could force us to incur substantial costs.

We have agreed, and expect to continue to agree, to indemnify our independent dealers, distributors and other partners for certain intellectual property infringement claims regarding our products. As a result, in the case of infringement claims against these dealers, distributors and partners, we could be required to indemnify them for losses resulting from such claims or to refund amounts they have paid to us. We expect that some of our dealers, distributors and partners may seek indemnification from us in connection with infringement claims brought against them. We evaluate each such request on a case-by-case basis and we may not succeed in refuting any such claim we believe to be unjustified. If a dealer, distributor or partner elects to invest resources in enforcing a claim for indemnification against us, we could incur significant costs disputing it. If we do not succeed in disputing it, we could face substantial liability.

The use of open source software in our solutions may expose us to additional risks and harm our intellectual property.

Some of our solutions use or incorporate software that is subject to one or more open source licenses. Open source software is typically freely accessible, usable and modifiable. Certain open source software licenses require a user who intends to distribute the open source software as a component of the user’s software to disclose publicly part or all of the source code to the user’s software. In addition, certain open source software licenses require the user of such software to make any derivative works of the open source code available to others on potentially unfavorable terms or at no cost.

The terms of many open source licenses to which we are subject have not been interpreted by U.S. or foreign courts, and accordingly there is a risk that those licenses could be construed in a manner that imposes unanticipated conditions or restrictions on our ability to commercialize our solutions. In that event, we could be required to seek licenses from third parties in order to continue offering our solutions, to re-develop our solutions, to discontinue sales of our solutions or to release our proprietary software code under the terms of an open source license, any of which could harm our business. Further, given the nature of open source software, it may be more likely that third parties might assert copyright and other intellectual property infringement claims against us based on our use of these open source software programs. Litigation could be costly for us to defend, have a negative effect on our operating results and financial condition, or require us to devote additional research and development resources to change our solutions.

We monitor the use of all open source software in our products, solutions, processes and technology, and seek to ensure that no open source software is used in such a way as to require us to disclose the source code to the related product or solution when we do not wish to do so. Despite these precautions, if a third-party software provider has incorporated certain types of open source software into software we license from such third-party for our solutions without our knowledge or if we have otherwise incorporated unfavorable open source software into our solutions, we could, under certain circumstances, be required to disclose the related source code to our solutions. This could harm our intellectual property position and our business, results of operations and financial condition.

We rely on the availability of third-party licenses. If these licenses are available to us only on less favorable terms or not at all in the future, our business and results of operations may be harmed.

We have incorporated third-party licensed technology into our products. It may be necessary in the future to renew licenses relating to various aspects of these products or to seek additional licenses for existing or new products. The necessary licenses may not be available on acceptable terms, or at all. The inability to obtain certain licenses or other rights, or to obtain those licenses or rights on favorable terms, or the need to engage in litigation regarding these matters, could result in our inability to include certain features in our products or delays in product releases until such time, if ever, as equivalent technology could be identified, licensed or developed and integrated into our products, which may

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have a material adverse effect on our business, results of operations and financial condition. Moreover, the inclusion in our products of intellectual property licensed from third parties on a nonexclusive basis could limit our ability to protect our proprietary rights in our products.

Risks Related to Owning Our Common Stock

Our share price may be volatile, which may result in securities class action litigation against us.

The market price of our common stock has been and again could be subject to wide fluctuations in response to many risk factors listed in this section, and other factors beyond our control, including but not limited to:

· Actual or anticipated fluctuations in our financial condition and results of operations;

· Overall conditions in our industry and market;

· Addition or loss of independent dealers, distributors or consumers;

· Changes in laws or regulations applicable to our solutions;

· Actual or anticipated changes in our growth rate relative to our competitors;

· Announcements by us or our competitors of significant acquisitions, strategic partnerships, joint ventures or capital commitments;

· Additions or departures of key personnel;

· Competition from existing products or new products that may emerge;

· Issuance of new or updated research or reports by securities analysts, activist investors and those who short our stock;

· Fluctuations in the valuation of companies perceived by investors to be comparable to us;

- Disputes or other developments related to proprietary rights, including patents, litigation matters and our ability to obtain intellectual property protection for our technologies;

- Trading of our common stock by us or our stockholders, or issuance of new shares;

- Share price and volume fluctuations attributable to inconsistent trading volume levels of our shares; and

- General economic, geopolitical and market conditions.

Furthermore, the stock markets have experienced extreme price and volume fluctuations that have affected and continue to affect the market prices of equity securities of many companies. These fluctuations often have been unrelated or disproportionate to the operating performance of those companies. These broad market and industry fluctuations, as well as general economic, geopolitical and market conditions such as recessions, interest rate changes or international currency and capital markets fluctuation, may harm the market price of our common stock. In the past, companies that have experienced volatility in the market price of their stock have been subject to securities class action litigation. We may be the target of this type of litigation in the future. Securities litigation against us could result in substantial costs and divert our management's attention from other business concerns, which could harm our business.

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If securities or industry analysts do not publish research or reports about our business, or publish negative reports about our business, our share price and trading volume could decline.

The trading market for our common stock depends in part on the research and reports that securities or industry analysts publish about our business. We do not have any control over these analysts, activist investors, or those who short our stock. If one or more of the foregoing analysts who cover us, activist investors, or those who short our stock downgrade our shares, change their opinion of our shares, or publish negative or false reports for their own purposes, our share price will likely decline. If one or more of these analysts cease coverage of our company or fail to regularly publish research or reports on us, we could lose visibility in the financial markets, which could cause our stock price or trading volume to decline.

The concentration of ownership of our capital stock limits your ability to influence corporate matters.

As of December 31, 2016, our directors, executive officers and holders of more than 5% of our common stock, together with their affiliates, beneficially own, in the aggregate, 31% of our outstanding common stock. As a result, these stockholders, acting together, would have the ability to significantly influence the outcome of matters submitted to our stockholders for approval, including the election of directors and any merger, consolidation or sale of all or substantially all of our assets. In addition, these stockholders, acting together, control most matters related to the management and affairs of our company. Accordingly, this concentration of ownership might harm the market price of our common stock by:

- Delaying, deferring or preventing a change in corporate control;
- Impeding a merger, consolidation, takeover or other business combination involving us; or
- Discouraging a potential acquirer from making a tender offer or otherwise attempting to obtain control of us.

Anti-takeover provisions in our charter documents and under Delaware law could make an acquisition of us, which may be beneficial to our stockholders, more difficult and may prevent attempts by our stockholders to replace or remove our current management and limit the market price of our common stock.

Provisions in our amended and restated certificate of incorporation and amended and restated bylaws may have the effect of delaying or preventing a change of control or changes in our management. Our amended and restated certificate of incorporation and amended and restated include provisions that:

- Authorize our board of directors to issue, without further action by the stockholders, up to 25,000,000 shares of undesignated preferred stock;

- Require that any action to be taken by our stockholders be effected at a duly called annual or special meeting and not by written consent;

- Specify that special meetings of our stockholders can be called only by our board of directors, the Chairman of the Board, the Chief Executive Officer or the President;

- Establish an advance notice procedure for stockholder approvals to be brought before an annual meeting of our stockholders, including proposed nominations of persons for election to our board of directors;

- Provide that directors may be removed only for cause;

- Provide that vacancies on our board of directors may be filled only by a majority of directors then in office, even though less than a quorum;

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- Establish that our board of directors is divided into three classes—Class I, Class II and Class III—with each class serving staggered terms; and

- Require a super-majority of votes to amend certain of the above-mentioned provisions.

These provisions, alone or together, could delay or prevent hostile takeovers and changes in control. These provisions may also frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors, which is responsible for appointing the members of our management.

As a Delaware corporation, we are also subject to provisions of Delaware law, including Section 203 of the Delaware General Corporation law, which prevents some stockholders holding more than 15% of our outstanding common stock from engaging in certain business combinations without approval of the holders of substantially all of our outstanding common stock.

Any provision of our certificate of incorporation or bylaws or Delaware law that has the effect of delaying or deterring a change of control could limit the opportunity for our stockholders to receive a premium for their shares of our common stock, and could also affect the price that some investors are willing to pay for our common stock.

ITEM 1B. Unresolved Staff Comments

None.

ITEM 2. Properties

Our corporate headquarters are located in Salt Lake City, Utah, where we lease approximately 85,000 square feet of commercial space under a lease that expires on June 30, 2018. We use this space for sales, research and development, dealer and distributor service and support, and administrative purposes. We also lease approximately 60,000 square feet of warehouse space in Salt Lake City, Utah under a lease that expires on March 31, 2019.

In connection with our sales efforts in the United States and abroad, we lease office space typically on a short-term renewable basis domestically in San Jose, California; Charlotte, North Carolina and Chicago, Illinois, and internationally in York, United Kingdom; Shanghai, China; Bangalore, India; Melbourne, Australia; Frankfurt, Germany; and New Belgrade, Serbia. Furthermore, in connection with the acquisition of Pakedge in January 2016, we have added office space in Huntington Beach and Hayward, California, under short-term, renewable leases.

We believe that our facilities are suitable to meet our current needs. We intend to expand our existing facilities or add new facilities as we add employees and enter new geographic markets, and we believe that suitable additional or alternative space will be available as needed to accommodate any such growth. However, we expect to incur additional expenses in connection with such new or expanded facilities.

ITEM 3. Legal Proceedings

From time to time, we may become involved in legal proceedings arising in the ordinary course of our business. We are not presently a party to any legal proceeding that, if determined adversely to us, we believe would individually or in the aggregate have a material adverse effect on our business, results of operations, financial condition or cash flows.

ITEM 4. Mine Safety Disclosures

Not applicable.

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PART II.

ITEM 5. Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Market Information

Our common stock has been listed on the NASDAQ Global Select Market under the symbol “CTRL” since August 2, 2013. Prior to that time, there was no public market for our common stock.

Price Range of Common Stock

The price range per share of common stock presented below represents the highest and lowest closing prices for our common stock on the NASDAQ Global Select Market during each quarter since our initial public offering. On February 10, 2017, the last reported sale price for our common stock on the NASDAQ Global Select Market was $13.93 per share.

2016	High	Low
Fourth Quarter	$ 12.28	$ 9.98
Third Quarter	$ 12.28	$ 8.03
Second Quarter	$ 8.50	$ 7.13
First Quarter	$ 9.07	$ 5.67

2015	High	Low
Fourth Quarter	$ 9.40	$ 6.33
Third Quarter	$ 9.11	$ 7.34
Second Quarter	$ 12.90	$ 8.89
First Quarter	$ 16.40	$ 11.74

Holders of Record

As of February 10, 2017, there were 21 holders of record of our common stock. The actual number of stockholders is greater than this number of holders of record, and includes stockholders who are beneficial owners, but whose shares are held in street name by brokers and other nominees. This number of holders of record also does not include stockholders whose shares may be held in trust by other entities.

Stock Performance Graph and Cumulative Total Return

Notwithstanding any statement to the contrary in any of our previous or future filings with the SEC, the following information relating to the price performance of our common stock shall not be deemed to be “filed” with the SEC or to be “soliciting material” under the Securities Exchange Act of 1934, as amended, or the Exchange Act, and it shall not be deemed to be incorporated by reference into any of our filings under the Securities Act or the Exchange Act, except to the extent we specifically incorporate it by reference into such filing.

The following graph shows a comparison from August 2, 2013 (the date our common stock commenced trading on the NASDAQ Global Select Market) through December 31, 2016 of the total cumulative return of our common stock with the total cumulative return of the S&P 500 Index and S&P 500 Information Technology Sector Index. The comparisons in this graph below are based on historical data and are not intended to forecast or be indicative of future performance of our common stock.

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The comparison assumes that $100.00 was invested in our common stock, the S&P 500 Index and S&P 500 Information Technology Sector Index, and assumes reinvestment of dividends, if any. The graph assumes the initial value of our common stock on August 2, 2013 was the closing sale price on that day of $20.05 per share and not the initial offering price to the public of $16.00 per share. The performance shown on the graph below is based on historical results and is not intended to suggest future performance.

Dividend Policy

We have never declared or paid any cash dividends on our common stock and do not intend to pay any cash dividends in the foreseeable future. We anticipate that we will retain all of our future earnings for use in the operation of our business and for general corporate purposes. Any determination to pay dividends in the future will be at the discretion of our Board of Directors. Accordingly, investors must rely on sales of their common stock after price appreciation, which may never occur, as the only way to realize any future gains on their investments.

Unregistered Sale of Equity Securities

None.

Issuer Purchases of Equity Securities

In May 2015, our Board of Directors authorized the repurchase of up to $20 million in Control4 common stock from time to time on the open market. In February 2017, our Board of Directors authorized an extension to this repurchase program to May 31, 2018, or when terminated earlier. Any shares repurchased will be in compliance with applicable legal requirements, at prices determined to be attractive and in the best interests of both the company and its stockholders. During the fiscal 2016 fourth quarter ended December 31, 2016, we did not repurchase any outstanding common stock under the share repurchase program. All shares of common stock held in treasury were retired as of December 31, 2016.

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Use of Proceeds from Public Offering of Common Stock

On August 7, 2013, we closed our initial public offering (“IPO”), in which we sold 4,600,000 shares of common stock at a price to the public of $16.00 per share. The offer and sale of all of the shares in the IPO were registered under the Securities Act pursuant to a registration statement on Form S-1 (File No. 333-189736), which was declared effective by the SEC on August 1, 2013. We raised $65.6 million in net proceeds after deducting underwriting discounts and commissions of $5.2 million and offering expenses of $2.8 million. No payments were made by us to directors, officers or persons owning ten percent or more of our common stock or to their associates, or to our affiliates, other than payments in the ordinary course of business to officers for salaries. There has been no material change in the planned use of proceeds from our IPO as described in our final prospectus filed with the SEC on August 2, 2013 pursuant to Rule 424(b). We invested the funds received in accordance with our board approved investment policy. The managing underwriters of our IPO were Merrill Lynch, Pierce, Fenner & Smith Incorporated and Raymond James & Associates, Inc.

Securities Authorized for Issuance under Equity Compensation Plans

See Part III, Item 12 of this Form 10-K for disclosure relating to our equity compensation plans. Such information will be included in our proxy statement relating to our 2017 annual meeting of stockholders, which is incorporated herein by reference.

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ITEM 6. Selected Financial Data

We have derived the selected consolidated statements of operations data for the years ended December 31, 2016, 2015 and 2014 and the selected consolidated balance sheet data as of December 31, 2016 and 2015 from our audited consolidated financial statements and related notes included elsewhere in this Form 10-K. We have derived the selected consolidated statements of operations data for the years ended December 31, 2013 and 2012 and the selected consolidated balance sheet data as of December 31, 2014, 2013 and 2012 from our audited consolidated financial statements not included in this Form 10-K. The following selected consolidated financial data should be read in conjunction with “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and our consolidated financial statements and related notes included elsewhere in this Form 10-K. Our historical results are not necessarily indicative of the results to be expected for any future period and the results for any interim period are not necessarily indicative of the results to be expected in the full year.

	Years Ended December 31,				
	2016	2015	2014	2013	2012
	(In thousands, except per share data)				
Consolidated Statements of Operations Data:					
Revenue	$ 208,802	$ 163,179	$ 148,800	$ 128,511	$ 109,512
Cost of revenue	105,123	81,645	72,443	64,234	57,225
Cost of revenue—inventory purchase commitment	—	—	—	(380)	1,840
Gross margin	103,679	81,534	76,357	64,657	50,447
Operating expenses:					
Research and development	35,985	32,385	27,365	24,979	20,310
Sales and marketing	42,198	32,594	25,887	21,975	20,182
General and administrative	20,309	17,355	14,195	12,329	10,150
Litigation settlement	475	21	47	440	2,869
Total operating expenses	98,967	82,355	67,494	59,723	53,511
Income (loss) from operations	4,712	(821)	8,863	4,934	(3,064)
Interest and other expense, net	(542)	(563)	(296)	(1,183)	(518)
Income (loss) before income taxes	4,170	(1,384)	8,567	3,751	(3,582)
Income tax expense (benefit)	(8,784)	268	411	248	141
Net income (loss)	$ 12,954	$ (1,652)	$ 8,156	$ 3,503	$ (3,723)
Net income (loss) per common share:					
Basic	$ 0.55	$ (0.07)	$ 0.34	$ 0.33	$ (1.58)
Diluted	$ 0.53	$ (0.07)	$ 0.32	$ 0.16	$ (1.58)

Non-GAAP Financial Measures

In addition to our GAAP operating results, we use certain non-GAAP financial measures to understand and evaluate our operating performance and trends, to prepare and approve our annual budget, and to develop short- and long-term operational plans. These measures, which we refer to as our non-GAAP financial measures, are not prepared in accordance with generally accepted accounting principles in the United States. Non-GAAP gross margin, non-GAAP income from operations, non-GAAP net income, and non-GAAP net income per share exclude non-cash expenses related to stock-based compensation, amortization of intangible assets, acquisition-related costs, as well as gains or losses on inventory purchase commitments. We further exclude expenses related to litigation settlements and executive severance from non-GAAP income from operations and non-GAAP net income as well as expenses related to stock warrants from non-GAAP net income.

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Management believes that it is useful to exclude non-cash stock-based compensation expense because the amount of such expense in any specific period may not directly correlate to the underlying performance of our business operations. We believe it is useful to exclude gains or losses on inventory purchase commitments because it is income or expense that arose from our commitment to purchase energy-related products from our contract manufacturing partner that we will not use due to our decision to discontinue our energy product line for utility customers. We have not recognized that type of income or expense in periods other than 2013 and 2012, and we believe that past and future periods are more comparable if we exclude that income or expense.

We exclude the amortization of acquired intangible assets from non-GAAP measures. These amounts are inconsistent in amount and frequency and are significantly impacted by the timing and size of acquisitions. Providing a supplemental measure that excludes these charges allows management and investors to evaluate results “as-if” the acquired intangible assets had been developed internally rather than acquired. Although we exclude amortization of acquired intangible assets from non-GAAP measures, we believe that it is important for investors to understand that such intangible assets contribute to revenue generation. Amortization of intangible assets that relate to past acquisitions will recur in future periods until such intangible assets have been fully amortized. Future acquisitions may result in the amortization of additional intangible assets.

We have recently completed acquisitions which resulted in operating expenses that would not have otherwise been incurred. Management has provided supplementary non-GAAP financial measures, which exclude acquisition-related expense items resulting from acquisitions, to allow more accurate comparisons of the financial results to historical operations, forward-looking guidance and the financial results of less acquisitive peer companies. Management considers these types of costs and adjustments, to a great extent, to be unpredictable and dependent on a significant number of factors that are outside of our control. Furthermore, we do not consider these acquisition-related costs and adjustments to be related to the organic continuing operations of the acquired businesses and are generally not relevant to assessing or estimating the long-term performance of the acquired assets. In addition, the size, complexity and/or volume of past acquisitions, which often drives the magnitude of acquisition-related costs, may not be indicative of the size, complexity and/or volume of future acquisitions. By excluding acquisition-related costs and adjustments from our non-GAAP measures, management is better able to evaluate our ability to utilize its existing assets and estimate the long-term value that acquired assets will generate for us. We believe that providing a supplemental non-GAAP measure which excludes these items allows management and investors to consider the ongoing operations of the business both with, and without, such expenses.

These acquisition-related costs are included in the following categories: (i) professional service fees, recorded in operating expenses, which include third party costs related to the acquisition, and legal and other professional service fees associated with diligence, entity formation and corporate structuring, disputes and regulatory matters related to acquired entities, (ii) transition and integration costs, recorded in operating expenses, which include retention payments, transitional employee costs, earn-out payments treated as compensation expense, as well as the costs of integration-related services provided by third parties, and (iii) acquisition-related adjustments which include adjustments to acquisition-related items such as being required to record inventory at its fair value, resulting in a step-up in the inventory value, and having to reverse part of our valuation allowance in order to offset the deferred tax liability that was recorded based on differences between the book and tax basis of assets acquired and liabilities assumed. The step-up in inventory is recorded through cost of goods sold when the inventory is sold, resulting in a negative impact to our gross margin. Although these expenses are not recurring with respect to past acquisitions, we will generally incur these types of expenses in connection with any future acquisitions.

Furthermore, we believe it is useful to exclude expenses related to litigation settlements, stock warrants, and executive severance because of the variable and unpredictable nature of these expenses which are not indicative of past or future operating performance. We believe that past and future periods are more comparable if we exclude those expenses.

We believe these adjustments provide useful comparative information to investors. Non-GAAP results are presented for supplemental informational purposes only for understanding our operating results. The non-GAAP results should not be considered a substitute for financial information presented in accordance with generally accepted accounting principles, and may be different from non-GAAP measures used by other companies. Our non-GAAP financial measures may not provide information that is directly comparable to that provided by other companies in our industry, as other companies in our industry

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may calculate non-GAAP financial results differently, particularly related to non-recurring, unusual items. We urge our investors to review the reconciliation of our non-GAAP financial measures to the comparable GAAP financial measures included below, and not to rely on any single financial measure to evaluate our business.

Years Ended December 31,			
2016	2015	(25,211)	$ 29,326

Intangible assets consist of definite-lived and indefinite-lived assets. Definite-lived intangible assets include customer relationships, patents, unpatented technology and non-compete agreements. Amortization expense of definite-lived intangible assets during the three months ended September 30, 2018 and 2017 was $1.4 million and $1.5 million, respectively, and was $4.0 million and $4.7 million, during the nine months ended September 30, 2018 and 2017, respectively. The only indefinite-lived intangible asset, consisting of a trade name, totaled $0.6 million at September 30, 2018.

At September 30, 2018, the estimated future amortization of definite-lived intangible assets was as follows:
(in thousands)

Remaining three months of 2018	$1,321
2019	5,278
2020	5,248
2021	4,768
2022	2,886
2023	2,082
Thereafter	3,258
	$24,841

The changes in the carrying amount of goodwill and intangible assets for the nine months ended September 30, 2018, were as follows:

(in thousands)	Goodwill	Intangible Assets
Balance at December 31, 2017	$137,140	$29,326
Reclassifications	—	220
Amortization	—	(3,981)
Foreign exchange	(681)	(108)
Balance at September 30, 2018	$136,459	$25,457

9. Debt

Credit Facilities

The Company has revolving lines of credit with various banks in the United States and Europe. Total available credit at September 30, 2018, was $304.1 million including revolving credit lines and an irrevocable standby letter of credit in support of various insurance deductibles. The Company had no outstanding debt balance as of September 30, 2018 and 2017, and December 31, 2017, respectively. The Company was in compliance with its financial covenants at September 30, 2018.

10. Commitments and Contingencies

Litigation

From time to time, the Company is involved in various legal proceedings and other matters arising in the normal course of business. Corrosion, hydrogen embrittlement, cracking, material hardness, wood pressure-treating chemicals, misinstallations, misuse, design and assembly flaws, manufacturing defects, labeling defects, product formula defects, inaccurate chemical mixes, adulteration, environmental conditions, or other factors can contribute to failure of fasteners, connectors, anchors, adhesives, specialty chemicals, such as fiber reinforced polymers, and tool products. In addition, inaccuracies may occur in product information, descriptions and instructions found in catalogs, packaging, data sheets, and the Company's website.

As of the date of this Quarterly Report on Form 10-Q, the Company is not a party to any legal proceedings, which the Company expects individually or in the aggregate to have a material adverse effect on the Company's financial condition, cash flows or results of operations. Nonetheless, the resolution of any claim or litigation is subject to inherent uncertainty and could have a material adverse effect on the Company's financial condition, cash flows or results of operations.

Gentry Homes, Ltd. v. Simpson Strong-Tie Company, Inc., et al., Case No. 17-cv-00566, was filed in federal district court in Hawaii against Simpson Strong-Tie Company, Inc. and Simpson Manufacturing, Inc. on November 20, 2017. The Gentry case is a product of a previous state court class action, Nishimura v. Gentry Homes, Ltd., et al. which is now closed. The Nishimura case concerned alleged corrosion of the Company’s galvanized strap-tie holdowns and mudsill anchor products used in a residential project in Honolulu, Hawaii, Ewa by Gentry. In the Nishimura case, the plaintiff homeowners and the developer, Gentry, arbitrated their dispute and agreed on a settlement in the amount of $90 million, with $54 million going to repair costs and $36 million going to attorney's fees. In the Gentry case, Gentry alleges breach of warranty and negligent misrepresentation related to the Company’s “hurricane strap” and mudsill anchor products. Gentry is demanding general, special, and consequential damages from the Company in an amount to be proven at trial. Gentry also seeks pre-judgment and post-judgment interest, attorneys’ fees and costs, and other relief. The Company admits no liability and will vigorously defend the claims bought against it. At this time, the Company cannot reasonably ascertain the likelihood that it will be found responsible for substantial damages to Gentry. Based on the facts currently known, and subject to future events and circumstances, the Company believes that all or part of the claims may be covered by its insurance policies.

Potential Third-Party Claims

Charles Vitale, et al. v. D.R. Horton, Inc. and D.R. Horton-Schuler Homes, LLC, Civil No. 15-1-1347-07, a putative class action lawsuit, was filed in the Hawaii First Circuit on July 13, 2015, in which homeowner plaintiffs allege that all homes built by D.R Horton/D.R. Horton-Schuler Homes (collectively "Horton Homes") in the State of Hawaii have strap-tie holdowns that are suffering premature corrosion. The complaint alleges that various manufacturers make strap-tie holdowns that suffer from such corrosion, but does not identify the Company’s products specifically. The court has denied a motion for statewide class certification.
The Company is not currently a party to the Vitale lawsuit, but the lawsuit in the future could potentially involve the Company’s strap-tie holdowns.

If claims are asserted against the Company in the Vitale case, it will vigorously defend any such claims, whether brought by the plaintiff homeowners, or third party claims by Horton Homes. Based on facts currently known to the Company and subject to future events and circumstances, the Company believes that all or part of any claims that any party might seek to allege against it related to the Vitale case may be covered by its insurance policies.

Given the nature and the complexities involved in the Vitale proceeding the Company is unable to estimate reasonably a likelihood of possible loss or range of possible loss until the Company knows, among other factors, (i) whether it will be named in the lawsuit by any party; (ii) the specific claims and the legal theories on which they are based (iii) what claims, if any, might be dismissed without trial, (iv) the extent of the claims, including the size of any potential class, particularly as damages are not specified or are indeterminate, (v) how the discovery process will affect the litigation, (vi) the settlement posture of the other parties to the litigation, (vii) the extent to which the Company’s insurance policies will cover the claims or any part thereof, if at all, (viii) whether class treatment is appropriate; and (ix) any other factors that may have a material effect on the litigation.

While it is not feasible to predict the outcome of proceedings to which the Company is not currently a party, or reasonably estimate a possible loss or range of possible loss for the Company related to such matters, in the opinion of the Company, either the likelihood of loss from such proceedings is remote or any reasonably possible loss associated with the resolution of such proceedings is not expected to be material to the Company’s financial position, results of operations or cash flows either individually or in the aggregate. Nonetheless, the resolution of any claim or litigation is subject to inherent uncertainty and could have a material adverse effect on the Company’s financial condition, cash flows or results of operations.

11. Segment Information

The Company is organized into three reportable segments, which are defined by the regions where the Company’s products are manufactured, marketed and distributed to the Company’s customers. The three regional segments are the

North America segment, comprising primarily the United States and Canada; the Europe segment, comprising continental Europe and the United Kingdom; and the Asia/Pacific segment, comprising the Company’s operations in China, Hong Kong, the South Pacific and the Middle East. The Company's China and Hong Kong operations are manufacturing and administrative support locations, respectively. These three reportable segments are similar in several ways, including the types of materials used in production, production processes, distribution channels and product applications. The Company’s measure of profit or loss for its reportable segments is income (loss) from operations.

The following tables illustrate certain measurements used by management to assess the performance of its reportable segments as of or for the following periods:

(in thousands)	Three Months Ended September 30, 2018	2017	Nine Months Ended September 30, 2018	2017
Net Sales				
North America	$239,898	$213,254	$705,932	$612,765
Europe	42,020	47,137	124,096	126,752
Asia/Pacific	2,260	2,085	6,936	5,828
Total	$284,178	$262,476	$836,964	$745,345
Sales to Other Segments*				
North America	$683	$625	$1,889	$2,403
Europe	140	175	740	424
Asia/Pacific	7,586	4,088	20,907	14,657
Total	$8,409	$4,888	$23,536	$17,484
Income (Loss) from Operations				
North America	$56,873	$41,775	$151,323	$110,521
Europe	3,584	5,139	4,783	7,443
Asia/Pacific	1,132	(218)	1,826	(341)
Administrative and all other	(667)	—	(3,470)	(3,160)
Total	$60,922	$46,696	$154,462	$114,463

* Sales to other segments are eliminated in consolidation.

(in thousands)	At September 30, 2018	2017	At December 31, 2017
Total Assets			
North America	$1,080,910	$946,180	$953,033
Europe	208,888	211,083	208,640
Asia/Pacific	28,448	26,006	26,820
Administrative and all other	(223,633)	(114,886)	(150,970)
Total	$1,094,613	$1,068,383	$1,037,523

Cash collected by the Company’s United States subsidiaries is routinely transferred into the Company’s cash management accounts and, therefore, has been included in the total assets of “Administrative and all other.” Cash and cash equivalent balances in the “Administrative and all other” segment were $87.5 million, $116.0 million, and $80.2 million, as of September 30, 2018 and 2017, and December 31, 2017, respectively. Total "Administrative and all other" assets are net of inter-segment due to and from accounts eliminated in consolidation.

While the Company manages its business by geographic segment, the following table illustrates the distribution of the Company’s net sales by product group as additional information for the following periods:

(in thousands)	Three Months Ended September 30, 2018	2017	Nine Months Ended September 30, 2018	2017
Wood construction products	$238,230	$224,317	$710,880	$639,207
Concrete construction products	45,832	38,051	125,847	105,785
Other	116	108	237	353
Total	$284,178	$262,476	$836,964	$745,345

Wood construction products include connectors, truss plates, fastening systems, fasteners and pre-fabricated shearwalls, and are used for connecting and strengthening wood-based construction primarily in the residential construction market. Concrete construction products include adhesives, chemicals, mechanical anchors, carbide drill bits, powder actuated tools and fiber reinforcing materials, and are used for restoration, protection or strengthening concrete, masonry and steel construction in residential, industrial, commercial and infrastructure construction.

The Company's largest customer, attributable mostly to the North America segment, accounted for 10.5% of net sales for nine months ending September 30, 2018. No customer accounted for as much as 10% of net sales for the three months ended September 30, 2018 or the three months and nine months ended September 30, 2017.

12. Subsequent Events

Dividend Declaration

In October 2018, the Company's Board of Directors declared a quarterly cash dividend of $0.22 per share, estimated to be $10.0 million in total. The dividend will be payable on January 24, 2019, to stockholders of record on January 3, 2019.

Share Repurchases

From October 1, 2018 to October 29, 2018, the Company repurchased an additional 528,100 shares of the Company's common stock in the open market at an average price of $68.26 per share, for a total of $36.0 million. As a result, as of October 29, 2018, approximately $65.4 million remained available for share repurchase through December 31, 2018 under the Company's previously announced $275.0 million share repurchase authorization.

Item 2. Management’s Discussion and Analysis of Financial Condition and Results of Operations.

The following is a discussion and analysis of the consolidated financial condition and results of operations for the Company for the three months and nine months ended September 30, 2018. The following discussion and analysis should be read in conjunction with the interim Condensed Consolidated Financial Statements and related Notes included in Part I, Item 1, "Financial Statements” of this Quarterly Report on Form 10-Q. The following discussion and analysis contain forward-looking statements that reflect our plans, estimates, and beliefs as discussed in the “Note About Forward-Looking Statements” at the beginning of this Quarterly Report on Form 10-Q. Our actual results could differ materially from those plans, estimates, and beliefs. Factors that could cause or contribute to these differences include those discussed below and elsewhere in this Quarterly Report on Form 10-Q as well as the factors discussed in Part I, Item 1A, “Risk Factors” in our Annual Report on Form 10-K for the year ended December 31, 2017.

Business Overview

We design, manufacture and sell building construction products that are of high quality and performance, easy to use and cost-effective for customers. We operate in three business segments determined by geographic region: North America, Europe and Asia/Pacific.

Our primary business strategy is to grow through increasing our market share and profitability in Europe; growing our share in the truss and concrete spaces; and continuing to build a software platform to support our core wood products offering while leveraging our strengths in engineering, sales and distribution, and our strong brand name. We believe these initiatives and objectives are crucial to not only offer a more complete solution to our customers and bolster our sales of core wood connector products, but also to mitigate the cyclicality of the U.S. housing market.

On October 30, 2017, we announced the 2020 Plan to provide additional transparency into our strategic plan and financial objectives. We remain on track to substantially achieve our aggressive financial targets under the 2020 Plan, assuming that (i) there are mid-single digit growth in U.S. housing starts and in the repair and remodel market, (ii) we can increase our market share and profitability in Europe, and (iii) we can gain market share for both our truss and concrete product offerings. Subject to future events and circumstances, our 2020 Plan is centered on three key aggressive operational objectives as further described below.

- First, a continued focus on organic growth with a goal to achieve a net sales compound annual growth rate of approximately 8% (from $860.7 million reported in fiscal 2016) through fiscal 2020.
- Second, rationalizing our cost structure to improve company-wide profitability by reducing total operating expenses as a percentage of net sales from 31.8% in fiscal 2016 to a range of 26.0% to 27.0% by fiscal 2020. We expect to achieve this initiative, aside from top-line growth, through cost reduction measures in Europe and our concrete product line, zero-based budgeting for certain expense categories and a commitment to remaining headcount neutral (except in the production and sales departments to meet demands from sales growth). Offsetting these reductions will be the Company’s ongoing investment in its software initiatives as well as the expenses associated with our ongoing SAP implementation.
- Third, improving our working capital management and overall balance sheet discipline primarily through the reduction of inventory levels by aggressively eliminating 25 to 30% of the Company’s product SKUs as well as implementing Lean principles in many factories. With these efforts, we believe we could achieve an additional 30% reduction of our raw materials and finished goods inventory through 2020 without impacting day-to-day production and shipping procedures.

Many of our key operating initiatives stem from the 2020 Plan, including those focused on rationalizing our cost structure to drive improved profitability without sacrificing our competitive edge, on growing our market share and on improving our technologies and systems to provide best-in-class services to our customers.

Operating expenses as a percentage of net sales were 25.7% and 27.7% for the quarters ended September 30, 2018 and 2017, respectively and 27.2% and 30.5% for the nine months ended September 30, 2018 and 2017, respectively. Based on our current efforts, we believe operating expenses as a percentage of net sales for the full year 2018 will be in the mid-28% range. This will be approximately 2% to 3% above our operating expenses for the year ending December 31, 2017, which is due to increased sales and sales agent commissions on increased sales volumes, severance expenses, other professional fees and SAP implementation expenses. In addition to these efforts, we hired a leading management consultant to perform an independent in-depth analysis of our operations, which could potentially result in initiatives that reduce expenses beyond the 2020 Plan as well as improvements to net working capital. We will incur additional consulting expenses in 2018 and 2019 due to these initiatives, which we expect will have a one-year or less pay back. We believe our efforts to achieve the 2020 Plan will contribute to improved business performance and operating results, improve returns on invested capital and allow us to be more aggressive in repurchasing shares of our stock in the near-term. Through execution on the 2020 Plan, we expect by the end of fiscal year 2020 to achieve a return on invested capital (1) target within the range of 17% to 18% from 10.5% in 2016.

We believe our ability to achieve industry-leading margins from a gross profit and operating income standpoint is due to the high level of value-added services that we provide to our customers. Aside from our strong brand recognition and trusted reputation, Simpson is unique due to our extensive product testing capabilities and our state-of-the-art test lab; strong customer support and education for engineers, builders and contractors; deep 40-plus year relationships with engineers that get our products specified on the blueprint and pulled through to the job site; product availability with delivery in typically 24 hours to 48 hours; and an active involvement with code officials to improve building codes and construction practices. Based on current information, we expect the competitive environment to be relatively stable. We also expect U.S. single-family housing starts to continue to grow as a percentage in the mid to high single digits on average through fiscal year 2020, which should support a sustainable organic revenue growth outlook in North America for many of our products.

We have invested in our strategic initiative to sell engineered product solutions, to help us perform throughout all industry cycles, which we estimate supports approximately 40% of our connector and truss plate sales. In support of this effort, we acquired CG Visions, Inc. (“CG Visions”) in 2017, and completed our purchase of the LotSpec software asset and entered into a strategic software partnership with Hyphen Solutions ("Hyphen"), in 2018.

The LotSpec software asset is a suite of software applications that facilitate builders’ abilities to complete complex designs and do full take-offs in collaboration with our CG Visions software. Hyphen offers integrated information exchange between its software and our existing CG Visions' take-off platform to more efficiently create detailed plan estimates, designs and production specifications to automatically flow through to purchasing systems. We believe that the LotSpec software purchase and the Hyphen strategic partnership align well with our strategy to continue strengthening our value proposition by being the industry's trusted partner in construction solutions and building systems software.

While acquisitions were part of a dual-fold approach to growth in the past, our go-forward strategy will primarily focus on organic growth, supported by strategic capital investments in the business. As such, we will de-emphasize acquisitions activities going forward, especially in the concrete repair space. An exception may occur if the right opportunity were to arise in other areas of our business, such as in our core fastener space, which is the particular area where we believe it would be beneficial to gain additional production capacity to support our wood business or to enhance our wood and concrete product portfolio with additional value–added products.

Factors Affecting Our Results of Operations

Unlike lumber or other products that have a more direct correlation to housing starts, our products are used to a greater extent in areas that are subject to natural forces, such as seismic or wind events. Our products are generally used in a sequential process that follows the construction process. Residential and commercial construction begins with the foundation, followed by the wall and the roof systems, and then the installation of our products, which flow into a project or a house according to these schedules.

Our sales also tend to be seasonal, with operating results varying from quarter to quarter. With some exceptions, our sales and income have historically been lower in the first and fourth quarters than in the second and third quarters of a fiscal year, as our customers tend to purchase construction materials in the late spring and summer months for the construction season. In addition, weather conditions, such as extended cold or wet weather, which affect and sometimes delay installation of some of our products, could negatively affect our results of operations. Political and economic events, such as tariffs and other trade barriers, can also affect our sales, raw material costs and profitability.

ERP Integration

In July 2016, our Board of Directors (the "Board") approved a plan to replace our current in-house enterprise resource planning ("ERP") and externally sourced accounting platforms with a fully integrated ERP platform from SAP America, Inc. ("SAP") in multiple phases by location over a period of four years at all facilities plus our headquarters, with a focus on configuring, instead of customizing, the standard SAP modules.

We went live with our first wave of the SAP implementation project in February of 2018. The first wave of the SAP implementation has taken longer than expected to stabilize. As a result, we now believe the SAP implementation will be completed by the end of 2021. We anticipate the costs to implement SAP will increase approximately 15% to $38 million to $40 million through 2021, including capital expenditures. Annual operating expenses will increase from 2017 to 2024 as a result of the ERP project, partly due to the amortization of related capitalized costs. As of September 30, 2018, we have capitalized $15.7 million and expensed $10.5 million of the costs associated with the ERP project. During 2018, we have been spending more time and resources on training our staff on the new platform, as opposed to configuring the SAP modules, and have recorded the cost associated with such training as expense. For 2018, we incurred approximately $1.0 million more costs than anticipated and revised our estimated 2018 ERP project costs to be approximately $9 to $10 million, including the amortization of capitalized SAP costs.

Business Segment Information

Our North America segment has generated revenues primarily from wood construction products compared to concrete construction products. Due to improved economic conditions, net sales in regions of the segment have trended up, including increases in housing starts, particularly in the north-western, south-western and south-eastern regions of the United States. Net sales in the third quarter of 2018 increased 12.5% compared to the third quarter of 2017, primarily due to increased sales volumes on improved economic conditions. Our concrete construction product sales increased 28.6% in the third quarter of 2018 mostly due to increased sales volumes and unit sales prices. Our truss sales increased in the third quarter of 2018 due to increased sales volumes from customer conversions and unit sales prices. Our truss specialists are focusing on converting medium size truss customers to our design and management software in 2018, while continuing to support our smaller truss customers. To improve truss plate gross profit margins, we've relocated our truss manufacturing into our wood connector plants, which will increase efficiency and plant utilization in the wood connector plants.

In late 2016, we collaborated with The Home Depot, Inc. (“The Home Depot”) to make available our mechanical anchor line of products at The Home Depot. This collaboration increased a portion of our finished goods inventory and we expect to continue to introduce our mechanical anchor line of products through approximately 1,900 of The Home Depot store locations by 2020. As of September 30, 2018, the product line had rolled out to 345 The Home Depot locations. The roll-out is occurring a much slower rate than expected due to space restrictions at The Home Depot stores. This slower roll-out; however, is not expected to affect our 2020 Plan target for compound annual sales growth. See “North America” below.

Our Europe segment generates more revenues from wood construction products than concrete construction products. Wood construction product sales decreased 14.7% in the third quarter 2018 compared to the third quarter of 2017. Third quarter 2017 net sales included $5.3 million of net sales provided by Gbo Fastening Systems' Poland and Romania, both of which were sold during the latter part of 2017. Concrete construction product sales are mostly project based, and net sales increased slightly in the third quarter of 2018 compared to the third quarter of 2017, primarily due to increased sales volumes. By the end of 2018, our Western European locations are expected to introduce a complete line of Gbo fastener products to its customers, which partially replaced third-party suppliers and improved related profit margins. Operating expenses decreased in the third quarter of 2018 compared to the third quarter of 2017, primarily due to the sale of Gbo Fastening Systems' Poland and Romania subsidiaries. See “Europe” below.

Our Asia/Pacific segment has generated revenues from both wood and concrete construction products. We believe that the Asia/Pacific segment is not significant to our overall performance.

(1) When referred to above, the Company’s return on invested capital (“ROIC”) for a fiscal year is calculated based on (i) the net income of that year as presented in the Company’s consolidated statements of operations prepared pursuant to generally accepted accounting principles in the U.S. (“GAAP”), as divided by (ii) the average of the sum of the total stockholders’ equity and the total long-term liabilities at the beginning of and at the end of such year, as presented in the Company’s consolidated balance sheets prepared pursuant to GAAP for that applicable year. As such, the Company’s ROIC, a ratio or statistical measure, is calculated using exclusively financial measures presented in accordance with GAAP.

Business Outlook

Effective July 1, 2018, the Company increased sales prices on most of its wood connector products sold in the United States by an average of 11.5% in an effort to offset rising raw materials costs.

Based on current information and subject to future events and circumstances:

- The Company currently believes, due to uncertainty related to steel tariffs, the market price for steel may continue to be volatile during the fourth quarter of 2018.

- The Company is updating its 2018 full-year gross profit margin estimate to be in the range of approximately 45.5% to 46.0% from its previous estimate of 45.0% to 46.0%.

- The Company currently believes its 2018 full year operating expenses as a percentage of net sales to be in the mid-28% range.

- The Company estimates that its full-year 2018 effective tax rate will be between approximately 26% to 27%, including both federal and state income tax rates. The ultimate impact of the Tax Cuts and Jobs Act of 2017 and the Company's 2018 effective tax rate may differ materially from the Company's estimates due to changes in the interpretations and assumptions made by the Company as well as additional regulatory guidance that may be issued and actions the Company may take as a result of the Tax Cuts and Jobs Act, such as cash repatriation to the United States, if any. The Company will continue to assess the expected impact of the new tax law and provide additional disclosures at appropriate times.

Results of Operations for the Three Months Ended September 30, 2018, Compared with the Three Months Ended September 30, 2017

Unless otherwise stated, the results announced below, when providing comparisons (which are generally indicated by words such as "increased," "decreased," "unchanged" or "compared to"), compare the results of operations for the three months ended September 30, 2018, against the results of operations for the three months ended September 30, 2017. Unless otherwise stated, the results announced below, when referencing "both quarters," refer to the three months ended September 30, 2017 and the three months ended September 30, 2018. In the third quarter of 2017, the Company reclassified year to date expenses associated with a recent acquisition from engineering and research and development to general and administrative and sales and marketing. The 2017 first and second quarter financial results were revised to reflect these changes with $2.6 million of costs being reclassified from research and development and engineering expense to general and administrative expense ($2.3 million) and selling expense ($0.3 million). The 2017 third quarter financial results were revised to reflect the changes made to the first and second quarter 2017 results. In the third quarter of 2018, the Company recorded an out-of-period adjustment, which increased cost of sales by $0.7 million and decreased general and administrative expenses by $0.7 million for the 2017 third quarter and only applied to the North America segment. Income from operations and net income for the 2017 third quarter were not affected by the adjustment. The adjustment resulted from under-stating depreciation expense in cost of sales and over-stating depreciation expense in general and administrative expense.

Third Quarter 2018 Consolidated Financial Highlights

The following table illustrates the differences in our operating results for the three months ended September 30, 2018, from the three months ended September 30, 2017, and the increases or decreases for each category by segment:

(in thousands)	Three Months Ended September 30, 2017	Increase (Decrease) in Operating Segment North America	Europe	Asia/ Pacific	Admin & All Other	Three Months Ended September 30, 2018
Net sales	$262,476	$26,644	$(5,117)	$175	$—	$284,178
Cost of sales	143,338	10,537	(3,083)	(510)	—	150,282
Gross profit	119,138	16,107	(2,034)	685	—	133,896
Research and development and other engineering expense	11,265	(609)	(142)	(73)	—	10,441
Selling expense	27,867	(489)	(537)	38	—	26,879
General and administrative expense	33,457	2,591	153	(634)	547	36,114
Gain on sale of assets	(147)	(364)	47	4	—	(460)
Income from operations	46,696	14,978	(1,555)	1,350	(547)	60,922
Loss in equity method investment, before tax	(13)	(17)	—	—	—	(30)
Interest expense, net	(296)	(129)	117	(23)	273	(58)
Gain (adjustment) on bargain purchase of a business	(2,052)	—	2,052	—	—	—
Gain on disposal of a business	443	—	(443)	—	—	—
Income before income taxes	44,778	14,832	171	1,327	(274)	60,834
Provision for income taxes	16,581	566	(319)	218	(573)	16,473
Net income	$28,197	$14,266	$490	$1,109	$ 299	$44,361

Net sales increased 8.3% to $284.2 million from $262.5 million. Net sales to contractor distributors, lumber dealers, dealer distributors and home centers increased primarily due to price increases. Wood construction product net sales, including sales of connectors, truss plates, fastening systems, fasteners and shearwalls, represented 84% and 86% of the Company's total net sales in the third quarters of 2018 and 2017, respectively. Concrete construction product net sales, including sales of adhesives, chemicals, mechanical anchors, powder actuated tools and reinforcing fiber materials, represented 16% and 14% of the Company's total net sales in the third quarters of 2018 and 2017, respectively.

Gross profit increased 12.4% to $133.9 million from $119.1 million. Gross profit margins increased to 47.1% from 45.4%, primarily due to an increase in average product prices, which decreased both material and factory and overhead costs as a percentage of net sales. The gross profit margins, including some inter-segment expenses, which were eliminated in consolidation, and excluding other expenses that are allocated according to product group, increased to 47.3% from 46.3% for wood construction products and increased to 43.4% from 35.4% for concrete construction products, respectively.

Research and development and engineering expense decreased 7.3% to $10.4 million from $11.3 million, primarily due to decreases of $0.7 million in personnel costs and $0.3 million in cash profit sharing expense.

Selling expense decreased 3.5% to $26.9 million from $27.9 million primarily due to decreases of $1.3 million in personnel costs, $0.9 million in advertising and promotional costs and $0.5 million in depreciation expense, partly offset by increases of $0.9 million in sales and sales agents commission expense mostly related to increased net sales, $0.5 million in stock-based compensation expense and $0.4 million in professional fees.

General and administrative expense increased 7.9% to $36.1 million from $33.5 million, primarily due to increases of $3.1 million in professional fees, $0.9 million in stock-based compensation expense, $0.5 million in legal fees, $0.4 million in software, hardware, data processing and hosting related expenses and $0.2 million in severance expenses, partly offset by decreases of $0.4 million in personnel costs and $0.3 million in facility expense, as well as a $1.3 million increase in favorable net foreign currency translations. The net increase in foreign currency gains included a $1.6 million foreign currency gain on the return of capital from an investment in a foreign subsidiary. Included in general and administrative expense are costs associated with the SAP implementation of $0.9 million, an increase of $0.2 million over the prior year quarter. These expenses were primarily for professional fees.

Our effective income tax rate decreased to 27.1% from 37.0%, primarily due to the U.S. Tax Cuts and Jobs Act of 2017, which reduced the United States statutory federal corporate tax from 35% to 21%.

Consolidated net income was $44.4 million compared to $28.2 million. Diluted net income per common share was $0.95 compared to $0.59. The $28.2 million consolidated net income for the three months ended September 30, 2017 was negatively impacted by a nonrecurring $2.1 million reduction of a gain on a bargain purchase of a business, which decreased diluted earnings per share for the same period by $0.04.

Net sales

The following table represents net sales by segment for the three-month periods ended September 30, 2017 and 2018, respectively:

(in thousands)	North America	Europe	Asia/ Pacific	Total
Three months ended				
September 30, 2017	$213,254	$47,137	$2,085	$262,476
September 30, 2018	239,898	42,020	2,260	284,178
Increase (decrease)	$26,644	$(5,117)	$175	$21,702
Percentage increase (decrease)	12.5 %	(10.9)%	8.4 %	8.3 %

The following table represents segment net sales as percentages of total net sales for the three-month periods ended September 30, 2017 and 2018, respectively:

	North America	Europe	Asia/ Pacific	Total
Percentage of total 2017 net sales	81 %	18 %	1 %	100%
Percentage of total 2018 net sales	84 %	15 %	1 %	100%

Gross profit

The following table represents gross profit by segment for the three-month periods ended September 30, 2017 and 2018, respectively:

(in thousands)	North America	Europe	Asia/ Pacific	Admin & All Other	Total
Three months ended					
September 30, 2017	$100,861	$18,068	$ 209	$ —	$119,138
September 30, 2018	116,968	16,034	894	—	133,896
Increase (decrease)	$16,107	$(2,034)	$ 685	$ —	$14,758
Percentage increase (decrease)	16.0 %	(11.3)%	*	*	12.4 %

* The statistic is not meaningful or material.

The following table represents gross profit as a percentage of sales by segment for the three months ended September 30, 2017 and 2018, respectively:

(in thousand)	North America	Europe	Asia/ Pacific	Admin & All Other	Total
2017 gross profit percentage	47.3 %	38.3 %	10.0 %	*	45.4%
2018 gross profit percentage	48.8 %	38.2 %	39.6 %	*	47.1%

* The statistic is not meaningful or material.

North America

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- Net sales increased 12.5% primarily due to increases in average net sales prices and sales volume. Canada's net sales were negatively affected by foreign currency translation.

- Gross profit as a percentage of net sales increased to 48.8% from 47.3% primarily due to an increase in average product prices, which decreased both material and factory and tooling costs as a percentage of net sales.

- Research and development and engineering expense decreased $0.6 million, primarily due to decreases of $0.7 million in personnel costs and $0.2 million in cash profit sharing expense.

- Selling expense decreased $0.5 million, primarily due to decreases of $0.9 million in advertising and promotional costs $0.6 million in personnel costs and $0.4 million in depreciation expense, partly offset by increases of $0.5 million in stock-based compensation expense, $0.5 million in sales and sales agents commission expense, mostly related to increased net sales and $0.4 million in professional fees.

- General and administrative expense increased $2.6 million, primarily due to increases of $3.5 million in professional fees, $0.6 million in legal fees, $0.6 million in software, hardware, data processing and hosting related expenses and $0.3 million in stock-based compensation expense, partly offset by a decrease of $0.3 million in facility expense, as well as a $1.6 million foreign currency gain on the return of capital from an investment in a foreign subsidiary. Included in general and administrative expense are costs associated with the SAP implementation of $0.9 million, an increase of $0.4 million over the prior year quarter. These expenses were primarily professional fees.

- Income from operations increased $15.0 million mostly due to increased gross profit, partly offset by a slight increase in operating expenses.

Europe

- Net sales decreased 10.9%, primarily for reduced sales volumes due to the late 2017 sale of Gbo Fastening Systems' Poland and Romania subsidiaries (acquired January 2017), which subsidiaries contributed $5.3 million in net sales for the third quarter of 2017. Europe net sales were negatively affected by approximately $0.7 million of foreign currency translations resulting from Europe currencies weakening against the United States dollar. In local currency, Europe net sales increased primarily due to increases in average net sales unit prices.

- Gross profit as a percentage of net sales were flat, with higher factory and overhead and warehouse costs as a percentage of net sales, offset by lower material costs and labor costs as a percentage of net sales.

- Selling expense decreased $0.5 million primarily due to a decrease of $0.7 million in personnel costs mostly due to headcount reductions, partly offset by an increase of $0.4 million in sales agent commissions.

- General and administrative expense increased $0.2 million, primarily due to an increase of $0.3 million in severance expenses, as well as a decrease of $0.7 million in favorable net foreign currency translations, partly offset by decreases of $0.5 million in professional fees and $0.2 million in software, hardware, data processing and hosting related expenses.

- Income from operations decreased $1.6 million. Europe income from operations for the third quarter of 2018 was negatively impacted by the late 2017 sale of Gbo Fastening Systems' Poland and Romania subsidiaries (acquired in January 2017), which subsidiaries contributed $0.6 million in income from operations for the third quarter of 2017.

Asia/Pacific

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For information about the Company's Asia/Pacific segment, please refer to the tables above setting forth changes in our operating results for the three months ended September 30, 2018 and 2017, respectively.

Results of Operations for the Nine Months Ended September 30, 2018, Compared with the Nine Months Ended September 30, 2017

Unless otherwise stated, the results announced below, when providing comparisons (which are generally indicated by words such as “increased,” “decreased,” “unchanged” or “compared to”), compare the results of operations for the nine months ended September 30, 2018, against the results of operations for the nine months ended September 30, 2017. Unless otherwise stated, the results announced below refer to the nine months ended September 30, 2017 and the nine months ended September 30, 2018. In the third quarter of 2018, the Company recorded an out-of period adjustment, which increased cost of sales and decreased general

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and administrative expenses both by $1.8 million for the nine months ended September 30, 2018 and increased cost of sales and decreased general and administrative expenses both by $2.1 million for the nine months ended September 30, 2017. The adjustment was only applied to the North America segment. Income from operations and net income for the nine months ended September 30, 2018 and 2017 were not affected by the adjustments. The adjustments resulted from under-stating depreciation expense in cost of sales and over-stating depreciation expense in general and administrative expense.

Year-to-Date (9-month) 2018 Consolidated Financial Highlights

The following table illustrates the differences in our operating results for the nine months ended September 30, 2018, from the nine months ended September 30, 2017, and the increases or decreases for each category by segment:

(in thousands)	Nine Months Ended September 30, 2017	Increase (Decrease) in Operating Segment North America	Europe	Asia/ Pacific	Admin & All Other	Nine Months Ended September 30, 2018
Net sales	745,345	$93,167	$(2,656)	$1,108	$—	$836,964
Cost of sales	403,866	52,625	(1,805)	348	(153)	454,881
Gross profit	341,479	40,542	(851)	760	153	382,083
Research and development and other engineering expense	35,051	(1,978)	(355)	122	—	32,840
Selling expense	86,150	(1,552)	(1,180)	235	—	83,653
General and administrative expense	105,962	4,272	3,968	(1,768)	463	112,897
Gain on sale of assets	(147)	(1,002)	(624)	4	—	(1,769)
Income from operations	114,463	40,802	(2,660)	2,167	(310)	154,462
Loss in equity method investment, before tax	(53)	1	—	—	—	(52)
Interest expense, net	(685)	(220)	151	(31)	453	(332)
Gain on bargain purchase of a business	6,336	—	(6,336)	—	—	—
Gain on disposal of a business	443	—	(443)	—	—	—
Income before income taxes	120,504	40,583	(9,288)	2,136	143	154,078
Provision for income taxes	40,972	(2,523)	41	(42)	1,754	40,202
Net income	$79,532	$43,106	$(9,329)	$2,178	$(1,611)	$113,876

Net sales increased 12.3% to $837.0 million from $745.3 million. Net sales to contractor distributors, dealer distributors, home centers and lumber dealers increased, primarily due to increased home construction activity, which resulted in increased sales volumes as well as increased average net sales prices. Wood construction product net sales, including sales of connectors, truss plates, fastening systems, fasteners and shearwalls, represented 85% and 86% of the Company's total net sales in both the first nine months of 2018 and 2017, respectively. Concrete construction product net sales, including sales of adhesives, chemicals, mechanical anchors, powder actuated tools and reinforcing fiber materials, represented 15% and 14% of the Company's total net sales in both the first nine months of 2018 and 2017, respectively.

Gross profit increased 11.9% to $382.1 million from $341.5 million. Gross profit margins were flat. The gross profit margins, including some inter-segment expenses, which were eliminated in consolidation, and excluding other expenses that are allocated according to product group, decreased to 46% from 47% for wood construction products and increased to 39% from 34% for concrete construction products.

Research and development and engineering expense decreased 6.3% to $32.8 million from $35.1 million primarily due to decreases of $0.9 million in personnel costs, $0.6 million in cash profit sharing expense, $0.2 million in professional fees, and $0.1 million in computer software costs.

Selling and marketing expense decreased 2.9% to $83.7 million from $86.2 million primarily due to decreases of $1.7 million in personnel costs, $1.6 million in advertising and sale promotion costs, $0.8 million in stock-based compensation and $0.4 million in depreciation expense, partly offset by an increase of $2.2 million in sales and sales agent commissions.

General and administrative expense increased 6.5% to $112.9 million from $106.0 million primarily due to increases of $6.1 million in professional fees, $2.7 million in depreciation expense and $1.9 million in severance costs, partly offset by decreases of $1.3 million in stock-based compensation, $0.9 million in legal fees, $0.7 million in cash profit sharing expense and $0.7 million in amortization expense. Included in general and administrative expense are costs associated with the SAP implementation of $5.2 million, an increase of $3.6 million over the first nine-months of 2017. These expenses were primarily professional fees.

Gain on sale of assets - In 2016, an eminent domain claim was exercised on land owned by the Company with an offer for the taking of land. The Company challenged the offer, which resulted in the Company receiving an additional $1.0 million in the first quarter of 2018 for the taking of the land, which occurred in 2016.

Our effective income tax rate decreased to 26% from 34%, primarily due to the U.S. Tax Cuts and Jobs Act of 2017, which reduced the United States statutory federal corporate tax from 35% to 21%. The effective income tax rate for the third quarter of 2017 was also reduced by a nonrecurring gain on a bargain purchase related to the Gbo Fastening Systems acquisition, which was not taxable.

Consolidated net income was $113.9 million compared to $79.5 million. Diluted net income per common share was $2.43 compared to $1.66. The $79.5 million consolidated net income for the nine months ended September 30, 2017 included a $6.3 million gain on a bargain purchase of a business, which increased diluted earnings per share for the same period by $0.13.

Net sales

The following table represents net sales by segment for the nine-month periods ended September 30, 2017 and 2018, respectively:

(in thousands)	North America	Europe	Asia/ Pacific	Total
Nine Months Ended				
September 30, 2017	612,765	126,752	5,828	$745,345
September 30, 2018	705,932	124,096	6,936	836,964
Increase (decrease)	$93,167	$(2,656)	$1,108	$91,619
Percentage increase (decrease)	15 %	(2)%	19 %	12 %

The following table represents segment net sales as percentages of total net sales for the nine-month periods ended September 30, 2017 and 2018, respectively:

	North America	Europe	Asia/ Pacific	Total
Percentage of total 2017 net sales	82 %	17 %	1 %	100%
Percentage of total 2018 net sales	84 %	15 %	1 %	100%

Gross profit

The following table represents gross profit by segment for the nine-month periods ended September 30, 2017 and 2018, respectively:

(in thousands)	North America	Europe	Asia/ Pacific	Admin & All Other	Total
Nine Months Ended					

September 30, 2017	294,955	45,933	664	(73)	$341,479
September 30, 2018	335,497	45,082	1,424	80	382,083
Increase (decrease)	$40,542	$(851)	$ 760	$ 153	$40,604
Percentage increase (decrease)	14 %	(2)%	*	*	12 %

* The statistic is not meaningful or material.

The following table represents gross profit as a percentage of sales by segment for the nine-month periods ended September 30, 2017 and 2018, respectively:

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(in thousand)	North America	Europe	Asia/ Pacific	Admin & All Other	Total
2017 gross profit percentage	48.1 %	36.2 %	11.4 %	*	45.8 %
2018 gross profit percentage	47.5 %	36.3 %	20.5 %	*	45.7 %

* The statistic is not meaningful or material.

North America

- Net sales increased 15%, primarily due to increases in sales volumes as well as average net sales prices. Canada's net sales were positively affected by foreign currency translation.

- Gross profit margin decreased to 47.5% from 48.1%, primarily due to increased material and shipping costs as a percentage of nets sales, partly offset by decreased factory and overhead costs as a percentage of net sales on increased production.

- Research and development and engineering expense decreased $2.0 million primarily due to decreases of $1.0 million in personnel costs, $0.4 million in cash profit sharing expense and $0.4 million in professional fees, and $0.2 million in computer software costs.

- Selling expense decreased $1.6 million, primarily due to decreases of $1.9 million in advertising and sale promotion costs, $0.7 million in stock-based compensation, $0.3 million in depreciation expense and $0.3 million in personnel costs, partly offset by an increase of $1.4 million in sales and sales agent commissions.

- General and administrative expense increased $4.3 million, primarily due to increases of $7.0 million in professional fees, $2.6 million in depreciation expense, $0.5 million in computer software fees and maintenance, partly offset by decreases of $1.4 million in stock-based compensation, $0.9 million in personnel costs, $0.8 million in legal fees, $0.7 million in amortization expense and $0.5 million in cash profit sharing expense, as well as an increase of $2.3 million in favorable net foreign currency translations (including a $1.6 million foreign currency gain on the return of capital from a foreign subsidiary). Included in general and administrative expense are costs associated with the SAP implementation of $5.1 million, an increase of $4.0 million over the prior year quarter. These expenses were primarily professional fees.

- Gain on sale of assets - In 2016, an eminent domain claim was exercised on land owned by the Company with an offer for the taking of the land. The Company challenged the offer, which resulted in the Company receiving an additional $1.0 million in the first quarter of 2018 for the taking of the land.

- Income from operations increased $40.8 million, mostly due to increased gross profit, which was partially offset by higher operating expenses.

Europe

- Net sales decreased 2.1% primarily due to reduced sales volume as a result of the late 2017 sale of Gbo Fastening Systems' Poland and Romania subsidiaries (acquired January 2017), which subsidiaries contributed $12.6 million in net sales for the nine months ended September 30, 2017. Europe net sales were positively affected by approximately $6.4 million of foreign currency translations resulting from converting Europe currencies into the United States dollar. In local currency, Europe net sales increased primarily due to increases in average net sales unit prices.

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Gross profit margin was flat, with lower material costs and labor costs as a percentage of net sales, offset by higher factory and overhead, warehouse and shipping costs as a percentage of net sales.

- Research and development and engineering expense decreased $0.4 million primarily due to decreases of $0.3 million in personnel costs and $0.1 million cash profit sharing, partly offset by an increase of $0.3 million in professional fees.

- Selling expense decreased $1.2 million primarily due to a decrease of $1.6 million in personnel costs, which was partly offset by an increase of $0.7 million in sales agent commissions.

- General and administrative expense increased $4.0 million, primarily due to increases of $2.0 million in severance costs and $0.9 million in personnel costs, as well as a decrease of $2.4 million in favorable net foreign currency translations, partly offset by decreases of $0.8 million in professional fees and $0.4 million in cash profit sharing expense. Europe general and administrative expenses were negatively affected by foreign currency translations resulting from converting Europe currencies into the United States dollar.

- Income from operations decreased $2.7 million, primarily due to severance costs of $2.0 million recorded in general and administrative expense and decreased foreign currency gains of $2.4 million as well as the late 2017 sale of Gbo Fastening Systems' Poland and Romania subsidiaries (acquired January 2017), which contributed $1.2 million in income from operations for the nine months ended September 30, 2017.

Asia/Pacific

- For information about the Company's Asia/Pacific segment, please refer to the tables above setting forth changes in our operating results for the nine months ended September 30, 2018 and 2017, respectively.

Effect of New Accounting Standards

See "Note 1 Basis of Presentation — Recently Adopted Accounting Standards" and "Recently Issued Accounting Standards Not Yet Adopted" to the accompanying unaudited interim condensed consolidated financial statements.

Liquidity and Sources of Capital

Our primary sources of liquidity are cash and cash equivalents, our cash flow from operations and our $300.0 million credit facility that expires on July 23, 2021. As of September 30, 2018, there were no amounts outstanding under this facility. We also received proceeds through the exercise of stock options by our employees in the first quarter of 2018. There were no outstanding stock options as of September 30, 2018.

Our principal uses of liquidity include the costs and expenses associated with our operations, continuing our capital allocation strategy, which includes growing our business by internal improvements, repurchasing our common stock, paying cash dividends, and meeting other liquidity requirements for the next twelve months. In September 2018, the Company contracted to sell its commercial rental property in California. The sale is expected to close in November 2018. The Company estimates it will receive net proceeds of approximately $16.0 million, after closing costs and sales price adjustments.

As of September 30, 2018, our cash and cash equivalents consisted of deposits and money market funds held with established national financial institutions. Cash and cash equivalents of $76.8 million are held in the local currencies of our foreign operations and could be subject to additional taxation if repatriated to the United States. Due to changes resulting from the U.S. Tax Cuts and Jobs Act of 2017, the Company repatriated $20.0 million in cash held outside of the United States in the third quarter of 2018 and plans to repatriate additional cash held outside the United States in the fourth quarter of 2018 and possibly the first half of 2019. The Company is maintaining a permanent reinvestment assertion on its foreign earnings relative to remaining cash held outside the United States after completion of the repatriation plan.

The following table presents selected financial information as of September 30, 2018 and 2017, and December 31, 2017, respectively:

(in thousands)	At September 30, 2018	At December 31, 2017	At September 30, 2017

Cash and cash equivalents	$ 166,961	$ 168,514	$ 204,171
Property, plant and equipment, net	257,679	273,020	265,178
Goodwill, intangible assets and equity investment	164,414	169,015	169,945
Working capital	493,465	447,450	478,961

The following table provides cash flow indicators for the nine-month periods ended September 30, 2018 and 2017, respectively:

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	Nine Months Ended September 30,	
(in thousands)	2018	2017
Net cash provided by (used in):		
Operating activities	$107,969	$84,591
Investing activities	(21,175)	(62,797)
Financing activities	(84,363)	(49,342)

Cash flows from operating activities result primarily from our earnings, and are also affected by changes in operating assets and liabilities which consist primarily of working capital balances. As a building materials manufacturer, our operating cash flows are subject to seasonality and are cyclically associated with the volume and timing of construction project starts. For example, trade accounts receivable, net, is generally at its lowest at the end of the fourth quarter and increases during the first, second and third quarters.

During the nine months ended September 30, 2018, operating activities provided $108.0 million in cash and cash equivalents, as a result of $113.9 million from net income and $38.5 million from non-cash adjustments to net income which included depreciation and amortization expense and stock-based compensation expense. The increase is partly offset by a decrease of $42.8 million in the net change in operating assets and liabilities, including increases of $58.7 million in trade accounts receivable, net and $29.2 million in inventory, and partly offset by increases of $14.3 million in trade accounts payable, $13.5 million in accrued liabilities, $9.8 million in income taxes payable and $3.7 million in accrued profit sharing and commissions as well as a decrease of $5.1 million in other current assets. Cash used in investing activities of $21.2 million during the nine months ended September 30, 2018, consisted primarily of $24.7 million for property, plant and equipment expenditures related to machinery and equipment purchases, software purchases and software in development, which was partly offset by $3.5 million in proceeds from the sale of property and equipment. Cash used in financing activities of $84.4 million during the nine months ended September 30, 2018, consisted primarily of $49.5 million used for share repurchases and $29.7 million used to pay cash dividends.

During the nine months ended September 30, 2017, operating activities provided $84.6 million in cash and cash equivalents, as a result of $79.5 million from net income and $34.5 million from non-cash adjustments to net income, which includes depreciation and amortization expense, stock-based compensation expense, a nonrecurring gain on a bargain purchase of a business and changes in deferred income taxes,. The increase is partly offset by a decrease of $29.4 million in the net change in operating assets and liabilities, including an increase of $40.6 million in trade accounts receivable, net. Cash used in investing activities of $62.8 million during the nine months ended September 30, 2017, consisted primarily of $45.1 million for property, plant and equipment expenditures related to real estate improvements, machinery and equipment purchases and software in development, and $27.9 million, net of acquired cash of $4.0 million, for the acquisitions of Gbo Fastening Systems and CG Visions, which was partly offset by $9.6 million, net of delivered cash of $0.6 million, resulting from the sale of all of the equity in Gbo Poland. Cash used in financing activities of $49.3 million during the nine months ended September 30, 2017, consisted primarily of $20.0 million recorded for share repurchases and $27.0 million used to pay cash dividends.

Capital Allocation Strategy

We have a strong cash position and remain committed to seeking growth opportunities in lines of building products where we can leverage our expertise in engineering, testing, manufacturing and distribution to invest in and grow our business. Those opportunities include internal improvements or acquisitions that fit within our strategic growth plan. Additionally, we have financial flexibility and are committed to providing returns to our stockholders. Below are highlights of our execution on our capital allocation strategy, first announced in August 2015 and updated in August 2016.

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Our asset acquisitions, net of cash acquired and proceeds from sales of business, in 2015, 2016 and 2017 were $4.2 million, $5.4 million and $18.5 million, respectively. In January 2017, we acquired Gbo Fastening Systems for approximately $10.2 million, and sold two of its subsidiaries in late 2017 for approximately $9.5 million, retaining the Gbo Fastening Systems operations in Sweden and Norway for less than $1.0 million in cash. Also in January 2017, we acquired CG Visions for approximately $20.8 million.

Our capital spending in 2015, 2016 and 2017 was $34.2 million, $42.0 million and $58.0 million, respectively, which was primarily used for real estate improvements, machinery and equipment purchases and software in development. Our capital spending in the first nine months ended September 30, 2018 was $24.7 million and primarily for machinery, equipment and software, including $1.4 million of capitalized costs related to the ERP project. Based on current information and subject to future events and circumstances, we estimate that our full-year 2018 capital spending will be approximately $30 million to $32 million, including $9 to $10 million on replacing fully depreciated equipment, assuming all such projects will be completed by the end of 2018. Based on current information and subject to future events and circumstances, we estimate that our full-year 2018 depreciation and amortization expense to be approximately $39 million to $40 million, of which approximately $33 million to $34 million is related to depreciation.

- Since the beginning of the year 2015 to September 30, 2018, approximately four million shares of the Company's common stock were repurchased. From October 1, 2018 to October 29, the Company purchased an additional 528,100 shares of the Company's common stock at an average price of $68.26 per share, for a total of $36.0 million. In total, as illustrated in the table below, the Company has repurchased over five million shares of the Company's common stock, which represents approximately 10.7% of our shares of common stock outstanding at the beginning of 2015. Including October share repurchase, we have returned cash of $395.1 million, which represents 89.0% of our total cash flow from operations during the same period.

(in thousands)	Number of Shares Repurchased	Cash Paid for Share Repurchases	Cash paid for Dividends	Total
January 1 - October 29, 2018	1,513	$ 85,540	$ 39,892	$ 125,432
January 1 - December 31, 2017	1,138	70,000	36,981	106,981
January 1 - December 31, 2016	1,244	53,502	32,711	86,213
January 1 - December 31, 2015	1,339	47,144	29,352	76,496
Total	5,234	$ 256,186	$ 138,936	$ 395,122

- As of October 29, 2018, approximately $66.0 million remained available under the $275.0 million repurchase authorization from August 2017.

- On October 22, 2018, the Board declared a cash dividend of $0.22 per share, estimated to be $10.0 million in total. Such dividend is scheduled to be paid on January 24, 2019, to stockholders of record on January 3, 2019.

Off-Balance Sheet Arrangements

We did not have any off-balance sheet arrangements as of September 30, 2018.

Inflation and Raw Materials

We believe that the effect of inflation has not been material in recent years, as general inflation rates have remained relatively low. Our main raw material is steel. As such, increases in steel prices may adversely affect our gross profit margin if we cannot recover the higher costs through price increases.

Item 3. Quantitative and Qualitative Disclosures About Market Risk.

We have operations both within the United States and internationally, and we are exposed to market risks in the ordinary course
of our business.

Foreign Exchange Risk

The Company has foreign exchange rate risk in its international operations, and through purchases from foreign vendors. Changes in the values of currencies of foreign countries affect our financial position, income statement and cash flows when translated into U.S. dollars. The Company does not currently hedge this risk. The Company estimates that if the exchange rate were to change by 10% in any one country where the Company has operations, the change in net income would not be material to the Company’s operations taken as a whole.

Foreign currency translation adjustment on the Company's underlying assets and liabilities resulted in accumulated other comprehensive loss of $3.0 million for the three months ended September 30, 2018, due to the effect of the strengthening of the United States dollar in relation to all other currencies. Foreign currency translation adjustment on the Company's underlying assets and liabilities resulted in accumulated other comprehensive loss of $10.5 million for the nine months ended September 30, 2018, due to the effect of the strengthening of the United States dollar in relation to all other currencies.

Interest Rate Risk

The Company has no variable interest-rate debt outstanding. The Company estimates that a hypothetical 100 basis point change in U.S. interest rates would not be material to the Company's operations taken as a whole.

Item 4. Controls and Procedures.

Disclosure Controls and Procedures. As of September 30, 2018, the Company carried out an evaluation, under the supervision and with the participation of the Company's management, including the chief executive officer ("CEO") and the chief financial officer ("CFO"), of the effectiveness of the Company's disclosure controls and procedures (as defined in Rule 13a-15(e) under the Exchange Act. Based on this evaluation, the Company's CEO and CFO have concluded that the Company's disclosure controls and procedures were effective at the reasonable assurance level. Disclosure controls and procedures are controls and other procedures designed reasonably to assure that information required to be disclosed in the Company's reports filed or submitted under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission's rules and forms. Disclosure controls and procedures are also designed reasonably to assure that this information is accumulated and communicated to the Company's management, including the CEO and the CFO, as appropriate to allow timely decisions regarding required disclosure.

The Company's management, including the CEO and the CFO, does not, however, expect that the Company's disclosure controls and procedures or the Company's internal control over financial reporting will prevent all fraud and material errors. Internal control over financial reporting, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. In addition, the design of a control system must reflect the facts that there are resource constraints and that the benefits of controls must be considered relative to their costs. The inherent limitations in internal control over financial reporting include the realities that judgments can be faulty and that breakdowns can occur because of simple error or mistake. Controls also can be circumvented by the individual acts of some persons, by collusion of two or more people, or by management override of controls. The design of any system of internal control is also based in part on assumptions about the likelihood of future events, and there can be only reasonable, not absolute, assurance that any design will succeed in achieving its stated goals under all potential events and conditions. Over time, controls may become inadequate because of changes in circumstances, or the degree of compliance with the policies and procedures may deteriorate.

Changes in Internal Control over Financial Reporting. In 2016, we began the process of implementing a fully integrated ERP platform from SAP America, Inc. ("SAP"), as part of a multi-year plan to integrate and upgrade our systems and processes. The first phase of this implementation became operational on February 5, 2018, at a limited number of our North America sales, production, warehousing and administrative locations. We believe the necessary steps have been taken to monitor and maintain appropriate internal control over financial reporting during this period of change and will continue to evaluate the operating effectiveness of related key controls during subsequent periods.

As the phased implementation of this system continues, we are experiencing certain changes to our processes and procedures which, in turn, result in changes to our internal control over financial reporting. While we expect SAP to strengthen our internal financial controls by automating certain manual processes and standardizing business processes and reporting across our organization, management will continue to evaluate and monitor our internal controls as each of the affected areas evolves. For a discussion of risks related to the implementation of new systems, see Item 1A - "Risk Factors - Other Risks - We rely on complex software systems and hosted applications to operate our business, and our business may be disrupted if we are unable to successfully/efficiently update these systems or convert to new systems." in our Annual Report on Form 10-K for the year ended December 31, 2017.

During the three months ended September 30, 2018, the Company made no other changes to its internal control over financial reporting (as defined in Rule 13a-15(f) under the Exchange Act) that have materially affected, or are reasonably likely to materially affect, its internal control over financial reporting.

PART II — OTHER INFORMATION

Item 1. Legal Proceedings.

From time to time, the Company is involved in various legal proceedings and other matters arising in the normal course of business. Corrosion, hydrogen embrittlement, cracking, material hardness, wood pressure-treating chemicals, misinstallations, misuse, design and assembly flaws, manufacturing defects, labeling defects, product formula defects, inaccurate chemical mixes, adulteration, environmental conditions, or other factors can contribute to failure of fasteners, connectors, anchors, adhesives, specialty chemicals, such as fiber reinforced polymers, and tool products. In addition, inaccuracies may occur in product information, descriptions and instructions found in catalogs, packaging, data sheets, and the Company's website.

The Company currently is not a party to any legal proceedings, which the Company expects individually or in the aggregate to have a material adverse effect on the Company's financial condition, cash flows or results of operations. Nonetheless, the resolution of any claim or litigation is subject to inherent uncertainty and could have a material adverse effect on the Company's financial condition, cash flows or results of operations. See "Note 11 — Commitments and Contingencies" to the accompanying unaudited interim condensed consolidated financial statements for certain potential third-party claims.

Item 1A. Risk Factors

We are affected by risks specific to us, as well as risks that generally affect businesses operating in global markets. In addition to the risks discussed below and other information set forth in this Quarterly Report on Form 10-Q, you should carefully consider the factors discussed below as well as in Part I, Item 1A, "Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2017 (available at www.simpsonmfg.com/docs/10K-2017.pdf or www.sec.gov). The risks discussed under this Item1A and in such Annual Report on Form 10-K and information provided elsewhere in this Quarterly Report, could materially adversely affect our business, financial condition or results of operations. Additional risks and uncertainties not currently known or we currently deem to be immaterial may also materially adversely affect our business, financial condition or results of operations.

Uncertainty regarding the housing market, economic conditions, political climate and other factors beyond our control could adversely affect demand for our products and services, our costs of doing business, and our business, financial condition and results of operations.

Our business, financial condition and results of operations depends significantly on the stability of the housing, residential construction and home improvement markets, as well as general economic conditions, including any future increase of interest rates by central banks, including the U.S. Federal Reserve System, or other factors that could impact housing starts. Adverse conditions in or uncertainty about these markets, the economic conditions or the political climate could adversely impact our customers' confidence or financial condition, causing them to determine not to purchase our products and services, causing them to delay purchasing decisions, or impacting their ability to pay for our products and services. Other factors beyond our control - including unemployment and foreclosure rates; inventory loss; interest rate fluctuations; raw material and energy costs; labor and healthcare costs; the availability of financing; the state of the credit markets, including mortgages, home equity loans and consumer credit; weather; natural disasters; acts of terrorism; and other conditions beyond our control - could further adversely affect demand for our products and services, our costs of doing business, and our business, financial condition and results of operations.

If significant tariffs or other restrictions are placed on our imports or any related counter-measures are taken by other countries, our costs of doing business, revenue and results of operations may be negatively impacted.

Some of our products or components are sourced from China and other countries. If significant tariffs or other restrictions are placed on Chinese or other imports or any related counter-measures are taken by China or other countries, our costs of doing business, revenue and results of operations may be materially harmed. The Trump

Administration announced a list of thousands of categories of goods, that could face tariffs of up to 25% assessed on the cost of goods as imported. If these duties are imposed on our imports, we may be required to raise our prices, which may result in the loss of customers and harm our operating performance. Alternatively, we may seek to shift production outside of China, resulting in significant costs and disruption to our operations as we would need to pursue the time-consuming processes of recreating a new supply chain, identifying substitute components and establishing new manufacturing locations. Additionally, the Trump Administration continues to signal that it may alter trade agreements and terms between China and the United States, including limiting trade with China, and may impose additional tariffs on imports from China. Even if the currently proposed duties are not imposed on our imports, it is possible further tariffs will be imposed on our imports, or that our business will be impacted by retaliatory trade measures taken by China or other countries in response to existing or future tariffs, causing us to raise prices or make changes to our operations, any of which could materially harm our revenue or operating results.

We have experienced and may in the future experience delays, outages, cyber-based attacks or security breaches in relation to our information systems and computer networks, which have disrupted and may in the future disrupt our operations and may result in data corruption. As a result, our profitability, financial condition and reputation could be negatively affected. In addition, data privacy statements and laws could subject us to liability.

Despite the security and maintenance measures we have in place, our facilities and systems, and those of the retailers, dealers, licensees and other third-party distributors with which we do business, remain vulnerable to security breaches, cyber-attacks, acts of vandalism, computer viruses, malware, data corruption, delays, disruptions, programming and/or human errors or other similar events, such as those accomplished through fraud, trickery or other forms of deceiving our employees, contractors, agents or representatives and those due to system updates, natural disasters, malicious attacks, accidents, power disruptions, telecommunications failures, acts of terrorism or war, computer viruses, physical or electronic break-ins or similar events. Such incidents have occurred, continue to occur, and may occur in the future. Such incidents may involve misappropriation, loss or other unauthorized disclosure of confidential data, materials or information, including those concerning our customers, employees or suppliers, whether by us or by the retailers, dealers, licensees and other third-party distributors with which we do business, disrupt our operations, result in losses, damage our reputation, and expose us to the risks of litigation and liability (including regulatory liability); and may have a material adverse effect on our business, results of operations and financial condition. In addition, if we fail to adhere to our privacy policy and other published statements or applicable laws concerning our processing, use, transmission and disclosure of protected information, or if our statements or practices are found to be deceptive or misrepresentative, we could face regulatory actions, fines and other liability.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds.

The table below presents the monthly repurchases of shares of our common stock in the third quarter of 2018.

Period	(a) Total Number of Shares Purchased	(b) Average Price Paid per Share	(c) Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs [1]	(d) Approximate Dollar Value of Shares that May Yet Be Purchased under the Plans or Programs [1]
July 1 - July 31, 2018	167,200	60.41	167,200	$116.0 million
August 1 - August 31, 2018	—	N/A	—	$116.0 million
September 1 - September 30, 2018	190,265	$ 73.32	190,265	$102.0 million
Total	357,465			

[1] Pursuant to the Board’s increased and extended $275.0 million repurchase authorization that was publicly announced on August 1, 2017, which authorization is scheduled to expire on December 31, 2018.

Item 6. Exhibits.

EXHIBIT INDEX

3.1	Certificate of Incorporation of Simpson Manufacturing Co., Inc., as amended, are incorporated by reference to Exhibit 3.1 of its Quarterly Report on Form 10-Q filed on May 9, 2018.
3.2	Amended and Restated Bylaws of Simpson Manufacturing Co., Inc., as amended, are incorporated by reference to Exhibit 3.2 of its Current Report on Form 8-K dated March 28, 2017.
4.1	Certificate of Designation, Preferences and Rights of Series A Participating Preferred Stock of Simpson Manufacturing Co., Inc., dated July 30, 1999, is incorporated by reference to Exhibit 4.2 of its Registration Statement on Form 8-A dated August 4, 1999.
31.1	Chief Executive Officer's Rule 13a-14(a)/15d-14(a) Certifications is filed herewith.
31.2	Chief Financial Officer's Rule 13a-14(a)/15d-14(a) Certifications is filed herewith.
32	Section 1350 Certifications are furnished herewith.
101	The following materials from the Company’s Quarterly Report on Form 10-Q for the quarter ended September 30, 2018 formatted in Extensible Business Reporting Language (XBRL) are filed herewith: (i) the Condensed Consolidated Balance Sheets, (ii) the Condensed Consolidated Statements of Operations, (iii) the Condensed Consolidated Statements of Comprehensive Income, (iv) the Condensed Consolidated Statements of Stockholders’ Equity, (v) the Condensed Consolidated Statements of Cash Flows and (vi) the Notes to Condensed Consolidated Financial Statements.

SIGNATURES

Pursuant to the requirements 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.

	Simpson Manufacturing Co., Inc. (Registrant)
DATE: November 8, 2018	By /s/Brian J. Magstadt Brian J. Magstadt Chief Financial Officer (principal accounting and financial officer)