ECHELON CORP
Form 10-K
March 30, 2016

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, DC 20549
FORM 10-K
(Mark One)

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

For the fiscal year ended December 31, 2015

OR

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

For the transition period from _____ to _____.

Commission file number: 000-29748
ECHELON CORPORATION
(Exact name of registrant as specified in its charter)

Delaware	77-0203595
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification Number)

2901 Patrick Henry Drive
Santa Clara, California 95054
(Address of principal executive office and zip code)
(408) 938-5200
(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, par value $0.01 (The Nasdaq Global Market)	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 x

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

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes x No ¨
Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during

the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes x No ¨

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

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 the definitions of “large accelerated filer,” “accelerated filer” and “smaller reporting company” in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer	Accelerated filer	Non-accelerated filer X	Smaller reporting company (do not check if a 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 x

As of June 30, 2015, the last business day of the registrant's most recently completed second fiscal quarter, there were 4,409,807 shares of the registrant's common stock outstanding, and the aggregate market value of such shares held by non-affiliates of the registrant (based on the per share closing sale price of $8.00 of such shares on the Nasdaq Global Market on June 30, 2015) was approximately $28.9 million. Shares of the registrant's common stock held by each executive officer and director and by each entity that owns 5% or more of the registrant's outstanding common stock have been excluded in that such persons may be deemed to be affiliates. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

As of February 29, 2016, 4,416,946 shares of the registrant's common stock, $0.01 par value per share, were issued and outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Document	Parts Into Which Incorporated
Proxy Statement for the Annual Meeting of Stockholders to be held May 17, 2016 (Proxy Statement)	Part III

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FOR THE YEAR ENDED DECEMBER 31, 2015
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FORWARD-LOOKING INFORMATION

This report contains forward-looking statements within the meaning of the U.S. federal securities laws that involve risks and uncertainties. Certain statements contained in this report are not purely historical including, without limitation, statements regarding our expectations, beliefs, intentions, anticipations, commitments or strategies regarding the future that are forward-looking. These statements include those discussed in Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations, including "Critical Accounting Estimates," "Results of Operations," "Off-Balance-Sheet Arrangements and Other Critical Contractual Obligations," "Liquidity and Capital Resources," and "Recently Issued Accounting Standards," and elsewhere in this report.

In this report, the words "may," "could," "would," "might," "will," "should," "plan," " forecast," "anticipate," "believe," "expe "estimate," "predict," "potential," "continue," "future," "moving toward" or the negative of these terms or other similar express also identify forward-looking statements. Our actual results could differ materially from those forward-looking statements contained in this report as a result of a number of risk factors including, but not limited to, those set forth in the section entitled "Risk Factors" and elsewhere in this report. You should carefully consider these risks, in addition to the other information in this report and in our other filings with the SEC. All forward-looking statements and reasons why results may differ included in this report are made as of the date of this report, and we assume no obligation to update any such forward-looking statement or reason why such results might differ.

PART I

ITEM 1. BUSINESS

General

Echelon Corporation is a pioneer in developing open-standard control networking platforms and delivering elements necessary to design, install, monitor and control highly reliable, scalable and secure communities of devices. Echelon's vision is one of low-cost monitoring and control technology in every industrial electrical device in the world and complete vertical solutions in the fastest growing market segments. With more than 110 million Echelon-powered devices shipped worldwide, Echelon helps its customers migrate existing legacy devices, and bring new devices and applications into a growing global Industrial Internet.

In 2014 the "Internet of Things" (IoT) market opportunity became increasingly apparent. The IoT refers to a network of physical objects, each containing a unique network address, which interact with each other to share information and take action. IoT networks can run a variety of languages, or protocols, and be connected via wired or wireless links. The IoT can be further segmented into the Human Internet of Things (HIoT) and the Industrial Internet of Things (IIoT); the latter is Echelon's market focus.

The IIoT refers to communities of rules-based, self-directed devices that reside in commercial or industrial environments and operate with little to no human interaction. Because of the harsh nature of these environments (e.g., extreme temperature, vibration, noise, humidity, dust) where connectivity can be intermittent, and because industrial applications demand high reliability, IIoT devices need to be more robust than consumer-oriented HIoT devices. Specialized requirements of the IIoT include no-compromise control capability, proven reliability, and hardened security. In addition, IIoT devices must be able to interact autonomously and function when disconnected from the Internet or a local access point. The IIoT will incorporate decades of existing and in-service infrastructure - deployed mechanical and digital vertical solutions ready to be connected. When these solutions are connected, they generally communicate with protocols developed many years ago, and often dedicated to specific applications.

In October 2013 Echelon introduced its IzoT™ platform - purpose-built for the IIoT. The IzoT platform allows control networking to be done using Internet Protocol ("IP") all the way to the end device. IzoT software can run on any processor in an environment providing UDP/IP socket connectivity; it allows a single device to be brought to market

as a LONWORKS®, BACnet®, or other protocol-supporting device; and it can be used with any underlying wired or wireless communications link, such as Ethernet, RS-485, Wi-Fi, 15.4, or Echelon's free topology (FT) standard. The IzoT platform provides a smooth migration path to the emerging IIoT for legacy devices while ensuring compatibility with new devices connecting to the same network. In June 2014 Echelon began sampling the IzoT platform with evaluation kits, software, chips, modules, and routers.

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Both LONWORKS and the IzoT control networking platform consist of a three-tier architecture: a device tier, a control node tier, and an enterprise tier. At the device tier, industrial devices such as load controllers, lighting ballasts, meters, and thermostats, embed our free topology (FT) or power line (PL) smart transceivers, enabling them to act as peers working together to collect data and take cooperative action. For example, Echelon's former headquarters buildings in San Jose utilized lighting and heating ventilation and air conditioning (HVAC) devices that communicated together over a twisted-pair network using Echelon FT transceivers. These individual devices are managed by control nodes, in this case Echelon's Smart Servers. When a control node receives information from the local utility, such as a signal to shed electrical load, this information is transmitted across the twisted-pair network. The network devices then execute the control signal, resulting in a reduction of energy consumption while preserving a safe and comfortable work environment.

At the control node tier, various control technologies and protocols are unified and supervised so that local decisions can be made at the device tier levels. An example of a control node is the Echelon SmartServer. In general, the devices and control node tiers communicate using control protocols such as LONWORKS technology (ISO/EN 14908), BACnet, and Open Smart Grid Protocol (OSGP). OSGP is a family of standards published by the European Telecommunications Standards Institute (ETSI) that is optimized for smart grid applications used in conjunction with LONWORKS technology.

At the enterprise tier, Echelon technology connects the control node tiers to an enterprise tier, commonly an information technology (IT) solution, so business rules can be established for the control system and operational data can be archived for later analysis. Our LONWORKS Control Network Software (LNS) is an example of an enterprise tier product. Control nodes communicate with enterprise tier solutions using Internet protocols such as TCP/IP and web services.

In 2013, Echelon was structured around two divisions; IoT and Grid. Because of the growing market opportunity in the IIoT, and large ongoing investments required by the Grid division, in August 2014, Echelon announced a definitive agreement to sell its Grid operations to S&T AG ("S&T"), a publicly traded European IT systems provider with an existing focus on smart energy products and services. We completed the sale of the Grid division on September 30, 2014. This decision represented a significant step in Echelon's long-term strategy to focus on the Industrial Internet of Things market, and in the intelligent outdoor lighting controls market in particular.

During this same time period, Echelon expanded its intelligent outdoor lighting control offering through the acquisition of Lumewave Inc., a wireless outdoor lighting control system provider with a track record selling its solution to U.S. municipalities, universities, medical facilities and enterprises. The Lumewave products, which include individual lighting controllers, motion sensors, gateways, and management and maintenance software, have since been incorporated into Echelon's product portfolio along with the established Lumewave sales channels in North America. While we continue to support our traditional, non-lighting centric customers as we always have, our primary focus is currently aimed at expanding our revenues associated with these outdoor lighting control products.

Echelon offers, directly and through its partners worldwide, a wide range of products and services for the IIoT market. These represent horizontal embedded control platforms, such as LONWORKS and IzoT, which include components, control nodes and development software, and which are sold typically to Original Equipment Manufacturers (OEMs), along with complete solutions for the lighting market. This model allows Echelon to address a broad range of applications, market segments, geographies and regulatory environments and allows our customers to balance time-to-market and cost requirements.

With a broad range of industrial applications and geographies to choose from, we apply our product and sales efforts to the highest growth opportunities. We target rapidly evolving markets that benefit from distributed intelligent control networks.

Echelon was incorporated in California in 1988 and reincorporated in Delaware in 1989. With global headquarters in Silicon Valley in Santa Clara, California, and regional sales offices throughout North America, Europe, and Asia, Echelon makes its products available throughout the world.

Market Overview

Just as mainframe networking evolved to workgroup networking, which gave way to the corporate and consumer Internet, the IIoT represents a next big wave in technology. This market opportunity is driven by the convergence of control systems for lighting, HVAC, security, manufacturing, and more. The customers for IIoT products are themselves participating in highly fluid and competitive environments that prize lower costs, differentiated offerings, improved customer service, ubiquitous connectivity, and near-infinite analytic capabilities. The IIoT will unlock improvements in life quality, efficiency, safety, and more. Market analysts, such as those at IHS, Inc., project that the world market for Internet-connected devices will reach 50 billion by 2025, with the industrial segment representing the majority share of these devices.

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IIoT products have long lifecycles and must operate under extreme conditions. They must also be secure to prevent unauthorized access and abuse that could cause environmental hazards or life-threatening situations. New systems running modern Information Technology protocols, such as IP, must interoperate with systems running mature Operational Technology protocols such as LONWORKS, BacNet and Modbus. Echelon’s control networking technology is purpose-built for industrial environments such as building automation, lighting and transportation.

Echelon's platforms, both LONWORKS and IzoT, enable OEMs to create a variety of control applications for smart buildings, such as building automation, lighting control, elevator control, and access control. Buildings around the world use our technology to provide a comfortable, safe, and productive environment, all while reducing energy consumption. Our technology enables interoperability among products and among the various building automation systems. As a result, a building owner or integrator can maintain an open procurement and vendor-independent environment, thereby reducing life-cycle costs.

But the benefits of Echelon's technology are not just limited to control networks for buildings. Our products are used in countless applications where the benefits of distributed intelligent control networks are sought; from transportation infrastructure to advanced utility metering to factory automation and beyond. The applications are limitless.

Examples of the products we sell into these markets include:

- Smart Transceivers: Free-topology twisted-pair smart transceivers that can be embedded into building automation devices such as sensors, thermostats, motion detectors, air handlers, and chillers.
- IzoT Stack Software: Embedded control and communications software that can be run on any processor to implement an intelligent device.
- IzoT Wired and Wireless Evaluation Kits (EVKs): Complete hardware and software platforms for creating or evaluating LONWORKS and IzoT devices based on the Series 6000 Smart Transceivers and Neuron® Processors.
- SmartServer Controller: A system manager and field controller that provides functionality for high-performance building networks and smart-energy applications and can serve as a standalone controller for smaller networks. The Echelon SmartServer connects control networks to IP-based applications using web services and other open protocols such as LONWORKS, BACnet, and Modbus and provides important functions to facility management, enterprise resource planning, or service provider software.
- LNS and OpenLNS Operating System: Development and integration tools allowing building owners to change service providers as needed and leverage competitive bidding because all the necessary information about the network is maintained in the building owner's LNS database. With a community of software developers at leading building automation system (BAS) manufacturers, hundreds of plug-ins have been developed to help installers more easily commission, configure, monitor, control, diagnose, or repair LONWORKS devices.
- Third-Party Software: Third-party energy management or analytics software and apps are available for the SmartServer in hosted or server-based configurations.

Lighting, especially outdoor lighting, has been a key application for Echelon products and has been identified as one of the fastest growing market segments in the IIoT. Street, campus and commercial outdoor lights are important assets, providing safety and aesthetic value to their community. They also consume a significant amount of electricity - as much as 40% of a city's overall electricity budget. As a result, cities, campuses and commercial enterprises are responsible for a substantial portion of worldwide energy consumption and greenhouse gas production. Therefore, these entities are looking for ways to improve infrastructure to become more environmentally friendly, increase the quality of life for their residents and occupants, and reduce costs.

Echelon's complete solutions, platforms and platform components transform outdoor lighting into intelligent, energy-efficient, remotely managed networks that deliver dependable lighting at lower cost than high efficiency

luminaires alone. Echelon technology enables not only basic functionality such as the scheduling of lights on or off, the setting of dimming levels for individual or groups of lights, and intelligent lighting according to time of day, season, or weather conditions; but also more advanced capabilities such as predictive direction of travel control, neighborhood profiles, and data analysis for preventive maintenance - all while reducing energy usage. In addition, intelligent outdoor lighting is often the first step to a smarter city, with applications such as a bus lane control system or pollution monitoring subsequently added on top of the outdoor lighting network.

Echelon’s outdoor lighting control product portfolio includes:

- Smart Transceivers: Outdoor lighting manufacturers can embed our power line smart transceivers into their outdoor light ballasts, drivers, and generators; or can use these transceivers to develop outdoor lighting controllers that serve as

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add-on products for existing dimmable ballasts and drivers within a luminaire. These components enable command, control, and monitoring of each light. They communicate with the Echelon SmartServer segment controller over existing power lines.

- Outdoor Lighting Controllers: In order to address the retrofit market and to reduce the time needed to develop and deploy intelligent luminaires, Echelon provides its own brand of outdoor lighting controllers. Echelon outdoor lighting controllers support RF and power line (PL) based communications.
- Motion Sensors: Echelon motion sensors work with outdoor lighting controllers to adjust light levels based on motion (ON/OFF or dimming).
- SmartServer Segment Controller: The Echelon SmartServer Segment Controller is a controller and gateway for connecting outdoor lighting segments to a centralized management system. The SmartServer provides rules for operation, invoking on/off time and sequencing, dimming time and percentage, and other functions.
- PL/RF Bridge: Our PL/RF Bridge can be used to connect segments (groups) of outdoor lights to a SmartServer. The PL/RF Bridge uses a plug-and-play RF connection for simple, low-cost installation. Each virtual segment communicates with the SmartServer over existing power lines.
- Wireless and Ethernet Gateways: These gateways provide network access for setup functions, administration and communications within the system.
- Management Software: Manages the outdoor lighting network using the wireless control module and gateway for control and communication.
- Third-Party Software: Third-party system software integrates with a city's enterprise applications and manages the outdoor lighting network using the SmartServer for control and communication. System software is available in hosted or server-based configurations.

Go-To-Market (Sales) Strategy

We sell our platform for the IIoT markets to buildings, lighting and industrial controls OEMs directly and through distribution worldwide. These efforts are supported with worldwide sales, application engineering, technical, and industry experts working in the U.S. as well as China, Hong Kong, Japan, South Korea, Germany, the Netherlands, and the United Kingdom. In outdoor lighting, in addition to selling our platform to lighting OEMs worldwide, in some geographies, we also offer a complete solution consisting of Echelon branded outdoor lighting controllers, segment controllers, gateways and software to end customers such as municipalities, cities, campuses and commercial enterprises through local system integration partners and channel representatives.

Echelon organizes its sales resources by region. Within a region, sales personnel work directly with large OEM customers such as Honeywell, Schneider, Siemens, Philips, Trane, and others. Sales personnel also work with distribution partners, regional manufacturers’ representatives, and regional system integrators.

Product Development

Our future success depends in large part on our ability to enhance existing products, reduce product cost, and develop new products that offer technological competitiveness. We have made and intend to continue to make substantial investments in product development, while implementing strategies for overall product development cost reduction where appropriate.

Our strategy is to focus our product innovation efforts on unique areas where we can add value, and to partner aggressively in other technology areas. We focus on areas where we have leading technical expertise, including designing reliable silicon, software and vertical solutions for constrained environments; free topology communications and power line communications; system architecture and protocols like LONWORKS and BACnet for supporting control networks; multiprotocol processing for control and enterprise networks; and interoperating with a range of other vendors' products. We partner with other companies that have specific skills outside our core expertise, such as

low-cost technology or RF technologies. For example, in the case of RF, we work with partners who have 802.15 and WiFi silicon products to incorporate them into Echelon modules.

Our total expenses for product development were $9.7 million for 2015, $9.5 million for 2014, and $10.9 million for 2013 . Included in these totals were stock-based compensation expenses of $304,000, $(73,000), and $156,000, for the years ended December 31, 2015, 2014, and 2013, respectively.

To date, we have not capitalized any software development costs from our development efforts.

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Marketing

Our marketing efforts focus on two key elements: awareness and demand generation/sales enablement. From an awareness perspective, we seek to generate visibility and credibility of our brand, the products and solutions that we offer, and the capabilities and benefits that they bring. Our marketing program comprises press releases, advertising, collateral, published technical and thought-leadership papers, newsletters, and customer case studies describing the benefits our customers are seeing from implementing our solutions. We also participate in industry events and trade shows, speak at relevant industry conferences, and are continually enhancing our global websites.

Marketing also focuses on making it easier for our sales teams and our partners to sell our solutions. We do this through a variety of demand generation and sales enablement activities such as webinars/seminars, lead-generation from our participation at industry exhibitions and conferences, and the production of focused selling tools such as sales playbooks, competitive analyses, and sales presentations and training. We also actively participate in LONMARK® International, an association directly focused on the adoption of our products.

We focus our sales teams using a systematic pipeline management process, whereby prospects are identified, qualified, and tracked, with the expectation that a portion of these opportunities are ultimately closed.

Training and Support

We offer a variety of technical training courses covering our products and technology. These courses are designed to provide hands-on, in-depth, and practical experience that can be used immediately by our customers to build products and vertical solutions based on our offerings. In some instances these classes are licensed to third parties in foreign markets who present them in the local language. Additionally, we offer a variety of computer-based training courses that can be taken over the Internet. We also offer telephone, e-mail, and on-site technical support to our customers on a term contract or per-incident basis. The goal of these support services is to resolve customers' technical problems in a timely manner, ensure that our products will be used properly, and shorten the time required for our customers to develop products that use our technology.

Principal Customers

During the three years ended December 31, 2015, we had two customers that accounted for a significant portion of our revenues: Avnet Europe Comm VA (“Avnet”), the primary distributor of our IIoT products in Europe, and Enel Distribuzione Spa ("Enel"), an Italian utility company. For the years ended December 31, 2015, 2014, and 2013, the percentages of our revenues attributable to sales made to these customers were as follows:

	Year ended December 31,		
	2015	2014	2013
Avnet	24.5 %	26.2 %	26.6 %
Enel	12.7 %	7.7 %	16.1 %
Total	37.2 %	33.9 %	42.7 %

Geographic Information

We operate in three main geographic areas: the Americas; Europe, Middle East and Africa (“EMEA”); and Asia Pacific / Japan (“APJ”). Each geographic area provides products and services to our customers located in the respective region. Our long-lived assets include property and equipment, goodwill, purchased intangible assets such as purchased technology and customer and channel relationships, and deposits on our leased facilities. Long-lived assets are attributed to geographic areas based on the country where the assets are located. As of December 31, 2015 and 2014,

long-lived assets of approximately $2.6 million and $15.6 million, respectively, were domiciled in the United States. Long-lived assets for all other locations are not material to the consolidated financial statements.

We sell our products primarily in U.S. dollars to customers throughout the world. Revenues are attributed to geographic areas based on the country where the customer is domiciled. Our international sales include both export sales and sales by international subsidiaries and accounted for 68.1% of our total revenues for 2015, 72.4% of our total revenues for 2014, and 74.3% of our total revenues for 2013. Summary revenue information by geography for the years ended December 31, 2015, 2014, and 2013 is as follows (in thousands):

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	Year ended December 31,		
	2015	2014	2013
Americas	$12,380	$12,754	$13,167
EMEA	17,799	14,494	19,894
APJ	8,625	11,482	12,796
Total	$38,804	$38,730	$45,857

Supply Chain

Our supply chain strategy uses manufacturing services from third parties where it reduces our costs and takes advantage of consolidated purchasing power. We limit our internal supply chain activities to quality inspection, system integration, custom configuration, testing, and order fulfillment. We maintain manufacturing agreements with Cypress Semiconductor related to the FT 3100 family of free topology transceivers. We also maintain manufacturing agreements with STMicroelectronics for production of our PL 3100 power line transceivers, and with Open-Silicon, Inc. for production of our Neuron 5000 microcontroller and the FT 5000 free topology receiver.

For most of our products requiring assembly, we use third-party contract electronic manufacturers (CEMs), including Bel-Fuse (formerly TYCO). These CEMs procure material and assemble, test, and inspect the final products to our specifications.

Working Capital

As of December 31, 2015, we had working capital, defined as current assets less current liabilities, of $26.7 million, which was a decrease of approximately $13.6 million compared to working capital of $40.3 million as of December 31, 2014.

Competition

We believe the markets for our products are competitive and becoming more competitive in terms of pricing, product features, and distribution. In each of our markets, our competitors include both small companies as well as some of the largest companies in the electronics industry, operating either alone or together with trade associations and partners.

Our key competitors include established companies such as Cree Inc., Digi International, General Electric, LED Roadway Lighting, Maxim Integrated Products, Phillips, Siemens, Silver Springs Networks, STMicroelectronics, Texas Instruments, and Tridium. We also see competition from embedded control companies like Freescale Semiconductor and Intel Corporation. In addition, the market has attracted and will continue to attract well-funded, venture-backed start-up companies. Key industry standard and trade group competitors include BACnet, Konnex, DALI, DeviceNet, HART, Profibus, ZigBee, and the ZWave Alliance.

To maintain and improve our competitive position, we must keep pace with the evolving needs of our customers and continue to develop and introduce new products, features, and services in a timely and efficient manner. The principal competitive factors that affect the markets for our products include:

- the price and features of our products such as adaptability, scalability, functionality, ease of use, and the ability to integrate with other products;
- our ability to anticipate changes in customer requirements and to develop new or improved products that meet these requirements in a timely manner;
- our product reputation, quality, performance, and conformance with established industry standards;
- our customer service and support;

- warranties, indemnities, and other contractual terms; and
- customer relationships and market awareness.

Additionally, while our product implementations are proprietary to Echelon and are often protected by unique, patented processes, key technologies such as LONWORKS and IzoT are open, meaning that many of our basic control networking patents are broadly licensed without royalties or license fees. For instance, all of the network management commands required to develop software that competes with our LNS software are published. As a result, our customers are capable of developing hardware and software solutions that compete with many of our products.

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Government Regulation

Many of our products and the markets and industries in which they are used are subject to U.S. and foreign regulation as well as local, industry-specific codes and requirements. For example, the power line medium, which is the communications medium used by some of our products, is subject to special regulations in North America, Europe, and Japan. In general, these regulations limit the ability of companies to use power lines as a communication medium. In addition, some of our competitors have attempted to use regulatory actions to reduce the market opportunity for our products or to increase the market opportunity for their own products. We have resisted these efforts and will continue to oppose competitors' efforts to use regulation to impede competition in the markets for our products. Our business might also be affected by other regulatory factors, including public utility commission or similar approvals and government mandates. This could lead to an extension of the sales cycle or even cancellation of a customer's order.

In addition, the market for our products might experience a movement toward standards-based protocols driven by governmental action. To the extent that we do not adopt such protocols or do not succeed in achieving adoption of other protocols we use as standards or de facto standards, sales of our products might be adversely affected. The adoption of voluntary standards or the passage of governmental regulations that are incompatible with our products or technology could limit the market opportunity for our products, which could harm our revenues, results of operations, and financial condition.

Proprietary Rights

We own certain registered patents in the United States and in selected foreign countries. Many of the specific patents that are fundamental to LONWORKS technology have been licensed to our customers with no license fee or royalties.

We also hold several trademarks in the United States and select foreign countries, many of which are registered, including Echelon, Lumewave by Echelon, LumInsight, LonBuilder, LonTalk, LONWORKS, Neuron, LON, LonPoint, LonMaker, IzoT, LNS, LonManager, Digital Home, and NodeBuilder.

Employees

As of February 29, 2016, we had 87 employees worldwide, of which 29 were in product development, 20 were in sales and marketing, 18 were in general and administrative, 16 were in operations, and 4 were in customer support and training. About 55 employees are located at our headquarters in California and 11 employees are located in other offices throughout the United States. Our remaining employees are located in seven countries worldwide, with the largest concentrations in China, Hong Kong, the Netherlands, and the United Kingdom. None of our employees are represented by a labor union. We have not experienced any work stoppages and we believe relations with our employees are good.

Where to Find More Information

We make our public filings with the Securities and Exchange Commission, or SEC, including our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and all exhibits and amendments to these reports, available free of charge at our website, www.echelon.com, as soon as reasonably practicable after we file such material with the SEC. These materials are located in the “Investor Relations” portion of our Web site under the link “SEC Filings.” The inclusion of our Web site address in this report does not include or incorporate by reference into this report any information on our Web site. Copies of our public filings may also be obtained from the SEC Web site at www.sec.gov.

Executive Officers of the Registrant

Ronald Sege, age 58, has been our President and Chief Executive Officer and a member of our board of directors since August 2010. He has been Chairman of the Board of Directors since October 2011. Prior to joining Echelon, he was President and Chief Operating Officer of 3Com Corporation from 2008 to 2010. He held the position of President and CEO of Tropos Networks from 2004 to 2008, and was the President and CEO of Ellacoya Networks from 2001 to

2004. Earlier in Mr. Sege's career, he was Executive Vice President at Lycos from 1998 to 2001 and he spent 10 years at 3Com holding various Executive Vice President and Vice President positions. Mr. Sege received his B.A. in Economics from Pomona College and earned an M.B.A. from the Harvard Business School.

Christopher Jodoin, age 50, has been our Vice President of Operations and Planning since January 2015. Since joining Echelon in 2012, Mr. Jodoin has held various financial and operational positions and played a key role in the divestiture of our Grid division in 2014. Prior to joining Echelon, Mr. Jodoin was Vice President of Integration at InVentiv Health. He also held

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a variety of senior financial and operational positions at Hewlett Packard and 3Com Corporation. Mr. Jodoin received a B.A in Economics from Boston College and an M.B.A from Northeastern University.

C. Michael Marszewski, age 48, has been our Vice President and Chief Financial Officer since April 2015. Since joining Echelon in 1999, Mr. Marszewski has served in a variety of financial positions, including most recently Vice President Corporate Controller and Chief Accounting Officer, and has played important roles in strategic projects including acquisitions, divestitures, and private placement of securities. Prior to joining Echelon, Mr. Marszewski held positions at Stanford Telecommunications, National Semiconductor, and Arthur Andersen LLP. He earned his Bachelor's Degree in Accounting at Santa Clara University.

Sohrab Modi, age 55, has been our Chief Technology Officer since September 2014. Prior to joining our company Mr. Modi was Vice President and Chief Technology Officer at FutureWei, a division of Huawei. From 1999 to 2008, Mr. Modi held senior Engineering and General Management positions at Sun Microsystems, including Vice President in the Chief Technology Office. Previously, Mr. Modi held engineering management roles at Novell. Mr. Modi holds a B.S. degree in Physics from the University of Mumbai and an M.S. degree in Computer Science from the Rochester Institute of Technology.

Alicia Jayne Moore, age 56, our Chief Legal and Administration Officer, joined Echelon on July 15, 2013. Prior to joining our company, Ms. Moore provided strategic legal and business consulting services to several public and private companies and foundations from 2008 to 2013. Prior to that, Ms. Moore was the Vice President, Corporate Business Development, General Counsel and Secretary for Extreme Networks, Inc. She also served as General Counsel for AristaSoft, Inc. and Adaptec, Inc. Ms. Moore practiced law as an associate in the law firms of Coudert Brothers, LLP and Ware & Friedenrich, LLP (now DLA Piper). Ms. Moore received an A.B degree in International Relations from Stanford University, and her law degree from U.C.L.A. School of Law.

ITEM 1A. RISK FACTORS

Interested persons should carefully consider the risks described below in evaluating our company. Additional risks and uncertainties not presently known to us, or that we currently consider immaterial, may also impair our business operations. If any of the following risks actually occur, our business, financial condition or results of operations could be materially adversely affected. In that case, the trading price of our common stock would likely decline. Before deciding to purchase, hold or sell our common stock, you should carefully consider the risks described in this section. This section should be read in conjunction with the consolidated financial statements and accompanying notes thereto, and Management's Discussion and Analysis of Financial Condition and Results of Operations included in this Annual Report on Form 10-K.

We exited the Grid business and are therefore solely dependent on our IIoT business for revenue growth and profitability.

On September 30, 2014, we sold our Grid business, which accounted for a substantial percentage of our overall revenues. As a result, our revenues have decreased. Now that we have exited the Grid business, we are solely dependent on our IIoT business for revenue growth and profitability. See "There can be no guarantee that the IIoT market will develop as expected, or that we will be successful in pursuing opportunities in this market" for additional information on the risks associated with the IIoT market. There is no guarantee that the revenues will return to previous levels in the short term, if at all, or that they will reach the level necessary to achieve positive cash flow on an on-going basis.

There can be no guarantee that the IIoT market will develop as expected, or that we will be successful in pursuing opportunities in this market.

We currently intend to devote significant effort and resources to leverage our technology and develop and launch our platform to customers within the IIoT market. The IIoT market is an emerging, evolving and dynamic area with many potential players and undefined market opportunities. Our efforts to capitalize on these opportunities may not be successful in the near term, or at all. In addition, the process of developing new products involves considerable risk and uncertainty, including:

- the risk of competition and emerging technologies (see “If we do not develop and maintain adequate distribution channels, our revenues will be harmed” for additional information on the risks associated with competing for market share); and
- the risk that we will not be able to develop adequate sales channels for new products and services (see “Our IIoT revenues may not meet expectations, which could cause volatility in the price of our stock” for additional information on the risks associated with establishing new sales channels);

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- the risk that our products will not perform adequately due to defect or misuse by customers (see "Liabilities resulting from defects in or misuse of our products, whether or not covered by insurance, may delay our revenues and increase our liabilities and expenses" for additional information on the risks associated with defective or misused products);
- the risk that our supply chain for components is unable to meet our demand (see "Because we depend on a limited number of key suppliers and in certain cases, a sole supplier, the failure of any key supplier to produce timely and compliant products could result in a failure to ship products, or could subject us to higher prices, which would harm our results of operations and financial position" for additional information on the risks associated with manufacturing).

If the IIoT market does not materialize as anticipated, or if our product offerings are not accepted and utilized, we will have devoted a significant amount of time and resources without any return on our investment. This could cause us to suffer significant financial losses and could also have a negative impact on our reputation and results of operations, any of which would likely cause our stock price to decline. Additionally, because we are operating in an emerging market, risks that we are not currently able to identify are likely to materialize and could negatively impact our operations and financial condition.

Our IIoT revenues and expected costs may not meet expectations, which could cause volatility in the price of our stock.

As we grow our IIoT business, we will commit significant resources developing new products in emerging markets. In addition, our IIoT business operates in nascent markets, such as outdoor lighting and controls, in which we have yet to build a reliable customer base. As a result, sales of our products are unpredictable and yet to be proven, and sales and marketing costs related to our products may be significant. These factors could have a negative impact on our revenue and make it difficult to project our financial results, which could cause declines and volatility in our stock price.

Emerging markets are particularly dynamic and highly competitive, and we may lose sales to our competitors, which would harm our revenues and results of operations.

Particularly in new markets like the IIoT, competition is intense and involves rapidly changing technologies, evolving industry standards, frequent new product introductions, industry consolidations, effective management of distribution channels, rapid changes in customer or regulatory requirements, and localized market requirements. In each of our existing and new target markets, we compete with a wide array of manufacturers, vendors, strategic alliances, systems developers and other businesses. The future of our IIoT business depends significantly on our ability to react to changing customer needs by enhancing our existing products and developing new products. There can be no guarantee, however, that new products and product enhancements will be accepted by businesses and consumers. If we make investments in technologies that do not gain market acceptance, our business may not grow as anticipated. In addition, future product offerings by our competitors can render our products obsolete. Any failure to evolve with emerging technologies and our competitors could cause a loss of market share and result in declining revenues.

The principal competitive factors that affect the markets for our products include the following:

- our ability to anticipate changes in customer or regulatory requirements and to develop, or improve our products to meet these requirements in a timely manner;
- the price and features of our products such as adaptability, scalability, functionality, ease of use, and the ability to integrate with other products;
- our product reputation, quality, performance, and conformance with established industry standards;
- our ability to expand our product line to address our customers' requirements;
- our ability to effectively manage and expand our distribution channels to address new markets for current and future products;
- our ability to meet a customer's required delivery schedules;
- a customer's willingness to do business with us because of our size and perceived concerns regarding our liquidity and financial strength relative to our competitors;
- the risk of industry consolidation, which is particularly high in emerging markets such as the IIoT;
- our customer service and support;
- warranties, indemnities, and other contractual terms; and

- customer relationships and market awareness.

Competitors for our IIoT products include some of the largest companies in the electronics industry, operating either alone or together with trade associations and partners. Key company competitors include companies such as Cree Inc., Digi International, General Electric, LED Roadway Lighting, Maxim Integrated Products, Philips, Siemens, Silver Spring Networks, STMicroelectronics, Texas Instruments, and Tridium. Key industry standard and trade group competitors include BACnet, DALI, DeviceNet, HART, Konnex, Profibus, ZigBee, and the ZWave Alliance in the IIoT market. Each of these standards and/

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or alliances is backed by one or more competitors. For example, the ZigBee alliance includes over 300 member companies with promoter members, such as Ember, Emerson, Freescale, Kroger, Landis+Gyr (a subsidiary of Toshiba), Philips, Reliant Energy, Schneider Electric, STMicroelectronics, Tendril, and Texas Instruments. Additionally, because we are operating in an emerging market, it is likely that additional competitors will surface rapidly.

Many of our competitors, alone or together with their trade associations and partners, have significantly greater financial, technical, marketing, service and other resources, significantly greater name recognition, and broader product offerings; this may impact a customer's willingness to do business with us. If we are unable to compete effectively in any of the markets we serve, our revenues, results of operations, and financial position would be harmed.

The sales cycle for our IIoT products is lengthy and unpredictable.

The sales cycle between initial IIoT customer contact and execution of a contract or license agreement with a customer or purchaser of our products, can vary widely. Initially, we must educate our customers about the potential applications of and cost savings associated with our products. If we are successful in this effort, OEMs typically conduct extensive and lengthy product evaluations before making a decision to design our products into their offerings. Once the OEM decides to incorporate our products, volume purchases of our products are generally delayed until the OEM's product development, system integration, and product introduction periods have been completed. In addition, changes in our customers' budgets, or the priority they assign to control network development, could also affect the sales cycle.

Potential customers for our IIoT products, including automated smart lighting, include local, state and federal government authorities. For several reasons, sales to government authorities can be extended and unpredictable. Government authorities generally have complex budgeting, purchasing, and regulatory processes that govern their capital spending, and their spending is likely to be adversely impacted by continuation of challenging economic conditions. In addition, in many instances, sales to government authorities may require field trials and may be delayed by the time it takes for government officials to evaluate multiple competing bids, negotiate terms, and award contracts. We further face the risk of cancellation during development and production due to regulatory, government and geopolitical changes, and delays in installing, operating, and evaluating the results of any field trials before full implementation of our products.

For these reasons, the sales cycle associated with our IIoT products is subject to a number of significant risks that are beyond our control. Consequently, if our forecasted customer orders are not realized, our revenues could be materially adversely affected. In addition, the extended sales cycle may result in our inability to recognize revenue from existing or new projects until the end of several fiscal quarters. This may also make it difficult to predict our financial results and increase the volatility of our stock price.

If we are not able to develop or enhance our products in a timely manner, our revenues will suffer.

Due to the nature of development efforts in general, we can experience delays in the introduction of new or improved products beyond our original projected shipping date for such products. Historically, when these delays have occurred, we experienced an increase in our development costs and a delay in our ability to generate revenues from these new products. In addition, such delays could cause us to incur penalties if our deliveries are delayed, could otherwise impair our relationship with any of our customers that were relying on the timely delivery of our products in order to complete their own products or projects, or could cause the customer to cancel orders or to seek alternate sources of supply or other remedies. Any delay in the introduction of new products could impact future revenue targets or forecasts.

We are sometimes required to modify our products to meet local rules and regulations. We may not be able to increase the price of such products to reflect the costs of such modifications, given competitive markets. In addition, given the long-term nature of development activities, we may be required to undertake such modifications prior to receiving firm commitments or orders from our customers. In either of these or other similar scenarios, we may not be able to recover our costs attributable to required product modifications.

We intend to expand our development activities, which will expose us to risks, such as protection of intellectual property, investment risk, and labor costs and other matters. We could also be adversely affected by delays or cost

increases experienced by third parties that are developing products on our behalf.

If we do not develop and maintain adequate distribution channels, our revenues will be harmed.

The market for our products is new and unproven, and we cannot rely solely on our existing distributors to sell our products. Therefore, we are focused on expanding our distribution channel to include new distributors in order to generate

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revenue from product sales. We expect that the distribution channel for our products will be dispersed and it is difficult to predict how long it will take and how costly it will be to develop. We may not be successful in developing and maintaining adequate distribution channels within our expected timeframe and cost expectations, if at all. In addition, if any of our new or existing distributor partners fail to dedicate sufficient resources to market and sell our products, our revenues would suffer. Furthermore, if our existing distributor partners were to significantly reduce their inventory levels for our products, we could expect a decrease in service levels to our end-use customers.

Future acquisitions, strategic investments, partnerships or alliances could be difficult to identify and integrate, divert the attention of management, disrupt our business, dilute stockholder value and adversely affect our operating results and financial condition.

We plan to seek to grow our business by acquiring or investing in other businesses, products or technologies that we believe could complement or expand our services, enhance our technical capabilities or otherwise offer growth opportunities. The pursuit of potential acquisitions may divert the attention of management and cause us to incur various expenses in identifying, investigating and pursuing suitable acquisitions, whether or not the acquisition purchases are completed. If we acquire businesses, we may not be able to integrate successfully the acquired personnel, operations and technologies, or effectively manage the combined business following the acquisition. We may not be able to find and identify desirable acquisition targets or be successful in entering into an agreement with any particular target. Acquisitions could also result in dilutive issuances of equity securities, use of our existing cash reserves or the incurrence of debt, which could adversely affect our operating results. In addition, if an acquired business fails to meet our expectations, our operating results, business and financial condition may suffer.

We derive a significant amount of revenue from a single customer, Enel, and the loss of Enel as a customer, or decrease in business from Enel, could significantly reduce our revenues and negatively impact our margins.

We derive a significant amount of our revenues from sales of metering kit products to Enel. A significant decrease in business from Enel or loss of Enel as a customer could cause a significant decline in our revenues and negatively impact our margins. Sales to Enel accounted for 12.7%, 7.7% and 16.1% of the Company’s revenues during the fiscal years ended December 31 2015, 2014 and 2013, respectively. We had greater visibility of projected sales to Enel for a given fiscal year in prior years than we do this year. Purchases from Enel generally occur on an order-by-order basis, which makes it difficult to predict our revenues attributable to these sales. We do not currently expect additional shipments to Enel in 2016 apart from those scheduled for the quarter endeing March 31, 2016. If the Company experiences a significant decrease in orders from Enel, there could be a material adverse financial effect on the Company.

Sales of our products may fail to meet our financial targets, which would negatively impact our results of operations and expected return on investment in the IIoT market.

We have invested and intend to continue to invest significant resources in the development and sales of products in the emerging IIoT market. If we are unable to receive orders for, ship, and recognize revenue for our products in a timely manner, and in the quantities and at prices in line with our targets, our financial results will be harmed. Our long-term financial goals include expectations for a return on these investments, but we may or may not ever realize any return whatsoever on this investment of resources. Our market share in our existing building automation business has reduced due to increased competition, reduced levels of investment in our LONWORKS product line, and pricing pressures faced around the world. Moreover, recent revenues generated from our building automation business have failed to meet our expectations. If this decline in revenues continues or worsens, our operating results would suffer further.

In order to achieve our financial targets, we must meet the following objectives:

- Achieve acceptance of our products in the IIoT market;
- Achieve acceptance of our products in our target markets in order to increase our revenues;
- Manage our operating expenses to a reasonable percentage of revenues; and
- Manage our cash resources prudently.

Even if we meet these objectives, there can be no assurance that we will meet our overall financial targets and objectives.

Even though we have decreased our operating expenses as a result of selling our Grid business, a significant portion of our operating expenses are fixed. Therefore, if we cannot achieve our revenue targets, our use of cash balances would increase, our losses would increase, and/or we would be required to take additional actions necessary to reduce expenses. We cannot assure

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you that we will meet any or all of these objectives to the extent necessary to achieve our financial goals and, if we fail to achieve our goals, our results of operations are likely to be harmed.

We may be unable to promote and expand acceptance of our open, interoperable control systems over competing protocols, standards, or technologies.

LONWORKS and IzoT technology are open, meaning that many of our technology patents are broadly licensed without royalties or license fees. As a result, our IIoT customers are able to develop hardware and software solutions that compete with some of our products. Because some of our customers are OEMs that develop and market their own control systems, these customers, in particular, could develop competing products based on our open technology. For instance, we have published all of the network management commands required to develop software that competes with our LNS software.

In addition, many of our IIoT competitors are dedicated to promoting closed or proprietary systems, technologies, software and network protocols or product standards that differ from or are incompatible with ours. We also face strong competition from large trade associations that promote alternative technologies and standards for particular vertical applications or for use in specific countries. These include BACnet, DALI, and KNX in the buildings market; DeviceNet, HART, and ProfiBus in the industrial controls market; TCN in the rail transportation market; and Echonet, ZigBee, and Z-Wave in the home control markets.

The ability of our products to interoperate with multiple standards is important to our success. Our technologies, protocols, or standards may not be successful or we may decide not to invest our resources at the levels required in order to compete with new or enhanced products or standards introduced by our IIoT product line competitors, which would have a material adverse effect on our revenues, results of operations, and financial condition.

Because we depend on a limited number of key suppliers and in certain cases, a sole supplier, the failure of any key supplier to produce timely and compliant products could result in a failure to ship products, or could subject us to higher prices, which would harm our results of operations and financial position.

Our future success will depend significantly on our ability to timely manufacture our products cost effectively, in sufficient volumes, and in accordance with quality standards. For most of our products requiring assembly, we rely on a limited number of contract electronic manufacturers (CEMs), principally Bel-Fuse (formerly TYCO). These CEMs procure material and assemble, test, and inspect the final products to our specifications. This strategy involves certain risks, including reduced control over quality, costs, delivery schedules, availability of materials, components, finished products, and manufacturing yields. For example, an extended delay in the supply of a key component could disrupt the manufacturing of our products. Any such interruption in the supply of key components could therefore have a material adverse effect on our customer relationships and revenues. As a result of these and other risks, our CEMs could demand price increases for manufacturing our products. The Bel- Fuse factories, where our products are manufactured, are located in China. The Chinese government maintains programs, whereby labor rates for the manufacture of our products will increase over time. In addition, our agreements with our CEMs make us responsible for components and subassemblies purchased by the CEMs when based on our forecasts or purchase orders. Accordingly, we will be at risk for any excess and obsolete inventory purchased by our CEMs. Lastly, CEMs can experience turnover, instability, and lapses in manufacturing or component quality, exposing us to additional risks as well as missed commitments to our customers.

We also maintain manufacturing agreements with a limited number of semiconductor manufacturers for the production of key products. Cypress Semiconductor is the sole licensee, manufacturer and distributor for the Cypress Neuron, which is an important part of the LONWORKS portfolio. As a result, we or our customers may experience longer lead times and higher pricing for these parts, which could result in reduced orders for our products from these same customers. In addition, Cypress Semiconductor could decide to reduce or cease production of the Neuron chip in the future, at any time, with or without advance notice to us.

The FT 5000 free topology transceiver and the Neuron 5000 are sole sourced from the Taiwan Semiconductor Manufacturing Company (TSMC) foundry through our aggregator Open Silicon. In addition, we currently purchase several key products and components from sole or limited source suppliers with which we do not maintain signed

agreements that would obligate them to supply to us on negotiated terms. Any sole source relationship could make us vulnerable to price increases, particularly where we do not maintain long-term supply agreements with the supplier, or to supply disruptions that would result if the supplier issued an end of life notice with respect to a key product.

We are continuing to review the impact that economic factors are having on our suppliers. Some of these suppliers are large, well-capitalized companies, while others are smaller and more highly leveraged. In order to mitigate these risks, we may

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take actions such as increasing our inventory levels and/or adding additional sources of supply. Such actions may increase our costs and increase the risk of excess and obsolete inventories. Even if we undertake such actions, there can be no assurance that we will be able to prevent any disruption in the supply of goods and services we receive from these suppliers.

We may also elect to change any of these key suppliers. As part of such a transition, we may be required to purchase certain raw material and in-process inventory from the existing supplier and resell it to the new source. In addition, if any of our key suppliers were to stop manufacturing our products or supplying us with our key components, it could be expensive and time consuming to find a replacement. Also, as our business grows, we will be required to expand our business with our key suppliers or find additional sources of supply. There is no guarantee that we would be able to find acceptable alternative or additional sources. Additional risks that we face if we must transition between CEMs include:

- moving raw material, in-process inventory, and capital equipment between locations, some of which may be in different parts of the world;
- reestablishing acceptable manufacturing processes with a new work force; and
- exposure to excess or obsolete inventory held by contract manufacturers for use in our products.

The failure of any key manufacturer to produce a sufficient number of products on time, at agreed quality levels, and fully compliant with our product, assembly and test specifications could result in our failure to ship products in a timely manner or at all, which would adversely affect our revenues and gross profit, and could result in claims against us by our customers, which could harm our results of operations and financial position. Any such failures could also have a negative impact on our ability to project our financial results, would could result in volatility in our stock price.

Our business depends on the Internet and its continued access and development.

The growth of our business depends on the continued development of the Internet, particularly the technology and products required to connect every day devices to the Internet, expanding and enabling the IIoT market opportunities. Any global or domestic economic slowdown or general economic uncertainty may impact spending on the Internet and its infrastructure, which may have a material adverse effect on our revenue. While the operation of many of our IIoT products relies on functional Internet communications, we do not control the future performance of Internet communications. As a result, it is difficult to quantify the impact of any future security or performance problems associated with the Internet on our products and revenues.

Access to the Internet also remains a key component of the IIoT market. State, federal and foreign regulators could adopt laws and regulations that impose additional burdens on companies that conduct business over the Internet. The growth and development of the market for online services may prompt calls for more stringent consumer protection laws or laws that may inhibit the use of Internet-based communications or the information contained in these communications. The adoption of any additional laws or regulations may impact the growth of the IIoT market. Any new legislation or regulations, application of laws and regulations from jurisdictions whose laws do not currently apply to our business, or application of existing laws and regulations to the IIoT and other related services could increase our costs and harm our growth. In particular, there is increasing focus on privacy and data security regulations applicable to the IoT. For example, the Federal Trade Commission released a report on January 27, 2015 with recommendations for privacy and data security recommendations applicable to connected devices, objects and sensors. In addition, the EU intends to new, stricter standards around privacy and data security. We may be required to re-engineer our products and incur additional costs to comply with new regulations, any of which would negatively impact our business.

If our IIoT solutions become subject to cyber-attacks, or if public perception is that they are vulnerable to cyber-attacks, our reputation and business would suffer.

We have designed our IIoT products and solutions products to interoperate with other third party products and systems. Although we attempt to safeguard our products and solutions from cybersecurity threats, the potential for

cyber security attacks continues to evolve in scope and frequency.

Advances in and expanding availability of technical tools to enable cybersecurity attacks, and increasing sophistication of the threats, deepen the risk of potential security failures. This risk expands as new protocols and devices are implemented into our products and systems, and as customer requirements evolve. Should our products or solutions, or the combination of our products into third party systems, fail to prevent or be unable to withstand any such threats or cyber-attacks, or if our partners or customers fail to safeguard the technologies, products or the systems with adequate security policies or otherwise, our business and reputation may be harmed.

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We have attempted to design certain of our products to prevent and monitor unauthorized access, misuse, modification or other activities related to those products and the systems into which the products are intended to be placed. Despite our security measures, our products or systems may be subject to unauthorized break ins, viruses, disruptions, high-jacking, cyber terrorism, misuse, or other unauthorized tampering or modification. Should our products fail to perform, or be unable to withstand a cyber-attack, our company could face legal liability, and encounter material adverse financial and reputational harm.

In addition, we believe that there could be incidents of security breaches in the future which could receive a high degree of publicity and visibility, regardless of whether or not the problem is due or related to the performance of our particular products or systems. Any such publicity could have a negative effect on public confidence, or cause a perception that our solutions are or could be subject to similar attacks or breaches, and our business, operating results and financial condition may be materially adversely affected. Such an event could also result in a material adverse effect on the market price of our common stock, independent of the direct effects on our business.

Furthermore, because some of the information collected by some of our solutions, is or could be considered confidential consumer information in some jurisdictions, a cyber-attack could cause a violation of applicable privacy, consumer or security laws, which could cause our company to face financial or legal liability, should a security breach occur, which could have a material adverse effect on the Company.

We are dependent on technology systems and third-party content that are beyond our control.

Our success in the IIoT market will depend in part on the availability of online services and Internet connections to facilitate data transmission. In most instances, these services will be provided by third parties and will be outside of our control. For example, many of our customers rely on the capacity, reliability and security of wireless networks owned and controlled by third parties to use our IIoT products. However, the price of access and operational integrity of online services, wireless networks and Internet connections are beyond our control. As a result, it may be difficult to identify the source of problems if they occur. Even when we are not responsible for connectivity or other problems, users of our products may attribute the problem to us. This could diminish our brand and harm our business, divert the attention of our technical personnel from our product development efforts or cause significant customer relations problems.

Information Technology system security failures, cyber-attacks, and other technological breaches could cause harms to the Company.

We also rely on the security of our third party providers to protect our proprietary information and information of our customers. Information technology system failures, including a breach of our or our third party providers' data security, could disrupt our ability to function in the normal course of business by potentially causing, among other things, an unintentional disclosure of customer information. Despite our implementation of security measures or those of our third party providers, information systems may be vulnerable to threats such as computer hacking, cyber-terrorism or other unauthorized attempts by third parties to access, modify or delete our or our customers' data or otherwise disrupt our systems. Any such breach could have a material adverse effect on our business, operating results and our reputation as a provider of data collection, and secure and reliable device connection, collaboration and communications solutions, including legal claims for damages or injunctive relief under state, federal and foreign laws, reputational damage, and decreased revenues.

We have designed our IIoT products and solutions products to interoperate with other third party products and systems. Although we attempt to safeguard our products and solutions from cybersecurity threats, the potential for cyber security attacks continues to evolve in scope and frequency.

We are dependent on our outsourcing arrangements and manufacturing relationships.

We are dependent on third-party providers for the manufacturing of most of our products requiring assembly. We also rely on third parties for portions of our development activities. Many of these third-party providers are located in markets that are subject to political risk, intellectual property misappropriation, corruption, infrastructure problems and natural disasters in addition to country specific privacy and data security risks, given current legal and regulatory environments. The failure of these service providers to meet their obligations and adequately deploy business continuity plans in the event of a crisis and/or the development of significant disagreements, natural or man-made disasters or other factors that materially disrupt our ongoing relationship with these providers could negatively affect our operations.

Because our products use components or materials that may be subject to price fluctuations, shortages, interruptions of supply, or discontinuation, we may be unable to ship our products in a timely fashion, which would adversely affect our revenues, harm our reputation and negatively impact our results of operations.

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We may be vulnerable to price increases for products, components, or materials, such as silver, copper, and cobalt. We generally do not enter into forward contracts or other methods of hedging against supply risk for these items. In addition, we have in the past and may in the future occasionally experience shortages or interruptions in supply for certain of these items, including products or components that have been or will be discontinued, which can cause us to delay shipments beyond targeted or announced dates. We have also recently reduced our inventory levels, which could impact our ability to supply our customers with products in a timely manner if there was an unexpected increase in demand. Such shortages or interruptions could result from events outside our control, as was the case with the earthquake and tsunami in Japan in March 2011. To help address these issues, we may decide from time to time to purchase quantities of these items that are in excess of our estimated requirements. As a result, we could be forced to increase our excess and obsolete inventory reserves to provide for these excess quantities, which could harm our operating results. In addition, if a component or other product goes out of production, we may be required to requalify substitute components or products, or even redesign our products to incorporate an alternative component or product. If we experience any shortage of products or components of acceptable quality, or any interruption in the supply of these products or components, or if we are not able to procure them from alternate sources at acceptable prices and within a reasonable period of time, our revenues, gross profits or both could decrease. In addition, under the terms of some of our contracts with our customers, we may also be subject to penalties if we fail to deliver our products on time.

We face operational and other risks associated with our international operations.

Risks inherent in our international business activities include, but are not limited to, the following:

- timing of and costs associated with localizing products for foreign countries and lack of acceptance of non-local products in foreign countries;
- that the nature and composition of our products may subject us to any number of additional legal requirements, which might include, but are not limited to, data privacy regulations, import/export regulations and other similar requirements;
- inherent challenges in managing international operations;
- the burdens of complying with a wide variety of foreign laws and any related implementation costs; the applicability of foreign laws that could affect our business or revenues, such as laws that purport to require that we return payments that we received from insolvent customers in certain circumstances; and unexpected changes in regulatory requirements, tariffs, and other trade barriers;
- inherent cultural differences that could make it more difficult to sell our products or could result in allegations that sales activities have violated the U.S. Foreign Corrupt Practices Act or similar laws that prohibit improper payments in connection with efforts to obtain business;
- the imposition of tariffs or other trade barriers on the importation of our products;
- potentially adverse tax consequences, including restrictions on repatriation of earnings;
- economic and political conditions in the countries where we do business;
- differing vacation and holiday patterns in other countries, particularly in Europe;
- increased costs of labor, particularly in China;
- labor actions generally affecting individual countries, regions, or any of our customers, which could result in reduced demand for, or could delay delivery or acceptance of, our products; and
- international terrorism.

Any of these factors could have a material adverse effect on our revenues, results of operations, and our financial condition.

We will likely incur additional costs in connection with the disposition of our interest in the Holley Metering joint venture.

As a result of the sale of our Grid business, we have decided to wind down our our joint venture in Hangzhou, China with Holley Metering ("Holley"), a Chinese company with which we had been developing smart energy products for

the Chinese market, as well as certain products for the rest of the world. This process will result in costs, the full amount of which is uncertain at this time, but that will negatively impact our cash flow.

Adverse changes in general economic or political conditions in any of the major countries in which we do business could adversely affect our business or operating results.

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Our business can be affected by a number of factors that are beyond our control, such as general geopolitical, economic, and business conditions. In addition, political uncertainty in the countries where we seek to do business may impact the timing, as well as our ultimate ability, of obtaining new customers and implementing new systems.

In addition, there could be a number of follow-on effects from the credit crisis on our business, such as the insolvency of certain of our key customers, which could impair our distribution channels or result in the inability of our customers to obtain credit to finance purchases of our products.

This uncertainty about future economic and political conditions continues to make it difficult for us to forecast operating results and to make decisions about future investments. We continue to see the effects of the tentative economy on our IIoT revenues.

If economic activity in the U.S. and other countries' economies remains weak, many customers may continue to delay, reduce, or even eliminate their purchases of networking technology products. This could result in reductions in sales of our products, longer sales cycles, slower adoption of our technologies, increased price competition, and increased exposure to excess and obsolete inventory. For example, distributors could decide to reduce inventories of our products. If conditions in the global economy, U.S. economy or other key vertical or geographic markets we serve remain uncertain or continue to be weak, we would experience material negative impacts on our business, financial condition, results of operations, cash flow, capital resources, and liquidity.

Our executive officers and technical personnel are critical to our business.

Our success depends substantially on the performance of our executive officers and key employees. Due to the specialized technical nature of our business, we are particularly dependent on our Chief Executive Officer and other executive officers, as well as our technical personnel. Our future success will depend on our ability to attract, integrate, motivate and retain qualified executive, managerial, technical, sales, and operations personnel, particularly given the overall economic climate and the emphasis on reducing expenses at our company.

Competition for qualified personnel in our business areas is intense, and we may not be able to continue to retain qualified executive officers and key personnel and attract new officers and personnel when necessary. Our product development and marketing functions are largely based in Silicon Valley, which is a highly competitive marketplace. It may be particularly difficult to recruit, relocate and retain qualified personnel in this geographic area. Moreover, the cost of living, including the cost of housing, in Silicon Valley is known to be high. Because we are legally prohibited from making loans to executive officers, we will not be able to assist potential key personnel as they acquire housing or incur other costs that might be associated with joining our company. In addition, if we lose the services of any of our key personnel and are not able to find suitable replacements in a timely manner, our business could be disrupted, other key personnel may decide to leave, and we may incur increased operating expenses in finding and compensating their replacements.

If we are unable to obtain additional funds when needed, our business could suffer.

Following the sale of our Grid business, we currently expect that our combined cash, cash equivalent, and short-term investment balances will decline as we implement our long-term strategic focus on the IIoT business.

As our cash balances decline, customers or potential customers may become less interested in doing business with our company, or we may not satisfy the financial criteria they have established for their suppliers. In addition, from time to time we may also decide to use a portion of our cash balances to settle alleged warranty issues that may arise with our customers or¸ as noted in the section regarding Legal Actions, in connection with litigation. We may do so even if we do not believe we have liability to our customers or in connection with such litigation, in order to limit our risk, reduce outlays to third party providers, and for administrative convenience. In the future, to the extent that our revenues grow or as we may determine necessary to maintain adequate supply levels, we may experience higher levels of inventory and accounts receivable, which will also use our cash balances. In addition, to the extent we plan to make alternate uses of our facilities, we may incur additional cash expenditures. In addition, we may use our cash reserves to strategically acquire or invest in other companies, products, or technologies that are complementary to our business.

Lastly, our combined cash, cash equivalents, and short-term investment balances could be negatively affected by the various risks and uncertainties that we face, especially in light of our focus on the nascent and emerging IIoT things market, and any changes in our planned cash outlay could negatively affect our existing cash reserves.

While we do not currently depend on access to the credit markets to finance our operations, there can be no assurance that the current state of the financial markets would not impair our ability to obtain financing in the future, including, but not limited

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to, our ability to draw on funds under our existing credit facilities or our ability to incur indebtedness or sell equity if that became necessary or desirable. In addition, if we do not meet our revenue targets, our use of our cash balances would increase due to the fact that a significant portion of our operating expenses are fixed. If we were not able to obtain additional financing when needed, or on acceptable terms, our ability to invest in additional research and development resources and sales and marketing resources could be adversely affected, which could hinder our ability to sell competitive products into our markets on a timely basis and harm our business.

Voluntary and/or industry standards and governmental regulatory actions in our markets could limit our ability to sell our products.

Standards bodies, which are formal and informal associations that attempt to set voluntary, non-governmental product standards, are influential in many of our target markets. We participate in many voluntary and/or industry standards organizations around the world in order to help prevent the adoption of exclusionary standards as well as to promote standards for our products. However, we do not have the resources to participate in all standards processes that may affect our markets and our efforts to influence the direction of those standards bodies in which we do participate may not be successful. Many of our competitors have significantly more resources focused on standards activities and may influence those standards in a way that would be disadvantageous to our products and thereby make it difficult for us to achieve our business and financial objectives.

Many of our products and the industries in which they are used are subject to U.S. and foreign regulation. In addition, the markets for our IIoT products may experience a movement towards standards based protocols driven by governmental action, such as those being considered in the U.S. by NIST . To the extent that we do not adopt such protocols or do not succeed in achieving adoption of our own protocols as standards or de facto standards, sales of our IIoT products may be adversely affected. Moreover, even if our own protocols are adopted as standards, we run the risk that we could lose business to competing implementations.

The adoption of voluntary and/or industry standards or the passage of governmental regulations, for example by state utility commissions or national regulatory bodies such as FERC in the United States and PTB or BSI in Germany, that are incompatible with our products or technology could limit the market opportunity for our products or result in increased costs, which could harm our revenues, results of operations, and financial condition.

We are subject to numerous governmental regulations concerning the manufacturing and use of our products. We must stay in compliance with all such regulations and any future regulations. Any failure to comply with such regulations, and the unanticipated costs of complying with future regulations, may adversely affect our business, financial condition, and results of operations.

We manufacture and sell products incorporating electronic components that may contain materials that are subject to government regulation in the locations in which our products are manufactured and assembled, as well as the locations where we sell our products. Since we operate on a global basis, maintaining compliance with regulations concerning the materials used in our products is a complex process that requires continual monitoring of regulations and ongoing compliance procedures. For example, in 2012 the European Union issued recast regulations regarding the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment ("RoHS") and in 2014, the SEC rules requiring companies to publicly disclose their use of conflict minerals that originated in the Democratic Republic of the Congo (DRC) or an adjoining country (Rule for Disclosing Use of Conflict Minerals) also become effective. The adoption of any unanticipated new regulations that significantly impact the various components we use or require that we use more expensive components would have a material adverse impact on our business, financial condition and results of operations.

Our manufacturing processes, including the processes used by our suppliers, are also subject to numerous governmental regulations that cover both the use of various materials as well as environmental concerns. Since we and our suppliers operate on a global basis, maintaining compliance with regulations concerning our production processes is also a complex process that requires continual monitoring of regulations and ongoing compliance procedures. For example, environmental issues such as pollution and climate change have seen significant legislative and regulatory interest on a global basis. Changes in these areas could directly increase the cost of energy, which may have an impact on the way we or our suppliers manufacture products or use energy to produce our products. In addition, any new

regulations or laws in the environmental area might increase the cost of raw materials we use in our products. We are currently unable to predict how any such changes will impact us and if any such impact could be material to our business. Any new law or regulation that significantly increases our costs of manufacturing or causes us or our suppliers to significantly alter the way that our products are manufactured would have a material adverse effect on our business, financial condition and results of operations.

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Liabilities resulting from defects in or misuse of our products, whether or not covered by insurance, may delay our revenues and increase our liabilities and expenses.

Our products are manufactured with highly complex electronic components and may, as a result, contain or may be alleged to contain errors or failures, including those relating to actual or potential security breaches. In addition, our customers or their installation partners may improperly install or implement our products, which could delay completion of a deployment or hinder our ability to win a subsequent award. Furthermore, because of the low cost and interoperable nature of our IIoT products, LONWORKS technology could be used in a manner for which it was not intended.

Even if we determine that an alleged error or failure in our products does not exist, we may incur significant expense and shipments and revenue may be delayed while we analyze the alleged error or failure. If errors or failures are found in our products, we may not be able to successfully correct them in a timely manner, or at all, and our reputation may suffer. Such errors or failures could delay our product shipments and divert our engineering resources while we attempt to correct them. In addition, we could decide to extend the warranty period, or incur other costs outside of our normal warranty coverage, to help address any known errors or failures in our products and mitigate the impact on our customers. For example, we could decide to replace defective products at a cost that is significantly higher than the value of the original products. This could delay our revenues and increase our expenses.

To address these issues, the agreements we maintain with our customers may contain provisions intended to limit our exposure to potential errors and omissions claims as well as any liabilities arising from them. However, our customer contracts may not effectively protect us against the liabilities and expenses associated with errors or failures attributable to our products.

Defects in our products may also cause us to be liable for losses in the event of property damage, harm or death to persons, claims against our directors or officers, and the like. For example, our automated smart outdoor lighting products operate in a variety of settings under diverse conditions that may present the risk of product failure, which could subject us to liability. For instance, a failure of our automated smart lighting product used by a customer to enhance security could subject us to liability in the event of unlawful activity by third parties. Moreover, our IIoT products may present risks beyond our control such as operational misuse that could ultimately subject us to liability. Such liabilities could harm our reputation, expose our company to liability, and adversely affect our operating results and financial position.

To help reduce our exposure to these types of liabilities, we currently maintain property, general commercial liability, errors and omissions, directors and officers, and other lines of insurance. However, it is possible that such insurance may not be available in the future or, if available, may be insufficient in amount to cover any particular claim, or we might not carry insurance that covers a specific claim. In addition, we believe that the premiums for the types of insurance we carry will continue to fluctuate from period to period. Significant cost increases could also result in increased premiums or reduced coverage limits. Consequently, if we elect to reduce our coverage, or if we do not carry insurance for a particular type of claim, we will face increased exposure to these types of claims.

We are exposed to credit risk and payment delinquencies on our accounts receivable, and this risk has been heightened during the ongoing decline in economic conditions.

We only recognize revenue when we believe collectability is reasonably assured. However, only a relatively small percentage of our outstanding accounts receivables are covered by collateral, credit insurance, or acceptable third-party guarantees. In addition, our standard terms and conditions require payment within a specified number of days following shipment of product, or in some cases, after the customer’s acceptance of our products. While we have procedures to monitor and limit exposure to credit risk on our receivables, there can be no assurance such procedures will effectively limit our credit risk and avoid losses. Additionally, when one of our resellers makes a sale to a utility, we face further credit risk, and we may defer revenue, due to the fact that the reseller may not be able to pay us until it receives payment from the utility. This risk could become more magnified during a particular fiscal period if the resellers facing credit issues represent a significant portion of our accounts receivable during that period. As economic conditions change and worsen, certain of our direct or indirect customers may face liquidity concerns and may be unable to satisfy their payment obligations to us or our resellers on a timely basis or at all, which would have a material adverse effect on our financial condition and results of operations. This risk is heightened in the event a

limited number of our customers become a large source of our revenues and accounts receivable. As a result of our uncertain customer base and the nascent markets in which we operate, this risk is hard to quantify at the present time.

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We have limited ability to protect our intellectual property rights.

Our success depends significantly upon our intellectual property rights, which can vary significantly from jurisdiction to jurisdiction. We rely on a combination of patent, copyright, trademark and trade secret laws, non-disclosure agreements and other contractual provisions to establish, maintain and protect these intellectual property rights, all of which afford only limited protection, particularly in those countries that lack robust or accessible enforcement mechanisms. For example, we have in the past and may in the future form joint ventures with foreign companies, including those in China, where intellectual property mechanisms are generally less stringent than those found in the U.S. We have also outsourced certain development activities to third parties. If any of our patents fail to protect our technology, or if we do not obtain patents in certain countries, our competitors may find it easier to offer equivalent or superior technology. In addition, our trade secrets or other intellectual property that we license to third parties could be used improperly or otherwise in violation of the license terms.

We have also registered or applied for registration for certain trademarks, and will continue to evaluate the registration of additional trademarks as appropriate. If we fail to properly register or maintain our trademarks, or to otherwise take all necessary steps to protect our trademarks, the value associated with the trademarks may diminish. In addition, if we fail to protect our trade secrets or other intellectual property rights, we may not be able to compete as effectively in our markets.

Despite our efforts to protect our proprietary rights, unauthorized parties may attempt to copy aspects of our products or services or use information that we regard as proprietary, or it may not be economically feasible to enforce them. Any of our patents, trademarks, copyrights, trade secrets, or intellectual property rights could be challenged, invalidated or circumvented. In addition, we cannot assure you that we have taken or will take all necessary steps to protect our intellectual property rights. Third parties may also independently develop similar technology without breach of our trade secrets or other proprietary rights. In addition, the laws of some foreign countries, including several in which we operate or sell our products, do not protect proprietary rights to as great an extent as do the laws of the United States, and it may take longer to receive a remedy from a court outside of the United States. Also, some of our products are licensed under shrink-wrap license agreements that are not signed by licensees and therefore may not be binding under the laws of certain jurisdictions.

From time to time, litigation may be necessary to defend and enforce our proprietary rights. As a result, we could incur substantial costs and divert management resources, which could harm our business, regardless of the final outcome. Despite our efforts to safeguard and maintain our proprietary rights both in the United States and abroad, we may be unsuccessful in doing so. Also, the steps that we take to safeguard and maintain our proprietary rights may be inadequate to deter third parties from infringing, misusing, misappropriating, or independently developing our technology or intellectual property rights, or to prevent an unauthorized third party from misappropriating our products or technology.

Our business may suffer if it is alleged or found that our products infringe the intellectual property rights of others, or if we are unable to secure rights to use the intellectual property rights of others on reasonable terms.

We may be contractually obligated to indemnify our customers or other third parties that use our products in the event our products are alleged to infringe a third party’s intellectual property rights. From time to time, we may also receive notice that a third party believes that our products may be infringing patents or other intellectual property rights of that third party. Responding to those claims, regardless of their merit, can be time consuming, result in costly litigation, divert management’s attention and resources, and cause us to incur significant expenses. We do not insure against infringement of a third party’s intellectual property rights.

As the result of such a claim, we may elect or be required to redesign our products that are alleged to infringe the third party’s patents or other intellectual property rights, which could cause those product offerings to be delayed. Or we could be required to cease distributing those products altogether. In the alternative, we could seek a license to the third party’s intellectual property. Even if our products do not infringe, we may elect to take a license or settle to avoid incurring litigation costs. However, it is possible that we would not be able to obtain such a license or settle on reasonable terms, or at all.

In some cases, even though no infringement has been alleged, we may attempt to secure rights to use the intellectual property rights of others that would be useful to us. We cannot guarantee that we would be able to secure such rights

on reasonable terms, or at all.

Lastly, our customers may not purchase our products if they are concerned our products may infringe third party intellectual property rights. This could reduce the market opportunity for the sale of our products and services.

Any of the foregoing risks could have a material adverse effect on our revenues, results of operations, and financial condition.

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We face currency risks associated with our international operations.

We have operations located in seven countries and our products are sold in many more countries around the world. Revenues from international sales, which include both export sales and sales by international subsidiaries, accounted for about 68.1%, 72.4% and 74.3%, of our total revenues for the years ended December 31, 2015, 2014, and 2013, respectively. Although we have sold our Grid business, we expect that international sales will continue to constitute a significant portion of our total net revenues. Given our high dependency on sales of our products into Europe, the ongoing escalation in the financial crisis in that region could adversely affect our financial results significantly. Changes in the value of currencies in which we conduct our business relative to the U.S. dollar have caused and could continue to cause fluctuations in our reported financial results. The three primary areas where we are exposed to foreign currency fluctuations are revenues, cost of goods sold, and operating expenses.

In general, we sell our products to foreign customers primarily in U.S. dollars. As such, fluctuations in exchange rates have had, and could continue to have, an impact on revenues. If the value of the dollar rises, our products will become more expensive to our foreign customers, which could result in their decision to postpone or cancel a planned purchase.

With respect to the relatively minimal amount of our revenues generated in foreign currencies, our historical foreign currency exposure has been related primarily to the Japanese Yen and has not been material to our consolidated results of operations. However, we will face increased exposure to foreign currency risk if, in the future, our foreign customers require us to price our products in a local currency.

In addition, for our cost of goods sold, our products are generally assembled by CEMs in China. Although our transactions with these companies are presently denominated in U.S. dollars, in the future they may require us to pay in their local currency, or demand a U.S. dollar price adjustment or other payment to address a change in exchange rates, which would increase our cost to procure our products. This is particularly a risk in China, where any future revaluations of the Chinese currency against the U.S. dollar could result in significant cost increases. In addition, increases in labor costs in the markets where our products are manufactured could also result in higher costs to procure our products. For example, China has recently experienced overall wage increases, which our CEMs have generally passed along to us.

We use the local currency to pay for our operating expenses in the various countries where we have operations. If the value of the U.S. dollar declines as compared to the local currency where the expenses are incurred, our expenses, when translated back into U.S. dollars, will increase.

To date, we have not hedged any of our foreign currency exposures and currently do not maintain any hedges to mitigate our foreign currency risks. Consequently, any resulting adverse foreign currency fluctuations could significantly harm our revenues, cost of goods sold, or operating expenses.

Fluctuations in our operating results may cause our stock price to decline.

Our quarterly and annual results have varied significantly from period to period, and we have sometimes failed to meet securities analysts' expectations. Moreover, we have a history of losses and negative cash flow and cannot assure you that we will achieve sustained profitability in the future. Our future operating results will depend on many factors, many of which are outside of our control, including the following:

- orders may be cancelled;
- the mix of products and services that we sell may change to a less profitable mix;
- shipment, payment schedules, and product acceptance may be delayed;
- our products may not be purchased by OEMs, systems integrators, service providers and end-users at the levels we project;
- our ability to develop products that comply with future regulations and trade association guidelines;
- the revenue recognition rules relating to certain of our products could require us to defer some or all of the revenue associated with product shipments until certain conditions, such as delivery and acceptance criteria for our software and/or hardware products, are met in a future period;
-

our CEMs may not be able to provide quality products on a timely basis, especially during periods where capacity in the CEM market is limited;

- our products may not be manufactured in accordance with specifications or our established quality standards, or may not perform as designed;

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- downturns in any customer's or potential customer's business, or declines in general economic conditions, could cause significant reductions in capital spending, thereby reducing the levels of orders from our customers;
- successful implementation of our new enterprise resource planning (ERP) system;
- we may incur costs associated with any future business acquisitions; and
- any future impairment charges related to goodwill, other intangible assets, and other long-lived assets, as well as costs or impairment charges associated with leasing excess facilities, required to be recorded under generally accepted accounting principles in the United States may negatively affect our earnings and financial condition.

Any of the above factors could, individually or in the aggregate, have a material adverse effect on our results of operations and our financial condition, which could cause our stock price to decline.

Natural disasters, power outages, and other factors outside of our control such as widespread pandemics could disrupt our business.

We must protect our business and our network infrastructure against damage from earthquake, flood, hurricane and similar events, as well as from power outages. A natural disaster, power outage, or other unanticipated problem could also adversely affect our business by, among other things, harming our primary data center or other internal operations, limiting our ability to communicate with our customers, limiting our ability or our partners' or customers' ability to sell or use our products, affecting our third party developer's ability to complete developments on schedule or at all, or affecting our suppliers' ability to provide us with components or products. For example, the 2011 earthquake and tsunami in Japan adversely impacted our revenues from customers located in Japan and/or our ability to source parts from companies located in Japan. Shortly after the earthquake, we received notice from Toshiba (one of two manufacturers of the Neuron Chip - an important component that we and our customers use in control network devices), that they would no longer be able to manufacture Neuron Chips due to earthquake damage suffered at the semiconductor manufacturing facility that produced the Neuron Chips. However, the abrupt termination of Toshiba's Neuron Chip manufacturing capability caused a disruption in supply and an increase in prices from the remaining supplier, Cypress Semiconductor. Consequently, there is a risk that the events in Japan could ultimately reduce demand for certain of our transceiver products, which are used in conjunction with Neuron Chips in developing control network devices by our customers. Such a reduction in demand could negatively impact our results of operations and financial condition. We do not insure against several natural disasters, including earthquakes.

Any outbreak of a widespread communicable disease pandemic, such as the outbreak of the H1N1 influenza virus in 2009, could similarly impact our operations. Such impact could include, among other things, the inability for our sales and operations personnel located in affected regions to travel and conduct business freely, the impact any such disease may have on one or more of the distributors for our products in those regions, and increased supply chain costs. Additionally, any future health-related disruptions at our third-party contract manufacturers or other key suppliers could affect our ability to supply our customers with products in a timely manner, which would harm our results of operations.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

At our corporate headquarters in Santa Clara, California, we sublease approximately 32,000 square feet of useable space. We moved to this location in December 2015. The sublease for this space is scheduled to expire in July 2019. Prior to moving to our Santa Clara, California facility, our corporate headquarters were located in San Jose, California, where we leased two buildings, each of which contained approximately 75,000 square feet of useable space. We moved to this location in October 2001. The leases for the two buildings were scheduled to expire in 2011 and 2013, respectively.

In June 2008, the building leases were amended, resulting in an extension of the lease term for both buildings through March 2020. The extended leases required minimum lease payments from June 2008 through March 2020 totaling approximately $48.9 million. We terminated these leases in May 2015 and, at the same time, entered into a short-term lease for one of the two building that expired in December 2015. In conjunction with the termination of these leases, we paid an up-front lease termination charge of $10.0 million. For accounting purposes only, we were the "deemed owner" of these buildings. See Note 3 of Notes to Consolidated Financial Statements in Part IV, Item 15 of this report

for further explanation of the accounting treatment for these leases.

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In conjunction with the sale of our Grid division, we entered into a sublease for a portion of our San Jose, California corporate headquarters facility with S&T. This sublease expired in December 2015 in conjunction with the expiration of our short-term lease for the San Jose facility.

We also lease office space for our employees in China, Germany, Hong Kong, Japan, the Netherlands, South Korea, and the United Kingdom. The leases for these offices expire at various dates through 2018.

As of December 31, 2015, the future minimum rental payments for all of our leased office space, including those for our corporate headquarters facilities, totaled approximately $3.0 million. For the year ended December 31, 2015, the aggregate rental expense for all leased office space (which does not include the rent expense for our former corporate headquarters facility in San Jose) was approximately $558,000.

We believe that our facilities will be adequate for at least the next 12 months. For additional information regarding our obligations under property leases, please see Note 11 of Notes to Consolidated Financial Statements included in Item 15 of Part IV of this Report.

ITEM 3. LEGAL PROCEEDINGS

For a discussion regarding our legal proceedings and matters, please refer to the “Legal Actions” section of Note 11 - Commitments and Contingencies, in Notes to the Consolidated Financial Statements in Item 15 of Part IV of this Annual Report on Form 10-K, which is incorporated herein by reference.

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

Our common stock is traded on the Nasdaq Global Market under the symbol “ELON.” We began trading on NASDAQ on July 28, 1998, the date of our initial public offering. The following table sets forth, for the quarter indicated, the high and low sales price per share of our common stock as reported on the Nasdaq Global Market. On December 7, 2015, we effected a one-for-ten reverse stock split. All share and per share information has been retroactively adjusted to reflect the stock split.

	Price Range	
Year ended December 31, 2015	High	Low
Fourth quarter	$7.50	$5.40
Third quarter	8.90	4.80
Second quarter	12.10	7.56
First quarter	17.00	8.90
Year ended December 31, 2014		
Fourth quarter	$21.80	$16.70
Third quarter	27.40	17.70
Second quarter	30.80	23.50
First quarter	41.80	21.20

As of March 29, 2016, there were approximately 97 stockholders of record. Because brokers and other institutions hold many shares on behalf of stockholders, we are unable to estimate the total number of stockholders represented by these record holders.

Dividend Policy

We have never paid dividends on our capital stock and do not currently expect to pay any dividends in the foreseeable future. We intend to retain future earnings, if any, for use in our business.

Equity Compensation Plan Summary Information

For information on our equity compensation plans, please refer to Note 7 to our accompanying Consolidated Financial Statements.

Recent Sales of Unregistered Securities

There were no sales of unregistered securities during the fourth quarter of our fiscal year ended December 31, 2015.

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Stock Price Performance Graph

The following graph compares the cumulative total stockholder return on our common stock (assuming reinvestment of dividends) with the cumulative total return on the S&P 500 Index and the S&P 500 Information Technology Index (which is comprised of those companies in the information technology sector of the S&P 500 Index). The graph assumes that $100 was invested in our common stock on December 31, 2010 and in the S&P 500 Index and the S&P 500 Information Technology Index. Historic stock price performance is not necessarily indicative of future stock performance.

	December 2010	December 2011	December 2012	December 2013	December 2014	December 2015
Echelon Corporation	100	47.79	24.04	21.10	16.68	5.53
S&P 500 Composite Index	100	102.11	118.45	156.82	178.29	180.75
S&P 500 Information Technology Index	100	102.41	117.59	151.03	181.40	192.15

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Repurchase of Equity Securities by the Company

The following table provides information about the repurchase of our common stock during the quarter ended December 31, 2015:

Period	Total Number of Shares Purchased (1)	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Maximum Number of Shares that May Yet Be Purchased Under the Plans or Programs (1)
October 1 – October 31	91	$6.03	—	—
November 1 – November 30	19	$7.25	—	—
December 1 – December 31	21	$6.16	—	—
Total	131	$6.23	—	—

(1) Represents shares surrendered to us by employees in order to satisfy stock-for-stock option exercises and/or withholding tax obligations related to stock-based compensation.

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ITEM 6. SELECTED FINANCIAL DATA

The following selected consolidated financial data is derived from our consolidated financial statements. The information set forth below is not necessarily indicative of results of future operations, and should be read in conjunction with Item 7, “Management's Discussion and Analysis of Financial Condition and Results of Operations” and the Consolidated Financial Statements and Notes in Item 15 of this Form 10-K in order to fully understand factors that may affect the comparability of the information presented below.

	Year Ended December 31,				
	2015	2014	2013	2012	2011
Consolidated Statement of Operations Data:	(in thousands, except per share data)				
Revenues	$38,804	$38,730	$45,857	$134,017	$156,487
Cost of revenues	16,528	16,818	18,015	77,562	89,325
Gross profit	22,276	21,912	27,842	56,455	67,162
Operating expenses:					
Product development	9,747	9,510	10,922	30,009	34,755
Sales and marketing	7,832	9,098	9,061	21,460	25,719
General and administrative	9,249	13,734	14,644	15,050	17,897
Goodwill impairment	5,698	—	—	—	—
Lease termination charges	3,337	—	—	—	—
Loss on write down of property, equipment and other	—	4,409	—	—	—
Litigation charges	—	—	3,452	—	—
Restructuring charges	—	391	2,254	1,176	—
Total operating expenses	35,863	37,142	40,333	67,695	78,371
Loss from continuing operations	(13,587)	(15,230)	(12,491)	(11,240)	(11,209)
Interest and other income (expense), net	791	930	(702)	(362)	6
Interest expense on lease financing obligations	(387)	(1,100)	(1,235)	(1,360)	(1,468)
Loss from continuing operations before provision for income taxes	(13,183)	(15,400)	(14,428)	(12,962)	(12,671)
Income tax expense	50	211	311	219	329
Net loss from continuing operations	(13,233)	(15,611)	(14,739)	(13,181)	(13,000)
Net loss attributable to non-controlling interest	—	—	—	363	—
Net loss from continuing operations attributable to Echelon Corporation stockholders	$(13,233)	$(15,611)	$(14,739)	$(12,818)	$(13,000)
Net loss from discontinued operations, net of income taxes	—	(9,250)	(3,679)	—	—
Net loss from discontinued operations attributable to non-controlling interest	—	535	808	—	—
Net loss from discontinued operations attributable to Echelon Corporation stockholders	—	(8,715)	(2,871)	—	—
Net loss attributable to Echelon Corporation Stockholders	$(13,233)	$(24,326)	$(17,610)	$(12,818)	$(13,000)
Basic and diluted net loss per share from continuing operations attributable to Echelon Corporation Stockholders	$(3.00)	$(3.59)	$(3.42)	$(3.01)	$(3.09)
Basic and diluted net loss per share from discontinued operations attributable to Echelon Corporation Stockholders	$0.00	$(2.00)	$(0.67)	$0.00	$0.00

Basic and diluted net loss per share attributable to Echelon Corporation stockholders	$(3.00)	$(5.59)	$(4.09)	$(3.01)	$(3.09)
Shares used in computing net loss per share [1]:					
Basic	4,409	4,350	4,309	4,265	4,208
Diluted	4,409	4,350	4,309	4,265	4,208
Cash dividends declared per common share	—	—	—	—	—
Consolidated Balance Sheet Data:					
Cash, cash equivalents, restricted investments, and short-term investments	$26,070	$43,570	$57,635	$61,855	$58,656
Working capital	26,713	40,310	57,090	72,661	74,922
Total assets	38,046	71,646	106,128	123,583	151,705
Total liabilities	9,125	28,469	38,151	39,788	62,597
Total stockholders' equity	$28,921	$43,177	$67,977	$83,795	$89,108

[1] See Note 1 of Notes to Consolidated Financial Statements for an explanation of shares used in computing basic net loss per share, and diluted net loss per share.

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

The following discussion should be read in conjunction with the consolidated financial statements and notes thereto included elsewhere in this Annual Report. The following discussion contains predictions, estimates, and other forward-looking statements that involve a number of risks and uncertainties about our business. These statements may be identified by the use of words such as "we believe," "expect," "anticipate," "intend," "plan," "goal," "continues," "may" and expressions. Forward-looking statements include statements that refer to projections of our future financial performance, our anticipated growth and trends in our businesses, and other characterizations of future events or circumstances. In particular, these statements include statements such as: our projections of revenues; estimates of our future gross margins and restructuring charges; statements regarding reinvesting a portion of our earnings from foreign operations; plans to use our cash reserves to strategically acquire other companies, products, or technologies; our projections of our combined cash, cash equivalent and short term investment balance; the sufficiency of our cash reserves to meet cash requirements; our expectations that our revenues will not fluctuate significantly due to a fluctuation in foreign currency sales; our forecasts regarding our sales and marketing expenses; and estimates of our interest income and tax exposure. Such statements are based on our current expectations and could be affected by the uncertainties and risk factors described throughout this filing and particularly in the "Risk Factors" section. Therefore, our actual results may differ materially and adversely from those expressed in any forward-looking statements. We undertake no obligation to review or update publicly any forward-looking statements for any reason.

EXECUTIVE OVERVIEW

Echelon Corporation was incorporated in California in February 1988 and reincorporated in Delaware in January 1989. We are based in Santa Clara, California, and maintain offices in seven foreign countries throughout Europe and Asia. Our products enable everyday devices — such as air conditioners, outdoor lighting, appliances, electricity meters, light switches, thermostats, and valves — to be made "smart" and inter-connected, part of an emerging market known as the Industrial Internet of Things ("IIoT").

Our proven, open standard, multi-application energy control networking platform powers applications for smart cities, smart buildings, and smart campuses that help customers save on their energy usage, reduce outage duration or prevent them from happening entirely, reduce carbon footprint and more. Today, we offer, directly and through our partners worldwide, a wide range of products and services.

Prior to the third quarter of 2014, our Company operated in two operating segments, the IIoT segment, and the Grid segment. In the third quarter of 2014, we announced and completed the sale of our Grid operating segment to S&T AG ("S&T"), a publicly traded European IT systems provider with an existing focus on smart energy products and services. We have classified the results of operations of the Grid business as discontinued operations for the years ended December 31, 2015, 2014, and 2013. For years prior to 2013, Echelon's organizational structure was set up to report and track information for a single reporting unit, the Company as a whole. In late 2013, we underwent a reorganization into two operating segments, Grid and IIoT, which resulted in, among other things, a complex movement affecting a majority of our employees, a significant modification to our Company's departmental organization structure, and a completely new way of presenting and reviewing operating performance for the new organizations. Prior to 2013, the Grid business was not deemed a component of our Company as operations and cashflows could not be clearly distinguished, operationally and for financial reporting purposes, from the rest of the Company. Therefore, the reporting of discontinued operations for years prior to 2013 is not appropriate as the operations and cashflows from the Grid business were not clearly distinguished from the rest of the Company prior to 2013. Furthermore, for years prior to 2013,it was impracticable for us to break out the separate operating results for the Grid business as our company was organized and operating as a single segment and separate division specific financial information is unavailable. For more information on the sale of our Grid division, please refer to Note 5 - Discontinued Operations, in the Notes to Consolidated Financial Statements in Part IV, Item 15 of this report.

As a result of the sale, the Company's resources are now entirely focused on the IIoT. This business sells products and services that form Embedded Control Platforms, such as LONWORKS and IzoT, and which include components, control nodes and development software. These products are typically sold to Original Equipment Manufacturers (OEMs) to build into their industrial application solutions. The Company also sells into certain vertical application markets for IIoT solutions, such as the outdoor lighting market. These solutions are sold to end users typically through value-added resellers and distributors.

During the quarter ended June 30, 2015, we terminated the lease agreements for our corporate headquarters facility in San Jose, California. These leases were scheduled to expire in March 2020 and had been historically accounted for under authoritative guidance pertaining to leases in which we were both involved in the construction of the lease assets and for which

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certain sale-leaseback criteria were not met. This resulted in Echelon being the "deemed owner" of the two buildings for accounting purposes only. Accordingly, the leases associated with these facilities were historically accounted for as financing obligations.

In conjunction with the termination of these leases and associated financing obligations in May 2015, we paid an up-front lease termination charge of $10.0 million, which allowed us to remove approximately $15.3 million of building related financing obligations from our balance sheet. At the same time, we entered into a short-term lease for one of the two buildings for the remainder of 2015. As a result of the lease termination, we wrote the carrying value of the buildings and leasehold improvements down to its fair value, which was equal to the present value of the remaining lease payments under the short-term lease. The net effect of the lease termination transaction was a one-time charge of $3.3 million during the quarter ended June 30, 2015.

During the quarter ended December 31, 2015, we determined that there were indicators of a potential goodwill impairment, resulting primarily from the continued decline in the trading price of our common stock. As a result, we performed an impairment test of our long-lived assets, including goodwill, and concluded that a full impairment of our goodwill was warranted. This resulted in a non-cash charge of $5.7 million during the quarter.

Also during the quarter ended December 31, 2015, we concluded that the amount of additional consideration we expect to owe the former Lumewave shareholders at the conclusion of the two-year period ending in August 2016 was less than the amount we had been providing for previously. As a result, we reduced this accrual by approximately $577,000, which was recorded as a reduction to our general and administrative expenses.

Our total revenues remained virtually flat during 2015 as compared to 2014. Gross margins increased by 0.8 percentage points during 2015 as compared to 2014, while overall operating expenses decreased by 3.4%. The net effect was a loss attributable to Echelon Corporation stockholders in 2015 that decreased by $11.1 million as compared to 2014.

The following tables provide an overview of key financial metrics for the years ended December 31, 2015 and 2014 that our management team focuses on in evaluating our financial condition and operating performance (in thousands, except percentages).

	Year ended December 31,			
	2015	2014	$ Change	% Change
Net revenues	$38,804	$38,730	$74	0.2 %
Gross margin	57.4 %	56.6 %	---	0.8 ppt
Operating expenses	$35,863	$37,142	$(1,279)	(3.4)%
Net loss attributable to Echelon Corporation Stockholders	$(13,233)	$(24,326)	$11,093	(45.6)%
Cash, cash equivalents, restricted investments, and short-term investments	$26,070	$43,570	$(17,500)	(40.2)%

- Net revenues: Our total revenues increased by 0.2% during 2015 as compared to 2014. Excluding component sales to Enel, which increased from $3.0 million in 2014 to $4.9 million in 2015, our revenues decreased by 5.2% during 2015 as compared to 2014. This decrease was primarily due to a reduction in sales of our products in the APJ region. We have seen a loss of market share over the last several years, as a result of reductions in IIoT related research and development and marketing expenses during the period in which the Company was pursuing its Grid business, which was sold in 2014. This impacted sales of our LONWORKS portfolio of products in particular, which has caused a decrease in our IIoT revenues.
- Gross margin: Our gross margin increased by 0.8 percentage points during 2015 as compared to 2014. The relatively modest increase was primarily due to the mix of products sold.
-

Operating expenses: Our operating expenses decreased by 3.4% during 2015 as compared to 2014. Excluding non-routine charges of $8.5 million in 2015 ($5.7 million related to the goodwill impairment charge discussed above, $3.3 million related to the termination of our corporate headquarters facility leases, partially offset by a $577,000 reduction in the accrual for additional consideration we expect to owe the former Lumewave shareholders) and $4.8 million in 2014 ($4.4 million related to an impairment charge we took on excess facilities at our corporate headquarters and $391,000 of restructuring charges), our operating expenses decreased by 15.3% between the two periods. This continues a trend we

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began several years ago and is primarily due to a reduction in our facilities expenses as well as reduced compensation related expenses resulting from the restructuring actions we undertook in 2013 and 2014.

- Net loss attributable to Echelon Corporation Stockholders: We generated a net loss of $13.2 million during 2015, which was a decrease from the net loss of $24.3 million in 2014. Excluding the impact of non-cash stock-compensation charges, impairment charges, adjustments to the expected Lumewave consideration, lease termination charges, restructuring charges, and the loss generated from discontinued operations, our net loss decreased by approximately $4.8 million, or 51.7%, in 2015 as compared to 2014.
- Cash, cash equivalents, restricted investments, and short-term investments: During 2015, our cash, cash equivalents, restricted investments, and short-term investment balance decreased by 40.2%, from $43.6 million at December 31, 2014 to $26.1 million at December 31, 2015. This decrease was primarily the result of the upfront lease termination charge of $10.0 million discussed above, and to a lesser extent, cash used in operations of $4.9 million (driven primarily by our net loss of $13.2 million less non-cash charges for impairments, depreciation and amortization, and stock based compensation).

Critical Accounting Policies and Estimates

Our discussion and analysis of our financial condition and results of operations is based upon our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States of America. Note 1, “Significant Accounting Policies” of Notes to Consolidated Financial Statements in this Annual Report on Form 10-K describes the significant accounting policies and methods used in the preparation of our consolidated financial statements. The preparation of these consolidated financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses and related disclosure of contingent assets and liabilities. On an on-going basis, we evaluate our estimates, including those related to our stock-based compensation, allowance for doubtful accounts, inventories, and commitments and contingencies. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities. Actual results may differ from these estimates under different assumptions or conditions.

We believe the following critical accounting policies and estimates relate to those policies that are most important to the presentation of our consolidated financial statements and require the most difficult, subjective, and complex judgments.

Revenue Recognition. Our revenues are derived from the sale and license of our products and to a lesser extent, from fees associated with training, technical support, and custom software design services offered to our customers. Product revenues consist of revenues from hardware sales and software licensing arrangements. Service revenues consist of product technical support (including software post-contract support services), training, and custom software development services.

We recognize revenue when persuasive evidence of an arrangement exists, delivery to the customer's carrier (and acceptance, as applicable) has occurred, the sales price is fixed or determinable, collectability is probable, and there are no post-delivery obligations. For non-distributor hardware sales, including sales to third party manufacturers, these criteria are generally met at the time of delivery to the customer's carrier. However, for arrangements that contain contractual acceptance provisions, revenue recognition may be delayed until acceptance by the customer or the acceptance provisions lapse unless we can objectively demonstrate that the contractual acceptance criteria have been satisfied, which is generally accomplished by establishing a history of acceptance for the same or similar products. For sales made to our distributor partners, revenue recognition criteria are generally met at the time the distributor sells the products through to its end-use customer. Service revenue is recognized as the training services are performed, or ratably over the term of the support

period.

We account for the rights of return, price protection, rebates, and other sales incentives offered to distributors of our products as a reduction in revenue. With the exception of sales to distributors, the Company's customers are generally not
entitled to return products for a refund. For sales to distributors, due to contractual rights of return and other factors that impact
our ability to make a reasonable estimate of future returns and other sales incentives, revenues are not recognized until the
distributor has shipped our products to the end customer.

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Inventory Valuation. At each balance sheet date, we evaluate our ending inventories for excess quantities and obsolescence. In general, the evaluation for excess quantities includes analyses of historical sales levels by product and projections of future demand. In general, inventories on hand in excess of one year's forecasted demand are deemed to be excess. However, in certain instances when the facts and circumstances for a particular item warrant an extended view, periods of longer than one year are used to determine excess supplies. In performing these analyses, management must make significant judgments in determining the appropriate time horizon over which to analyze for excess inventories.

For most of our products, our customers generally buy from a portfolio of “off-the-shelf” or standard products. In addition, our revenues are generally composed of a larger volume of smaller dollar transactions. Accordingly, while any single customer's demand for a given product may fluctuate from quarter to quarter, the fact that there are so many IIoT customers buying a standard product tends to average out increases or decreases in any individual customer's demand. This has historically resulted in a relatively stable future demand forecast for our IIoT products, which, absent outside forces such as worsening general economic conditions, management evaluates in determining its requirement for an excess inventory reserve.

In addition to providing a reserve for excess inventories, we do not value inventories that we consider obsolete. We consider a product to be obsolete when one of several factors exists. These factors include, but are not limited to, our decision to discontinue selling an existing product, the product has been re-designed and we are unable to rework our existing inventory to update it to the new version, or our competitors introduce new products that make our products obsolete.

We adjust remaining inventory balances to approximate the lower of our cost or market value. If future demand or market conditions are less favorable than our projections, additional inventory write-downs may be required and would be reflected in cost of sales in the period the revision is made.

Impairment of Long-Lived Assets Including Goodwill. We review long-lived assets for impairment whenever events or changes in circumstances indicate the carrying amount of an asset may not be recoverable. Recoverability is measured by comparing the asset's carrying value to the future undiscounted cash flows the asset is expected to generate. If long-lived assets are considered to be impaired, the impairment to be recognized equals the amount by which the carrying value of the asset exceeds its fair value. For the year ended December 31, 2014, we recognized impairments associated with certain long-lived assets associated with our Grid division and a building that we ceased use of at our corporate headquarters facility (see Note 3 of Notes to Consolidated Financial Statements for additional information regarding the impairment). For the years ended December 31, 2015, and December 31, 2013, we recognized no impairments of long-lived assets.

Costs in excess of the fair value of tangible and other identifiable intangible assets acquired and liabilities assumed in a purchase business combination are recorded as goodwill, which is tested for impairment using a two-step approach. We evaluate goodwill, at a minimum, on an annual basis during the first quarter and whenever events and changes in circumstances suggest that the carrying amount may not be recoverable. Impairment of goodwill is tested at the reporting unit level by comparing the reporting unit's carrying amount, including goodwill, to the fair value of the reporting unit. The fair values of the reporting units are estimated using a combination of the income approach and the market approach. If the carrying amount of the reporting unit exceeds its fair value, goodwill is considered impaired and a second step is performed to measure the amount of impairment loss, if any. For the years ended December 31, 2015 and 2014, we recognized impairments of our goodwill (see Note 10 of Notes to Consolidated Financial Statements for additional information regarding these impairments). For the year ended December 31, 2013, we recognized no impairments of goodwill.

For these impairment analyses, we are required to estimate the fair value of the assets being evaluated. These fair value estimates require significant management judgment and are based on the best information available at the time

of the analysis.

RESULTS OF OPERATIONS

The following discussion covers our results of operations for the three years ended December 31, 2015. For each of these three years, the results of our Grid business are reflected in the "Net loss from discontinued operations" lines in our Consolidated Statements of Operations, as we sold our Grid business in September 2014 (see Note 5 in Part IV, Item 15 of this report for further information regarding the sale of our Grid business).

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The following table reflects the percentage of total revenues represented by each item in our Consolidated Statements of Operations for the years ended December 31, 2015, 2014, and 2013:

	Year ended December 31,		
	2015	2014	2013
Revenues	100.0 %	100.0 %	100.0 %
Cost of revenues	42.6	43.4	39.3
Gross profit	57.4	56.6	60.7
Operating expenses:			
Product development	25.1	24.6	23.8
Sales and marketing	20.2	23.5	19.8
General and administrative	23.8	35.5	31.9
Goodwill impairment	14.7	—	—
Lease termination charges	8.6	—	—
Loss on write down of property, equipment and other	—	11.4	—
Litigation charges	—	—	7.5
Restructuring charges	—	1.0	4.9
Total operating expenses	92.4	96.0	87.9
Loss from continuing operations	(35.0)	(39.4)	(27.2)
Interest and other income (expense), net	2.0	2.4	(1.5)
Interest expense on lease financing obligations	(1.0)	(2.8)	(2.7)
Loss from continuing operations before provision for income taxes	(34.0)	(39.8)	(31.4)
Income tax expense	0.1	0.5	0.7
Net loss from continuing operations	(34.1)	(40.3)	(32.1)
Net loss from discontinued operations, net of income taxes	—	(23.9)	(8.1)
Net loss from discontinued operations attributable to non-controlling interest, net of income taxes	—	1.4	1.8
Net loss from discontinued operations attributable to Echelon Corporation stockholders, net of income taxes	—	(22.5)	(6.3)
Net loss attributable to Echelon Corporation stockholders	(34.1)%	(62.8)%	(38.4)%

Revenues

Total revenues

	Year ended December 31,						
(Dollars in thousands)	2015	2014	2013	2015 over 2014 $ Change	2014 over 2013 $ Change	2015 over 2014 % Change	2014 over 2013 % Change
Total revenues	$38,804	$38,730	$45,857	74	(7,127)	0.2 %	(15.5)%

Our revenues are primarily comprised of sales of our hardware products, and to a lesser extent, revenues we generate from sales of our software products and from our customer support and training offerings. Included in these totals are components we sell to Enel.

Excluding sales to Enel, which are discussed more fully below, our revenues decreased by 5.2%, or $1.8 million, during 2015 as compared to 2014. This decrease was primarily due to a $1.3 million reduction in sales made to customers in the APJ region, with the remainder coming from smaller reductions in sales made to customers in the Americas and EMEA regions. We have seen a loss in market share over the last several years due primarily to reduced

investment in research and development and marketing, especially in our LONWORKS portfolio of products, which has caused a decrease in our IIoT revenues.

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Excluding sales to Enel, which are discussed more fully below, our revenues decreased by 7.2%, or $2.8 million, during 2014 as compared to 2013. This decrease was primarily due to a $2.5 million reduction in sales made to customers in the EMEA region. In addition, continued poor economic conditions in the EMEA region during 2014 also contributed to the year-over-year decline. Partially offsetting these decreases was a slight increase in sales in the APJ region.

The portion of our revenues conducted in currencies other than the United States dollar, principally the Japanese Yen, was about 3.9% in 2015, 4.5% in 2014, and 4.7% in 2013. Our revenues will be subject to fluctuations in the exchange rates between the United States dollar and the foreign currencies in which we sell our products and services. In general, if the dollar were to weaken against these currencies, our revenues from those foreign currency sales, when translated into United States dollars, would increase. Conversely, if the dollar were to strengthen against these currencies, as it did during 2015, our revenues from those foreign currency sales, when translated into United States dollars, would decrease. The extent of this exchange rate fluctuation increase or decrease will depend on the amount of sales conducted in these currencies and the magnitude of the exchange rate fluctuation from year to year. To date, we have not hedged any of these foreign currency risks. We do not currently expect that, during 2016, the amount of our revenues conducted in these foreign currencies will fluctuate significantly from prior year levels. Given the historical and expected future level of sales made in foreign currencies, we do not currently plan to hedge against these currency rate fluctuations. However, if the portion of our revenues conducted in foreign currencies were to grow significantly, we would re-evaluate these exposures and, if necessary, enter into hedging arrangements to help minimize these risks.

Enel project revenues (included in Total Revenues and Discontinued Operations)

	Year ended December 31,						
(Dollars in thousands)	2015	2014	2013	2015 over 2014 $ Change	2014 over 2013 $ Change	2015 over 2014 % Change	2014 over 2013 % Change
Enel revenues in Total Revenues	4,909	$2,993	$7,363	1,916	(4,370)	64.0%	(59.4)%
Enel revenues in Discontinued Operations	—	112	4,400	(112)	(4,288)	(100.0)%	(97.5)%
Total Enel revenues	$4,909	$3,105	$11,763	$1,804	$(8,658)	58.1%	(73.6)%

In October 2006, we entered into two agreements with Enel, a development and supply agreement and a software enhancement agreement. Under the development and supply agreement, Enel purchases metering kit and data concentrator products from us. Under the software enhancement agreement, which was transferred to S&T as part of the sale of the Grid division in September 2014, we were providing software enhancements to Enel for use in its Contatore Elettronico system. Enel Project revenues recognized during the years ended December 31, 2015, 2014, and 2013, respectively, related primarily to shipments under the development and supply agreement, including a $4.4 million order for data concentrator products in 2013 which is reflected in discontinued operations. The development and supply agreement expired in December 2015, although delivery of products and services can extend beyond that date and the agreement may be extended under certain circumstances.

We sell our products to Enel and its designated manufacturers in U.S. dollars. Therefore, the associated revenues are not subject to foreign currency risks. We do not expect additional shipments to Enel in 2016 apart from those currently scheduled for the quarter ending March 31, 2016. As such, we expect our revenues from Enel will decrease significantly in 2016 as compared to 2015.

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Gross Profit and Gross Margin

(Dollars in thousands)	Year ended December 31, 2015	2014	2013	2015 over 2014 $ Change	2014 over 2013 $ Change	2015 over 2014 % Change	2014 over 2013 % Change
Gross Profit	$22,276	$21,912	$27,842	364	(5,930)	1.7%	(21.3)%
Gross Margin	57.4%	56.6%	60.7%	—	—	0.8	(4.1)

Gross profit is equal to revenues less cost of revenues. Cost of revenues associated with sales of our IIoT products includes direct costs associated with the purchase of components, sub-assemblies, and finished goods, as well as indirect costs such as allocated labor and overhead; costs associated with the packaging, preparation, and shipment of products; and charges related to warranty and excess and obsolete inventory reserves. Cost of revenues associated with our IIoT services consists of employee-related costs such as salaries and fringe benefits as well as other direct and indirect costs incurred in providing training, customer support, and custom software development services. Gross margin is equal to gross profit divided by revenues.

Gross margin increased by 0.8 percentage points for the year ended December 31, 2015 as compared to 2014. The increase was primarily due to the mix of products sold.

During 2014, our gross margins declined by 4.1 percentage points as compared to 2013. This was primarily due to the decrease in our revenues, which increases our manufacturing overhead as a percentage of revenues.

Our future gross margins will continue to be affected by several factors, including, but not limited to: overall revenue levels, changes in the mix of products sold, changes in our distribution strategy and use of distributors, changes in the prices charged by our suppliers, periodic charges related to excess and obsolete inventories, warranty expenses, introductions of cost reduced versions of our products, changes in the average selling prices of the products we sell, purchase price variances, and fluctuations in the level of indirect overhead spending. In addition, the impact of foreign exchange rate fluctuations and labor rates may affect our gross margins in the future. We currently outsource the manufacturing of most of our products requiring assembly to CEMs located primarily in China. To the extent labor rates were to rise further, or to the extent the U.S. dollar were to weaken against the Chinese currency, or other currencies used by our CEMs, our costs for the products they manufacture could rise, which would negatively affect our gross margins.

Operating Expenses

Product Development

(Dollars in thousands)	Year ended December 31, 2015	2014	2013	2015 over 2014 $ Change	2014 over 2013 $ Change	2015 over 2014 % Change	2014 over 2013 % Change
Product Development	$9,747	$9,510	$10,922	237	(1,412)	2.5%	(12.9)%

Product development expenses consist primarily of payroll and related expenses for development personnel, facility costs, expensed material, fees paid to third party service providers, depreciation and amortization, and other costs associated with the development of new technologies and products.

Our product development expenses increased modestly during 2015 as compared to 2014, driven by increases in compensation paid to our product development personnel as well as fees paid to third party service providers, partially offset by reductions in allocated facilities charges and costs associated with equipment and supplies consumed in our product development activities.

Our product development expenses decreased in 2014 as compared to 2013, driven primarily by reductions in compensation (including equity compensation) resulting from the restructuring actions of 2013 and the consequential impact on the allocated costs to the product development organization, as well as reduced fees paid to third party

service providers.

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Sales and Marketing

(Dollars in thousands)	Year ended December 31, 2015	2014	2013	2015 over 2014 $ Change	2014 over 2013 $ Change	2015 over 2014 % Change	2014 over 2013 % Change
Sales and Marketing	$7,832	$9,098	$9,061	(1,266)	37	(13.9)%	0.4 %

Sales and marketing expenses consist primarily of payroll, commissions, and related expenses for sales and marketing personnel, travel and entertainment, facilities costs, advertising and product promotion, and other costs associated with our sales and marketing activities.

Our sales and marketing expenses expenses decreased in 2015 as compared to 2014, driven primarily by reductions in compensation related expenses for our sales and marketing personnel, as well as reductions in our marketing expenses.

Our sales and marketing expenses were relatively unchanged in 2014 as compared to 2013.

General and Administrative

(Dollars in thousands)	Year ended December 31, 2015	2014	2013	2015 over 2014 $ Change	2014 over 2013 $ Change	2015 over 2014 % Change	2014 over 2013 % Change
General and Administrative	$9,249	$13,734	$14,644	(4,485)	(910)	(32.7)%	(6.2)%

General and administrative expenses consist primarily of payroll and related expenses for executive, finance, and administrative personnel, professional fees for legal and accounting services rendered to the company, facility costs, insurance, and other general corporate expenses.

General and administrative expenses decreased in 2015 as compared to the same period in 2014 due primarily to lower compensation related to the 2014 restructuring actions, as well as lower excess facilities charges resulting from the termination of our corporate headquarters facility leases. Also contributing to the year over year decline was the fact that, during 2014 we incurred one-time costs associated with the sale of our Grid division and the acquisition of Lumewave. These costs did not repeat in 2015. Lastly, as mentioned earlier, during the quarter ended December 31, 2015, we concluded that the amount of contingent consideration we expect to owe the former Lumewave shareholders at the conclusion of the two-year period ending in August 2016 was less than the amount we had been providing for previously. As a result, we reduced this accrual by approximately $577,000, which was recorded as a reduction to our general and administrative expenses.

In 2014, General and administrative expenses decreased as compared to 2013 due primarily to lower compensation following the 2013 and 2014 restructuring actions.

Goodwill Impairment

(Dollars in thousands)	Year ended December 31, 2015	2014	2013	2015 over 2014 $ Change	2014 over 2013 $ Change	2015 over 2014 % Change	2014 over 2013 % Change
Goodwill Impairment	$5,698	$—	$—	5,698	—	100.0 %	— %

During the quarter ended December 31, 2015, we determined that there were indicators of a potential impairment of our goodwill, resulting primarily from the continued decline in the trading price of our common stock. As a result, we performed an impairment test of our long-lived assets, including goodwill, and concluded that a full impairment of our goodwill was warranted. This resulted in a non-cash charge of $5.7 million during the quarter.

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Lease Termination Charges

(Dollars in thousands)	Year ended December 31, 2015	2014	2013	2015 over 2014 $ Change	2014 over 2013 $ Change	2015 over 2014 % Change	2014 over 2013 % Change
Lease Termination Charges	$3,337	$—	$—	3,337	—	100.0 %	— %

During the quarter ended June 30, 2015, we terminated the lease agreements for our corporate headquarter facility in San Jose, California. These leases were scheduled to expire in March 2020 and had been historically accounted for under authoritative guidance pertaining to leases in which we were both involved in the construction of the lease assets and for which certain sale-leaseback criteria were not met. This resulted in Echelon being the "deemed owner" of the two buildings for accounting purposes only. Accordingly, the leases associated with these facilities were historically accounted for as financing obligations.

In conjunction with the termination of these leases and associated financing obligations in May 2015, we paid an up-front lease termination charge of $10.0 million, which allowed us to remove approximately $15.3 million of building related financing obligations from our balance sheet. At the same time, we entered into a short-term lease for one of the two buildings for the remainder of 2015. As a result of the lease termination, we wrote the carrying value of the buildings and leasehold improvements down to its fair value, which was equal to the present value of the remaining lease payments under the short-term lease. The net effect of the lease termination transaction was a one-time charge of $3.3 million during the quarter ended June 30, 2015.

Loss on write down of property, equipment and other

(Dollars in thousands)	Year ended December 31, 2015	2014	2013	2015 over 2014 $ Change	2014 over 2013 $ Change	2015 over 2014 % Change	2014 over 2013 % Change
Loss on write down of property, equipment and other	$—	$4,409	$—	(4,409)	4,409	(100.0)%	100.0 %

As a result of the sale of our Grid business on September 30, 2014, we made the decision to cease use of one of the two buildings we lease at our corporate headquarters facility and to recharacterize the building as a rental property. Consequently, we performed an impairment analysis on this building and determined that its carrying value was not recoverable. In performing this analysis, we analyzed the expected cash flows from different sub-lease scenarios using recent lease data for similar facilities in the area, including market activity, expected tenant improvements and commissions, as well as the amount of time we believed would be required to secure a tenant for the building. As a result of this analysis, we recorded a write down of the building of $4.4 million during the third quarter of 2014.

Litigation Charges

(Dollars in thousands)	Year ended December 31, 2015	2014	2013	2015 over 2014 $ Change	2014 over 2013 $ Change	2015 over 2014 % Change	2014 over 2013 % Change
Litigation charges	$—	$—	$3,452	—	(3,452)	— %	(100.0)%

To avoid any possibility of an adverse ruling against us in relation to the Finmek litigation, as well as to limit administrative inconvenience and curtail litigation costs, we reached an agreement with respect to a tentative financial settlement of $3.5 million and recognized a charge for this amount in the first quarter of 2013. This settlement was formalized and became effective in the fourth quarter of 2013. It was paid in two substantially equal installments, one in the fourth quarter of 2013 and the other in the fourth quarter of 2014. We did not admit that the Italian claw back applied as part of this

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settlement. For additional information on the Finmek litigation, please refer to Note 11 - Commitments and Contingencies in the Notes to Consolidated Financial Statements of this report.

Restructuring Charges

	Year ended December 31,						
(Dollars in thousands)	2015	2014	2013	2015 over 2014 $ Change	2014 over 2013 $ Change	2015 over 2014 % Change	2014 over 2013 % Change
Restructuring Charges	$—	$391	$2,254	(391)	(1,863)	(100.0)%	(82.7)%

On September 30, 2014, and again in the fourth quarter of 2014, in connection with the sale of the Grid business, we undertook restructuring actions affecting approximately 44 employees who were terminated between September 2014 and March, 2015, as part of the strategic plan to focus on our IIoT business. In connection with this restructuring, we recorded restructuring charges of $1.8 million, of which $1.4 million was included in the net loss from discontinued operations for the year ended December 31, 2014.

On February 12, 2013, the company undertook restructuring actions affecting 43 employees to be terminated between February 2013 and December 2013, as part of an overall plan to reshape the company for the future. In connection with this restructuring, the company recorded restructuring charges of $2.3 million related to termination benefits for these personnel during the year ended December 31, 2013. We do not anticipate any further charges related to this restructuring action in the future. This workforce reduction plan was designed to enable us to rebalance our operating expense structure to optimally support the revenues at the then current and future expected levels.

Interest and Other Income (Expense), Net

	Year ended December 31,						
(Dollars in thousands)	2015	2014	2013	2015 over 2014 $ Change	2014 over 2013 $ Change	2015 over 2014 % Change	2014 over 2013 % Change
Interest and Other Income (Expense), Net	$791	$930	$(702)	(139)	1,632	(14.9)%	(232.5)%

Interest and other income (expense), net primarily reflects interest earned by our company on cash and short-term investment balances as well as foreign exchange translation gains and losses related to short-term intercompany balances.

Interest and other income, net decreased during 2015 as compared to the same period in 2014. This decrease was primarily attributable to a $172,000 decrease in foreign currency translation gains during 2015 as compared to 2014.

Interest and other income, net increased during 2014 as compared to 2013. This increase was primarily attributable to a $1.8 million change in foreign currency translation gains during 2014 as compared to 2013. These foreign currency fluctuations are attributable to our foreign currency denominated short-term intercompany balances. We account for translation gains and losses associated with these balances by reflecting these amounts as either other income or loss in our consolidated statements of operations. During periods when the U.S. dollar weakens in value against these foreign currencies, as it did during 2013, the associated translation losses negatively impact other income. Conversely, when the U.S. dollar strengthens, as it did during 2014 and again in 2015, the resulting translation gains favorably impact other income.

We do not currently anticipate interest income on our investment portfolio will improve during 2015 as we expect interest rates to remain historically low. Future gains or losses associated with translating our foreign currency denominated short-term intercompany balances will depend on exchange rates in effect at the time of translation.

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Interest Expense on Lease Financing Obligations

(Dollars in thousands)	Year ended December 31, 2015	2014	2013	2015 over 2014 $ Change	2014 over 2013 $ Change	2015 over 2014 % Change	2014 over 2013 % Change
Interest Expense on Lease Financing Obligations	(387)	(1,100)	(1,235)	(713)	(135)	(64.8)%	(10.9)%

The monthly rent payments we made to our lessor under the lease agreements for our San Jose headquarters site are recorded in our financial statements partially as land lease expense, with the remainder being allocated to principal and interest on the financing liability. “Interest expense on lease financing obligations” reflects the portion of our monthly lease payments that is allocated to interest expense.

Interest expense on lease financing obligations decreased during 2015 as compared to 2014, and during 2014 as compared to 2013 as well, which were a result of the nature of this expense. As with any amortizing fixed rate loan, payments made earlier in the term of the loan are comprised primarily of interest expense with little being allocated to principal repayment. Payments made later in the term of the loan, however, have an increasing proportion of principal repayment, with less being attributable to interest expense. In addition, the reduction in 2015 was also the result of the fact that in May 2015, we terminated the leases for our headquarters facilities and retired virtually all of the associated lease financing obligations.

Income Tax Expense

(Dollars in thousands)	Year ended December 31, 2015	2014	2013	2015 over 2014 $ Change	2014 over 2013 $ Change	2015 over 2014 % Change	2014 over 2013 % Change
Income Tax Expense	$50	$211	$311	(161)	(100)	(76.3)%	(32.2)%

The income tax expense for the years ended December 31, 2015, 2014 and 2013 was $50,000, $211,000 and $311,000, respectively. The difference between the statutory rate and our effective tax rate is primarily due to the impact of foreign taxes, changes in the valuation allowance on deferred tax assets, and changes in the accruals related to unrecognized tax benefits.

Loss from discontinued operations, net of taxes

Loss from discontinued operations for the years ended December 31, 2014 and 2013, represents the results of operations of our Grid business during those periods. There was no activity related to the Grid business during the year ended December 31, 2015.

The major components of the results of operations of the Grid business in 2014 and 2013 are as follows:

	Year ended December 31 2014	2013
Revenues	$18,392	$40,303
Cost of revenues	11,774	24,988
Operating expenses	15,614	18,994
Loss from discontinued operations before income taxes	(8,996)	(3,679)
Income taxes	—	—
Loss on sale of Grid business	(254)	—
Net loss from discontinued operations, net of income taxes	(9,250)	(3,679)
Net loss from discontinued operations attributable to non-controlling interest, net of income taxes	535	808
Net loss from discontinued operations attributable to Echelon Corporation Stockholders, net of income taxes	$(8,715)	$(2,871)

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OFF-BALANCE-SHEET ARRANGEMENTS AND OTHER CONTRACTUAL OBLIGATIONS

Off-Balance-Sheet Arrangements. We have not entered into any transactions with unconsolidated entities whereby we have financial guarantees, subordinated retained interests, derivative instruments, or other contingent arrangements that expose our company to material continuing risks, contingent liabilities, or any other obligation under a variable interest in an unconsolidated entity that provides financing, liquidity, market risk, or credit risk support to us.

Lease Commitments. In September 2015, we entered into a lease agreement for our corporate headquarters facility in Santa Clara, California. This lease commenced in November 2015 and will expire in July 2019. In addition, we lease facilities under operating leases for our sales, marketing, and product development personnel located elsewhere within the United States and in several foreign countries throughout Europe and Asia. These operating leases expire on various dates through 2019, and in some instances are cancelable with advance notice. Lastly, we also lease certain equipment and, for some of our sales personnel, automobiles. These operating leases are generally less than five years in duration.

Purchase Commitments. We utilize several contract manufacturers who manufacture and test our products requiring assembly. These contract manufacturers acquire components and build product based on demand information supplied by us in the form of purchase orders and demand forecasts. These purchase orders and demand forecasts generally cover periods up to twelve months, and in rare cases, up to eighteen months. We also obtain individual components for our products from a wide variety of individual suppliers. We generally acquire these components through the issuance of purchase orders, and in some cases through demand forecasts, both of which cover periods up to twelve months.

We also utilize purchase orders when procuring capital equipment, supplies, and services necessary for our day-to-day operations. These purchase orders generally cover periods ranging up to twelve months, but in some instances cover a longer duration.

Indemnifications. In the normal course of business, we provide indemnifications of varying scope to customers against claims of intellectual property infringement made by third parties arising from the use of our products. Historically, costs related to these indemnification provisions have not been significant. However, we are unable to estimate the maximum potential impact of these indemnification provisions on our future results of operations.

As permitted under Delaware law, we have agreements whereby we indemnify our officers and directors for certain events or occurrences while the officer or director is, or was, serving at our request in such capacity. The indemnification period covers all pertinent events and occurrences during the officer's or director's lifetime. The maximum potential amount of future payments we could be required to make under these indemnification agreements is unlimited; however, we have director and officer insurance coverage that would enable us to recover a portion of any future amounts paid. We believe the estimated fair value of these indemnification agreements in excess of the applicable insurance coverage is minimal.

Royalties. We have certain royalty commitments associated with the shipment and licensing of certain products. Royalty expense is generally based on a U.S. dollar amount per unit shipped or a percentage of the underlying revenue. Royalty expense, which is recorded as a component of cost of revenues in our Consolidated Statements of Operations, was approximately $390,000, $500,000, and $418,000 for the years ended December 31, 2015, 2014, and 2013, respectively. During the years ended December 31, 2015, 2014, and 2013, royalty expense reported in discontinued operations was approximately $0, $1,000 and $52,000, respectively

We will continue to be obligated for royalty payments in the future associated with the shipment and licensing of certain of our products. While we are currently unable to estimate the maximum amount of these future royalties, such amounts will continue to be dependent on the number of units shipped or the amount of revenue generated from these products.

Taxes. We conduct our operations in many tax jurisdictions throughout the world. In many of these jurisdictions, non-income based taxes such as property taxes, sales and use taxes, and value-added taxes are assessed on Echelon's operations in that particular location. While we strive to ensure compliance with these various non-income based tax filing requirements, there have been instances where potential non-compliance exposures have been identified. In accordance with generally accepted accounting principles, we make a provision for these exposures when it is both probable that a liability has been incurred and the amount of the exposure can be reasonably estimated. To date, such

provisions have been immaterial, and we believe that, as of December 31, 2015, we have adequately provided for such contingencies. However, it is possible that our results of operations, cash flows, and financial position could be harmed if one or more non-compliance tax exposures are asserted by any of the jurisdictions where we conduct our operations.

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Legal Actions. In April 2009, we received notice that the receiver for two companies that filed for the Italian law equivalent of bankruptcy protection in May 2004, Finmek Manufacturing SpA and Finmek Access SpA (collectively, the "Finmek Companies"), had filed a lawsuit under an Italian "claw back" law in Padua, Italy against us, seeking the return of approximately $16.7 million in payments received from us in the ordinary course of business for components we sold to the Finmek Companies prior to the bankruptcy filing. The Finmek Companies were among Enel's third party meters manufacturers, and from time to time through January 2004, we sold components to the Finmek Companies that were incorporated into the electricity meters that were manufactured by the Finmek Companies and sold to Enel SpA for the Enel Project. We believed that the Italian claw back law was not applicable to our transactions with the Finmek Companies, and the claims of the Finmek Companies' receiver were without merit. However, it was subsequently brought to our attention that a substantial percentage of claw back cases reviewed by the local courts, which are located in the jurisdiction in which the Finmek Companies were headquartered, were being decided in favor of the Finmek Companies. To avoid any possibility of an adverse ruling against us, as well as to limit administrative inconvenience and curtail litigation costs, in April 2013, with the consent of our Board of Directors, we decided to settle this matter. We reached an agreement with respect to a tentative financial settlement of $3.5 million and recognized a charge for this amount in the first quarter of 2013. This settlement was formalized and became effective in the fourth quarter of 2013. It was paid in two substantially equal installments, one in the fourth quarter of 2013 and the second in the fourth quarter of 2014. We did not admit that the Italian claw back law applied to our circumstances as part of this settlement.

From time to time, in the ordinary course of business, we may be subject to other legal proceedings, claims, investigations, and other proceedings, including claims of alleged infringement of third-party patents and other intellectual property rights, and commercial, employment, and other matters. In accordance with generally accepted accounting principles, we make a provision for a liability when it is both probable that a liability has been incurred and the amount of the loss can be reasonably estimated. These provisions are reviewed at least quarterly and adjusted to reflect the impacts of negotiations, settlements, rulings, advice of legal counsel, and other information and events pertaining to a particular case. While we believe we have adequately provided for such contingencies as of December 31, 2015, the amounts of which were immaterial, it is possible that our results of operations, cash flows, and financial position could be harmed by the resolution of any such outstanding claims.

As of December 31, 2015, our contractual obligations were as follows (in thousands):

	Payments due by period				
	Total	Less than 1 year	2-3 years	4-5 years	More than 5 years
Operating leases	2,967	835	1,735	397	
Purchase commitments	6,620	6,620	—	—	—
Total	$9,587	$7,455	$1,735	$397	$—

The amounts in the table above exclude $483,000 of income tax liabilities and related interest and penalties related to uncertain tax positions as we are unable to reasonably estimate the timing of settlement. See Note 12 - Income Taxes of Notes to Consolidated Financial Statements for further discussion.

LIQUIDITY AND CAPITAL RESOURCES

Since our inception, we have financed our operations and met our capital expenditure requirements primarily from the sale of preferred stock and common stock, although during 2012 and certain earlier years, we were also able to finance our operations through operating cash flow. From inception through December 31, 2015, we raised $295.7 million from the sale of preferred stock and common stock, including the exercise of stock options and warrants from our employees and directors.

The following table presents selected financial information as of December 31, 2015, and for each of the last two fiscal years (dollars in thousands):

December 31,

	2015	2014	2013
Cash, cash equivalents, restricted investments, and short-term investments	$26,070	$43,570	$57,635
Trade accounts receivable, net	4,030	3,948	10,522
Working capital	26,713	40,310	57,090
Stockholders' equity	$28,921	$43,177	$67,977

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As of December 31, 2015, we had $26.1 million in cash, cash equivalents, restricted investments, and short-term investments, a decrease of $17.5 million as compared to December 31, 2014. Historically, our primary source of cash, other than stock sales, has been receipts from revenue, and to a lesser extent, proceeds from the exercise of stock options and warrants by our employees and directors. Our primary uses of cash have been cost of product revenue, payroll (salaries, commissions, bonuses, and benefits), general operating expenses (costs associated with our offices such as rent, utilities, and maintenance; fees paid to third party service providers such as consultants, accountants, and attorneys; travel and entertainment; equipment and supplies; advertising; and other miscellaneous expenses), acquisitions, capital expenditures, payment of taxes associated with certain equity compensation awards, purchases under our stock repurchase programs, and early termination charges associated with our operating leases.
Cash flows from operating activities. Cash flows from operating activities have historically been driven by net income (loss) levels; adjustments for non-cash charges such as impairment charges, write-downs of property, plant, and equipment, stock-based compensation, depreciation and amortization, and changes in accrued investment income; and fluctuations in operating asset and liability balances. Net cash used in operating activities was $4.9 million for the year ended December 31, 2015, a decrease in cash outflows of approximately $6.1 million as compared to 2014. During the year ended December 31, 2015, net cash used in operating activities was primarily the result of our net loss (including non-controlling interest) of $13.2 million, changes in our operating assets and liabilities of $2.2 million, and a reduction in expected amount of contingent consideration we will owe the former Lumewave shareholders; all of which was partially offset by the non-cash goodwill impairment charge of $5.7 million, lease termination charges of $3.3 million, depreciation and amortization expense of $1.8 million, stock-based compensation expenses of $293,000, and losses on disposals and write-downs of fixed assets of $81,000. The primary components of the $2.2 million net change in our operating assets and liabilities were a $1.3 million decrease in accounts payable, a $707,000 decrease in deferred revenues, and a $1.1 million decrease in accrued liabilities, partially offset by a $409,000 decrease in inventories, a $356,000 decrease in other current assets, and a $277,000 decrease in deferred cost of goods sold. Accounts payable decreased due to the timing of expenditures during the latter part of 2015. Deferred revenues and deferred cost of goods sold decreased due primarily to a reduction in sales to our distributors.
Net cash used in operating activities was $11.0 million for the year ended December 31, 2014, an increase in cash outflows of approximately $9.9 million as compared to 2013. During the year ended December 31, 2014, net cash used in operating activities was primarily the result of our net loss (including non-controlling interest) of $24.9 million, partly offset by changes in operating assets and liabilities of $513,000, non-cash charges for losses on disposals and write-downs of fixed assets of $5.2 million, depreciation and amortization expense of $3.4 million, goodwill impairment charges of $3.4 million, stock-based compensation expenses of $1.2 million, and the loss we recorded on the sale of our Grid division of $254,000. The primary components of the $513,000 net change in our operating assets and liabilities were a $2.5 million decrease in accounts receivable, a $1.8 million decrease in inventories, a $1.0 million decrease in other current assets, and a $209,000 decrease in deferred cost of goods sold, partially offset by a a $4.0 million decrease in accrued liabilities, an $846,000 decrease in deferred revenues, and an $81,000 decrease in accounts payable. Accrued liabilities decreased primarily due to the final payment in December 2014 for the Finmek litigation, as well as the payment in the first quarter of 2014 of bonuses that were accrued as of December 31, 2013 in accordance with our 2013 compensation arrangements, with no corresponding amounts accrued as of December 31, 2014. Deferred revenues decreased due primarily to a decrease in sales to our distributors. Deferred cost of goods sold decreased in conjunction with an decrease in deferred revenues.

Net cash used in operating activities was $1.1 million for the year ended December 31, 2013, a decrease in cash inflows of approximately $6.5 million as compared to 2012. During the year ended December 31, 2013, net cash used in operating activities was primarily the result of a net loss of $18.4 million, partly offset by changes in operating assets and liabilities of $10.7 million, non-cash charges for depreciation and amortization expense of $4.0 million and stock-based compensation expenses of $2.5 million. The primary components of the $10.7 million net change in our operating assets and liabilities were a $5.3 million decrease in inventories, a $5.2 million decrease in accounts receivable, a $2.6 million increase in accrued liabilities, a $1.0 million increase in deferred revenues and a $0.5 million decrease in other current assets, partially offset by a $2.9 million decrease in accounts payable and a $0.8

million increase in deferred cost of goods sold. Inventories decreased in line with the Company's actions to consciously reduce inventory held, in response to slowing demand situation. Accounts receivable decreased primarily as a result of the timing of collections and the fact that our revenues were down in the fourth quarter of 2013 as compared to the same period in 2012. Accrued liabilities increased primarily due to accrual for the Finmek litigation, as well as the bonuses that were accrued as of December 31, 2013 in accordance with our 2013 compensation arrangements, which were more significant than those accrued for as of December 31, 2012. Deferred revenues increased due primarily to increased inventory sold to our distributors (especially in Europe), as well as product revenues deferred due to certain acceptance criteria for some arrangements not being met as of year end. Accounts payable decreased due to an overall reduction in the level of purchasing activity and timing of expenditures during 2013. Deferred cost of goods sold increased in conjunction with an increase in deferred revenues.

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Cash flows from investing activities. Cash flows from investing activities have historically been driven by transactions involving our short-term investment portfolio, capital expenditures, changes in our long-term assets, and acquisitions and divestitures. Net cash provided by investing activities was $10.8 million for the year ended December 31, 2015, a decrease of $8.8 million in cash inflows compared to 2014. During the year ended December 31, 2015, net cash provided by investing activities was primarily the result of proceeds from the maturities of available-for-sale short-term investments of $28.9 million; partially offset by purchases of available-for-sale short-term investments of $17.0 million, changes in other long-term assets of $795,000, and capital expenditures of $306,000. Other long-term assets increased primarily due to the payment of a deposit associated with our new headquarters facility.

Net cash provided by investing activities was $19.5 million for the year ended December 31, 2014, an increase of $20.6 million in cash inflows compared to 2013. During the year ended December 31, 2014, net cash provided by investing activities was primarily the result of proceeds from the maturities of available-for-sale short-term investments of $48.0 million and the proceeds (net of transaction costs) from the sale of our Grid division of $2.1 million; partially offset by purchases of available-for-sale short-term investments of $29.0 million, the cash we paid (net of cash we acquired) to acquire Lumewave Inc. of $0.9 million, and capital expenditures of $746,000.

Net cash used in investing activities was $1.0 million for the year ended December 31, 2013, a decrease of $2.1 million in cash outflows compared to 2012. During the year ended December 31, 2013, net cash used in investing activities was primarily the result of the purchases of available-for-sale short-term investments of $46.9 million and capital expenditures of $1.0 million, partially offset by proceeds from maturities and sales of available-for-sale short-term investments of $46.9 million.

Cash flows from financing activities. Cash flows from financing activities have historically been driven by the proceeds from issuance of common and preferred stock offset by transactions under our stock repurchase programs, principal payments on our lease financing obligations, and the acquisition of restricted investments. Net cash used in financing activities was $11.4 million for the year ended December 31, 2015, an increase in outflows of $2.7 million as compared to the same period in 2014. During the year ended December 31, 2015, net cash used in financing activities was primarily the result of $11.3 million in principal payments on our building lease financing obligations and $153,000 worth of shares repurchased from employees for payment of employee taxes on vesting of restricted stock units and upon exercise of stock options.

Net cash used in financing activities was $8.7 million for the year ended December 31, 2014, an increase in outflows of $6.2 million as compared to the same period in 2013. During the year ended December 31, 2014, net cash used in financing activities was primarily the result of $6.3 million in purchases of restricted investments, $2.1 million in principal payments on our building lease financing obligations and $422,000 worth of shares repurchased from employees for payment of employee taxes on vesting of restricted stock units and upon exercise of stock options.

Net cash used in financing activities was $2.5 million for the year ended December 31, 2013, an increase in outflows of $1.2 million as compared to the same period in 2012. During the year ended December 31, 2013, net cash used in financing activities was primarily the result of $2.1 million in principal payments on our building lease financing obligations and $0.5 million worth of shares repurchased from employees for payment of employee taxes on vesting of restricted stock units and upon exercise of stock options.

As noted above, our cash and investments totaled $26.1 million as of December 31, 2015. Of this amount, approximately 5% was held by our foreign subsidiaries. Our intent is to permanently reinvest a significant portion of our earnings from foreign operations, and current plans do not anticipate that we will need funds generated from foreign operations to fund our domestic operations. In the event funds from foreign operations are needed to fund operations in the United States and if U.S. tax has not already been previously provided, we would provide for and pay any additional U.S. taxes due in connection with repatriating these funds.

We use well-regarded investment managers to manage our invested cash. Our portfolio of investments managed by these investment managers is primarily composed of highly rated U.S. government securities, and to a lesser extent, money market funds. All investments are made according to guidelines and within compliance of policies approved by

the Audit Committee of our Board of Directors.

Until December 2014, we maintained a $5.0 million line of credit with our primary bank. The line of credit was secured by a collateral of the first priority on $6.3 million of our investments placed in a separate account. In December 2014, we cancelled this line of credit. We continue to maintain an operating credit line of $1.0 million with our primary bank for company credit card purchases, as well as a standby letter of credit for $113,000. These lines of credit continue to be secured by a collateral of the first priority on $1.4 million of our investments (presented as restricted investments in the Consolidated Balance Sheets). No amounts ever been drawn against the standby letters of credit issued by the bank.

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On August 15, 2014, we purchased 100% of the outstanding shares of Lumewave, Inc. ("Lumewave"). The acquisition was aimed at expanding our street lighting business. The purchase price consisted of $1.8 million in cash paid at closing and $715,000 in shares of our common stock distributed at closing. Additionally, if certain gross profit targets of the Lumewave business are achieved during the period from August 16, 2014 through August 15, 2016, an additional $1.3 million in consideration, payable in a combination of cash and shares of our common stock, will be due to the selling shareholders of Lumewave. As of December 31, 2015, we had accrued approximately $318,000 towards this additional consideration as we do not currently believe the financial targets will be met at a level that will require the full payout.

In the future, our cash reserves may be used to strategically acquire other companies, products, or technologies that are complementary to our business or for settlements of customer disputes or litigation. In addition, our combined cash, cash equivalents, and short-term investments balances could be negatively affected by various risks and uncertainties, including, but not limited to, the risks detailed in this Annual Report in Part I, Item 1A - Risk Factors. For example, any continued weakening of economic conditions or changes in our planned cash outlay could negatively affect our existing cash reserves.

Based on our current business plan and revenue prospects, we believe that our existing cash reserves will be sufficient to meet our projected working capital and other cash requirements for at least the next twelve months. However, we currently expect that our combined cash, cash equivalent, restricted investments, and short-term investment balance will decline during 2016. In the event that we require additional financing, such financing may not be available to us in the amounts or at the times that we require, or on acceptable terms. If we fail to obtain additional financing, when and if necessary, our business would be harmed.

RELATED PARTY TRANSACTIONS

In June 2000, we entered into a stock purchase agreement with Enel pursuant to which Enel purchased 300,000 newly issued shares of our common stock for $130.7 million. The closing of this stock purchase occurred on September 11, 2000. At the closing, Enel had agreed that it would not, except under limited circumstances, sell or otherwise transfer any of those shares for a specified time period. That time period expired September 11, 2003. To our knowledge, Enel has not disposed of any of its 300,000 shares. Under the terms of the stock purchase agreement, Enel has the right to nominate a member of our board of directors. A representative of Enel served on our board until March 14, 2012; no Enel representative is presently serving on our board.

At the time the company entered into the stock purchase agreement with Enel, it also entered into a research and development agreement with an affiliate of Enel (the "R&D Agreement"). Under the terms of the R&D Agreement, the company cooperated with Enel to integrate its LONWORKS technology into Enel's remote metering management project in Italy, the Contatore Elettronico. The company completed the sale of its components and products for the deployment phase of the Contatore Elettronico project during 2005. During 2006, the company supplied Enel and its designated manufacturers with limited spare parts for the Contatore Elettronico system. In October 2006, the company entered into a new development and supply agreement and a software enhancement agreement with Enel. Under the development and supply agreement, Enel and its contract manufacturers purchase additional electronic components and finished goods from the company. Under the software enhancement agreement, the company provided software enhancements to Enel for use in its Contatore Elettronico system. The software enhancement was assigned to S&T as part of the sale of our Grid division in September 2014. The development and supply agreement expired in December 2015, although delivery of products can extend beyond then and the agreement may be extended under certain circumstances.

For the years ended December 31, 2015, 2014, and 2012, we recognized revenue from products and services sold to Enel and its designated manufacturers of approximately $4.9 million, $3.0 million, and $7.4 million, respectively. As of December 31, 2015 and 2014, $827,000 and $158,000 of the Company's total accounts receivable balance related to amounts owed by Enel and its designated manufacturers, respectively.

RECENTLY ISSUED ACCOUNTING STANDARDS

During 2015, there have been no new recent accounting pronouncements or changes in accounting pronouncements, other than those noted in Note 1 in the Notes to Consolidated Financial Statements in Part IV, Item 15 of this report,

that are of significance, or potential significance, to our company.

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ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISKS

Market Risk Disclosures. The following discussion about our market risk disclosures involves forward-looking statements. Actual results could differ materially from those projected in the forward-looking statements. We are exposed to market risk related to changes in interest rates and foreign currency exchange rates. We do not use derivative financial instruments to hedge these exposures.

Interest Rate Sensitivity. We maintain a short-term investment portfolio consisting mainly of fixed income securities with a weighted average maturity of less than one year. These available-for-sale securities are subject to interest rate risk and will fall in value if market interest rates increase. If market rates were to increase immediately and uniformly by 10% from levels at December 31, 2015 and December 31, 2014, the fair value of the portfolio would decline by an immaterial amount. We currently intend to hold our fixed income investments until maturity, and therefore we would not expect our operating results or cash flows to be affected to any significant degree by a sudden change in market interest rates. However, if necessary, we may sell short-term investments prior to maturity to meet the liquidity needs of the company.

Foreign Currency Exchange Risk. We have international subsidiaries and operations and are, therefore, subject to foreign currency rate exposure. To date, our exposure to exchange rate volatility has not been significant. If foreign exchange rates were to fluctuate by 10% from rates at December 31, 2015, and December 31, 2014, our financial position and results of operations would not be materially affected. However, we could experience a material impact in the future.

In addition, for our cost of goods sold, our products are generally assembled by CEMs in China, although our transactions with these vendors have historically been denominated in U.S. dollars. These vendors may require us to pay in their local currency, or demand a U.S. dollar price adjustment or other payment to address a change in exchange rates, which would increase our cost to procure our products. This is particularly a risk in China, where any future revaluations of the Chinese currency against the U.S. dollar could result in significant cost increases.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

The Financial Statements and Supplementary Data required by this item are set forth in Item 6 and at the pages indicated in Item 15(a).

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

None.

ITEM 9A. CONTROLS AND PROCEDURES

a. Evaluation of Effectiveness of Disclosure Controls and Procedures

We have designed our disclosure controls and procedures to ensure that information we are required to disclose in reports that we file or submit under the Securities and Exchange Act of 1934 is accumulated and communicated to our management, including our principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure, and that such information is recorded, processed, summarized and reported within the time periods specified in SEC rules and forms. As of the end of the period covered by this Annual Report on Form 10-K, under the supervision of our Chief Executive Officer and our Chief Financial Officer, we evaluated the effectiveness of our disclosure controls and procedures, as such terms are defined in Rule 13a-15(e) and Rule 15d-15(e) under the Securities and Exchange Act of 1934. Based on this evaluation, our Chief Executive Officer and our Chief Financial Officer have concluded that our disclosure controls and procedures were effective as of December 31, 2015.

b. Management's Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Securities Exchange Act of 1934). Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate. Our internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial

reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles.

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Under the supervision and with the participation of our management, including our Chief Executive Officer and our Chief Financial Officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting as of December 31, 2015. This evaluation was based on the framework in Internal Control - Integrated Framework (1992) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on our evaluation under the framework in Internal Control - Integrated Framework (1992), our management concluded that our internal control over financial reporting is effective at this reasonable assurance level as of December 31, 2015.

c. Changes in Internal Control Over Financial Reporting

During the quarter ended September 30, 2015, we had a change in our internal control over financial reporting that occurred as a result of our implementation of a new ERP system that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting. Our new ERP system has replaced our legacy system, which was where a significant portion of our business transactions originate, are processed, and recorded. Our new ERP system is intended to provide us with enhanced transactional processing and management tools compared to our legacy system and is intended to enhance internal control over financial reporting. We believe it will function as an important component of our disclosure controls and procedures.

ITEM 9B. OTHER INFORMATION

Echelon is scheduled to hold its 2016 annual meeting of stockholders on May 17, 2016. The meeting will commence at 10:00 a.m., PDT, and is scheduled to be held at our corporate headquarters located at 2901 Patrick Henry Drive, Santa Clara, California 95054. The date of record for the annual meeting is March 24, 2016.

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PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information regarding our executive officers required by this Item is incorporated herein by reference from the section titled “Executive Officers of Registrant” in Part I of this annual report on Form 10-K. The remaining information required by this Item is incorporated herein by reference from our Proxy Statement for the 2016 Annual Meeting of Stockholders (the “2016 Proxy Statement”), which will be filed with the Securities and Exchange Commission no later than 120 days after the end of our fiscal year ended December 31, 2015.

ITEM 11. EXECUTIVE COMPENSATION

The information required by this Item is incorporated herein by reference from our 2016 Proxy Statement.

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

The information required by this Item is incorporated herein by reference from our 2016 Proxy Statement.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS AND DIRECTOR INDEPENDENCE

The information required by this Item is incorporated herein by reference from our 2016 Proxy Statement.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

The information required by this Item is incorporated herein by reference from our 2016 Proxy Statement.

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PART IV

ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES AND REPORTS ON FORM 8-K

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

1. Financial Statements

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Report of Independent Registered Public Accounting Firm	51
Consolidated Balance Sheets	52
Consolidated Statements of Operations	53
Consolidated Statements of Comprehensive Loss	54
Consolidated Statements of Stockholders' Equity	55
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2. Financial Statement Schedule

See Note 16 in Notes to Consolidated Financial Statements 85

All other schedules have been omitted because they are not applicable or the required information is included in the Consolidated Financial Statements or the Notes thereto.

3. Exhibits

Item 601 of Regulation S-K requires the following exhibits listed below. Each management contract or compensatory plan or arrangement required to be filed as an exhibit to this Form 10-K has been identified.

Exhibit No.	Description of Document
3.2(1)	Amended and Restated Certificate of Incorporation of Registrant.
3.3(2)	Amended and Restated Bylaws of Registrant.
4.1(3)	Form of Registrant's Common Stock Certificate.
4.2(4)	Second Amended and Restated Modification Agreement dated May 15, 1997.
10.1(4)	Form of Indemnification Agreement entered into by Registrant with each of its directors and executive officers.
10.2(10)	1997 Stock Plan (as amended and restated March 26, 2004)
10.2(16)+	1997 Stock Plan (as amended and restated April 3, 2013)
10.2(a)(5)+	Form of 1997 Stock Plan Stock Option Agreement with early exercise feature
10.2(b)(5)+	Form of 1997 Stock Plan Nonqualified Stock Option Agreement with early exercise feature
10.2(c)(6)+	Form of 1997 Stock Plan Nonqualified Stock Option Agreement
10.2(d)(5)+	Form of 1997 Stock Plan Performance Share Agreement (re: non-standard vesting schedule)
10.2(e)(5)+	Form of 1997 Stock Plan Performance Share Agreement for non-US employees
10.2(f)(5)+	Form of 1997 Stock Plan Performance Share Agreement with performance based vesting criteria for non-US employees
10.2(g)(5)+	Form of 1997 Stock Plan Stock Appreciation Right Agreement for non-US employees
10.2(h)(5)+	Form of 1997 Stock Plan Performance Share Agreement with performance based vesting criteria
10.2(i)(5)+	Form of 1997 Stock Plan Performance Share Agreement
10.2(j)(13)+	Form of 1997 Stock Plan Stock Appreciation Right Agreement
10.2(k)(7)+	Form of 1997 Stock Plan Performance Share Agreement for US-based corporate officers
10.2(l)(11)+	Form of 1997 Stock Plan Performance Share Agreement for non US-based corporate officers
10.2(m)(7)+	Form of 1997 Stock Plan Stock Appreciation Right Agreement for US-based corporate officers
10.2(n)(7)+	Form of 1997 Stock Plan Stock Appreciation Right Agreement for non US-based corporate officers
10.2(o)(12)+	Form of 1997 Stock Plan Restricted Stock Award Agreement

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10.2(p)[15]+	Form of 1997 Stock Plan Stock Option Agreement for U.S. Optionees (2012)
10.2(q)[15]+	Form of 1997 Stock Plan Stock Option Agreement for U.S. Corporate Officers (2012)
10.2(r)[15]+	Form of 1997 Stock Plan Stock Option Agreement for Optionees Outside the U.S. (2012)
10.2(s)[15]+	Form of 1997 Stock Plan Stock Option Agreement for Corporate Officers Outside the U.S. (2012)
10.2(t)[15]+	Form of 1997 Stock Plan Stock Option Agreement Appendix A for Optionees Outside the U.S. (2012)
10.2(u)[15]+	Form of 1997 Stock Plan Performance Share Agreement for Participants Outside the U.S. (2012)
10.2(v)[15]+	Form of 1997 Stock Plan Performance Share Agreement for Corporate Officers Outside the U.S. (2012)
10.2(w)[15]+	Form of 1997 Stock Plan Performance Share Agreement Appendix A for Participants Outside the U.S. (2012)
10.2 [15]+	1997 Stock Plan (as amended and restated August 18, 2010)
10.3 [4]	1988 Stock Option Plan and forms of related agreements.
10.4 [4]	Second Amended and Restated Modification Agreement dated May 15, 1997 (included in Exhibit 4.2).
10.5 [4]	Form of International Distributor Agreement.
10.6 [4]	Form of OEM License Agreement.
10.7 [4]	Form of Software License Agreement.
10.8 [4]	International Distributor Agreement between the Company and EBV Elektronik GmbH as of December 1, 1997.
10.9 [8]	1998 Director Option Plan.
10.10 [9]	Building 1 Lease Agreement dated December 30, 1999
10.11 [9]	First Amendment to Building 1 Lease Agreement dated May 10, 2000
10.12 [9]	Echelon Corporation Common Stock Purchase Agreement with ENEL S.p.A. dated June 30, 2000
10.13 [9]	Second Amendment to Building 1 Lease Agreement dated September 22, 2000
10.14 [9]	Building 2 Lease Agreement dated November 15, 2001
10.15 [9]	Third Amendment to Building 1 Lease Agreement dated April 10, 2008
10.16 [9]	First Amendment to Building 2 Lease Agreement dated April 10, 2008
10.17 [14]	Form of Value Added Reseller Agreement
10.18	Assignment and Amendment dated April 29, 2011 between the Company and Avnet Europe Comm VA (assigning and modifying the International Distributor Agreement filed as Exhibit 10.8 to the Registration Statement on Form S-1 filed on June 1, 1998)
10.19+	Echelon Corporation Employment Agreement by and between Echelon Corporation and Ronald A. Sege dated August 18, 2010
10.20+	Echelon Corporation Employment letter with William R. Slakey dated September 6, 2011
10.21[16]+	Form of Executive Change in Control and Severance Agreement (2013)
10.22[16]+	Echelon Corporation Employment letter with Alicia Jayne Moore dated June 27, 2013
21.1[3]	Subsidiaries of the Registrant.
23.1	Consent of KPMG LLP, Independent Registered Public Accounting Firm.
24.1[4]	Power of Attorney (see signature page).
31.1	Certificate of Echelon Corporation Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certificate of Echelon Corporation Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32	Certification by the Chief Executive Officer and the Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS*	XBRL Instance Document
101.SCH*	XBRL Taxonomy Extension Schema
101.CAL*	XBRL Taxonomy Extension Calculation Linkbase

101.DEF*	XBRL Taxonomy Extension Definition Linkbase
101.LAB*	XBRL Taxonomy Extension Label Linkbase
101.PRE*	XBRL Taxonomy Extension Presentation Linkbase

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* The financial information contained in these XBRL documents is unaudited and is furnished, not filed with the Securities and Exchange Commission.

+ Indicates management contract or compensatory plan or arrangement required to be filed as an exhibit pursuant to Item 14(c) of Form 10-K.

(1) Incorporated herein by reference to the Registrant's Quarterly Report on Form 10-Q for the quarterly period ended September 30, 2000, filed on November 14, 2000.

(2) Incorporated herein by reference to the Registrant's Current Report on Form 8-K dated August 16, 2007, filed on August 17, 2007.

(3) Incorporated herein by reference to the Registrant's Registration Statement on Form S-1/A filed on July 9, 1998.

(4) Incorporated herein by reference to the Registrant's Registration Statement on Form S-1 filed on June 1, 1998.

(5) Incorporated herein by reference to the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2006, filed on March 16, 2007.

(6) Incorporated herein by reference to the Registrant's Current Report Form 8-K dated April 12, 2007, filed on April 18, 2007.

(7) Incorporated herein by reference to the Registrant's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2008, filed on August 11, 2008.

(8) Incorporated herein by reference to the Registrant's Registration Statement on Form S-8 filed on August 21, 2000.

(9) Incorporated herein by reference to the Registrant's Annual Report on Form 10-K/A for the fiscal year ended December 31, 2008, filed on March 11, 2010.

(10) Incorporated herein by reference to the Registrant's Registration Statement on Form S-8 filed on June 1, 2005.

(11) Incorporated herein by reference to the Registrant's Registration Statement on Form S-8 filed on August 6, 2010.

(12) Incorporated herein by reference to the Registrant's Quarterly Report on Form 10-Q for the quarterly period ended September 30, 2010, filed on November 3, 2010

(13) Incorporated herein by reference to the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2007, filed on March 17, 2008

(14) Incorporated herein by reference to the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2009, filed on March 16, 2010

(15) Incorporated herein by reference to the Registrant's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2012, filed on August 8, 2012

(16) Incorporated herein by reference to the Registrant's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2013, filed on August 8, 2013

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Board of Directors and Stockholders
Echelon Corporation:

We have audited the accompanying consolidated balance sheets of Echelon Corporation and subsidiaries (the Company) as of December 31, 2015 and 2014, and the related consolidated statements of operations, comprehensive loss, stockholders' equity, and cash flows for each of the years in the three year period ended December 31, 2015. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. Our audit of the consolidated financial statements included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Echelon Corporation and subsidiaries as of December 31, 2015 and 2014, and the results of their operations and their cash flows for each of the years in the three year period ended December 31, 2015, in conformity with U.S. generally accepted accounting principles.

/s/ KPMG LLP
Santa Clara, California
March 30, 2016

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ECHELON CORPORATION
CONSOLIDATED BALANCE SHEETS
(In thousands, except share and per share amounts)

	December 31, 2015	December 31, 2014
ASSETS		
CURRENT ASSETS:		
Cash and cash equivalents	$7,691	$13,340
Restricted investments	1,401	1,401
Short-term investments	16,978	28,829
Accounts receivable, net of allowances of $521 in 2015 and $458 in 2014 [1]	4,030	3,948
Inventories	2,893	3,243
Deferred cost of goods sold	1,122	935
Other current assets	1,109	1,084
Current assets of discontinued operations held for sale	—	597
Total current assets	35,224	53,377
Property and equipment, net	595	10,190
Intangible assets, net	1,183	1,413
Goodwill	—	5,936
Other long-term assets	1,044	694
Long-term assets of discontinued operations held for sale	—	36
Total assets	$38,046	$71,646
LIABILITIES AND STOCKHOLDERS' EQUITY		
CURRENT LIABILITIES:		
Accounts payable	$2,267	$3,614
Accrued liabilities	2,885	2,844
Current portion of lease financing obligations	—	2,459
Deferred revenues	3,359	3,126
Current liabilities of discontinued operations held for sale	—	1,024
Total current liabilities	8,511	13,067
LONG-TERM LIABILITIES:		
Lease financing obligations, excluding current portion	—	13,662
Other long-term liabilities	614	1,740
Total long-term liabilities	614	15,402
STOCKHOLDERS' EQUITY:		
Preferred stock, $0.01 par value:		
Authorized - 5,000,000 shares; none outstanding	—	—
Common stock, $0.01 par value:		
Authorized - 10,000,000 shares		
Issued - 4,738,370 in 2015 and 4,720,283 shares in 2014, Outstanding - 4,416,452 in 2015 and 4,398,365 shares in 2014	47	47
Additional paid-in capital	356,746	356,606
Treasury stock (321,918 shares in 2015 and 2014)	(28,130)	(28,130)
Accumulated other comprehensive income (loss)	(1,594)	(431)
Accumulated deficit	(298,402)	(285,169)
Total Echelon Corporation stockholders' equity	28,667	42,923
Non controlling interest in subsidiary	254	254
Total stockholders' equity	28,921	43,177
Total liabilities and stockholders' equity	$38,046	$71,646

[1] Includes related party amounts of $827 in 2015 and $158 in 2014. See Note 14 for additional information on related party transactions.

See accompanying notes to consolidated financial statements.

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ECHELON CORPORATION
CONSOLIDATED STATEMENTS OF OPERATIONS
(In thousands, except per share amounts)

	Year ended December 31,		
	2015	2014	2013
Revenues [1]	38,804	38,730	45,857
Cost of revenues [2]	16,528	16,818	18,015
Gross profit	22,276	21,912	27,842
Operating expenses:			
Product development [2]	9,747	9,510	10,922
Sales and marketing [2]	7,832	9,098	9,061
General and administrative [2]	9,249	13,734	14,644
Goodwill impairment	5,698	—	—
Lease termination charges	3,337	—	—
Loss on write down of property, equipment and other	—	4,409	—
Litigation charges	—	—	3,452
Restructuring charges	—	391	2,254
Total operating expenses	35,863	37,142	40,333
Loss from continuing operations	(13,587)	(15,230)	(12,491)
Interest and other income (expense), net	791	930	(702)
Interest expense on lease financing obligations	(387)	(1,100)	(1,235)
Loss from continuing operations before provision for income taxes	(13,183)	(15,400)	(14,428)
Income tax expense	50	211	311
Net loss from continuing operations	(13,233)	(15,611)	(14,739)
Net loss from discontinued operations, net of income taxes[2]	—	(9,250)	(3,679)
Net loss from discontinued operations attributable to non controlling interest, net of income taxes	—	535	808
Net loss from discontinued operations attributable to Echelon Corporation Stockholders, net of income taxes	—	(8,715)	(2,871)
Net loss attributable to Echelon Corporation Stockholders	$(13,233)	$(24,326)	$(17,610)
Basic and diluted net loss per share from continuing operations attributable to Echelon Corporation Stockholders	$(3.00)	$(3.59)	$(3.42)
Basic and diluted net loss per share from discontinued operations attributable to Echelon Corporation Stockholders	$—	$(2.00)	$(0.67)
Basic and diluted net loss per share attributable to Echelon Corporation Stockholders	$(3.00)	$(5.59)	$(4.09)
Shares used in computing net loss per share:			
Basic	4,409	4,350	4,309
Diluted	4,409	4,350	4,309

[1] Includes related party amounts of $4,909 in 2015, $2,993 in 2014, and $7,363 in 2013. See Note 14 for additional information on related party transactions.

[2] See Note 8 for summary of amounts included representing stock-based compensation expense.

See accompanying notes to consolidated financial statements.

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ECHELON CORPORATION
CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS
(In thousands)

	Year ended December 31,		
	2015	2014	2013
Net loss from continuing operations	$(13,233)	$(15,611)	$(14,739)
Net loss from discontinued operations, net of income taxes	—	(9,250)	(3,679)
Net loss	(13,233)	(24,861)	(18,418)
Other comprehensive income (loss), net of tax:			
Foreign currency translation adjustment	(1,158)	(1,431)	506
Unrealized holding gain (loss) on available-for-sale securities	(5)	(15)	—
Total other comprehensive income (loss)	(1,163)	(1,446)	506
Comprehensive loss	(14,396)	(26,307)	(17,912)
Less: comprehensive loss attributable to non controlling interest	—	535	808
Comprehensive loss attributable to Echelon Corporation Stockholders	$(14,396)	$(25,772)	$(17,104)

See accompanying notes to consolidated financial statements.

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ECHELON CORPORATION
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(In thousands)

	Echelon Corporation Shareholders								
	Common Stock		Treasury Stock		Additional Paid-in-capital	Accu-mulated Other Compre-hensive Income (Loss)	Accumu-lated Deficit	Non Control-ling Interest	Total
	Shares	Amount	Shares	Amount					
BALANCE AT DECEMBER 31, 2012	4,627	$46	(322)	$(28,130)	$353,006	$ 509	$ (243,233)	$ 1,597	$83,795
Release of restricted stock units	49	1	—	—	(1)	—	—	—	—
Stock received for payment of employee taxes on vesting of restricted stock units and upon exercise of stock options	(19)	—	—	—	(444)	—	—	—	(444)
Stock-based compensation	—	—	—	—	2,538	—	—	—	2,538
Foreign currency translation adjustment	—	—	—	—	—	506	—	—	506
Unrealized holding loss on available-for-sale securities	—	—	—	—	—	—	—	—	—
Net loss	—	—	—	—	—	—	(17,610)	(808)	(18,418)
BALANCE AT DECEMBER 31, 2013	4,657	$47	(322)	$(28,130)	$355,099	$ 1,015	$ (260,843)	$ 789	$67,977
Exercise of stock options	—	—	—	—	17	—	—	—	17
Release of restricted stock units	46	—	—	—	—	—	—	—	—
Stock received for payment of employee taxes on vesting of restricted stock units and upon exercise of stock options	(17)	—	—	—	(422)	—	—	—	(422)
Stock-based compensation	—	—	—	—	1,197	—	—	—	1,197
Stock issued for Lumewave acquisition	34	—	—	—	715	—	—	—	715
Foreign currency translation adjustment	—	—	—	—	—	(1,431)	—	—	(1,431)
Unrealized holding gain on available-for-sale securities	—	—	—	—	—	(15)	—	—	(15)

Net loss	—	—	—	—	—	—	(24,326)	(535)	(24,861)
BALANCE AT DECEMBER 31, 2014	4,720	$47	(322)	$(28,130)	$356,606	$ (431)	$ (285,169)	$ 254	$43,177
Release of restricted stock units	34	—	—	—	—	—	—	—	—
Stock received for payment of employee taxes on vesting of restricted stock units and upon exercise of stock options	(16)	—	—	—	(153)	—	—	—	(153)
Stock-based compensation	—	—	—	—	293	—	—	—	293
Foreign currency translation adjustment	—	—	—	—	—	(1,158)	—	—	(1,158)
Unrealized holding gain on available-for-sale securities	—	—	—	—	—	(5)	—	—	(5)
Net loss	—	—	—	—	—	—	(13,233)	—	(13,233)
BALANCE AT DECEMBER 31, 2015	4,738	$47	(322)	$(28,130)	$356,746	$ (1,594)	$ (298,402)	$ 254	$28,921

See accompanying notes to consolidated financial statements.

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ECHELON CORPORATION
CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)

	Year ended December 31,		
	2015	2014	2013
CASH FLOWS PROVIDED BY (USED IN) OPERATING ACTIVITIES:			
Net loss including non-controlling interest	$(13,233)	$(24,861)	$(18,418)
Adjustments to reconcile net loss to net cash provided by (used in) operating activities:			
Depreciation and amortization	1,767	3,350	4,020
Lease termination charges	3,337	—	—
Goodwill impairment charges	5,698	3,388	—
Increase (decrease) in allowance for doubtful accounts	(19)	(57)	47
Loss on disposal of Grid business	—	254	—
Loss on disposal and write-down of fixed assets	81	5,217	30
Increase in accrued investment income	(31)	(32)	(6)
Stock-based compensation	293	1,197	2,538
Adjustment to contingent consideration	(650)	43	—
Change in operating assets and liabilities:			
Accounts receivable	(53)	2,536	5,151
Inventories	409	1,757	5,284
Deferred cost of goods sold	277	209	(797)
Other current assets	356	1,007	450
Accounts payable	(1,309)	(81)	(2,925)
Accrued liabilities	(1,097)	(4,034)	2,605
Deferred revenues	(707)	(846)	978
Deferred rent	(45)	(35)	(36)
Net cash used in operating activities	(4,926)	(10,988)	(1,079)
CASH FLOWS PROVIDED BY (USED IN) INVESTING ACTIVITIES:			
Purchases of available-for-sale short-term investments	(16,974)	(28,975)	(46,947)
Proceeds from maturities and sales of available for sale short term investments	28,852	48,000	46,946
Change in other long-term assets	(795)	29	(51)
Cash paid for acquisition, net of cash acquired	—	(924)	—
Proceeds from divestiture of Grid business, net of transaction costs	—	2,144	—
Capital expenditures	(306)	(746)	(971)
Net cash (used in) provided by investing activities	10,777	19,528	(1,023)
CASH FLOWS PROVIDED BY (USED IN) FINANCING ACTIVITIES:			
Principal payments of lease financing obligations	(11,278)	(2,064)	(2,056)
Proceeds from exercise of stock options	—	17	—
Restricted investments used as collateral for line of credit	—	(6,250)	—
Repurchase of common stock from employees for payment of taxes on vesting of restricted stock units and upon exercise of stock options	(153)	(422)	(453)
Net cash used in financing activities	(11,431)	(8,719)	(2,509)
EFFECT OF EXCHANGE RATE CHANGES ON CASH	(69)	(1,129)	383
NET DECREASE IN CASH AND CASH EQUIVALENTS	(5,649)	(1,308)	(4,228)
CASH AND CASH EQUIVALENTS:			
Beginning of year	13,340	14,648	18,876
End of year	$7,691	$13,340	$14,648

SUPPLEMENTAL DISCLOSURES OF CASH FLOW INFORMATION:			
Cash paid for interest on lease financing obligations	$387	$1,003	$1,224
Cash paid for income taxes	$249	$294	$459
Fair value of stock issued in connection with acquisition	$—	$715	$—
Non-cash transfer from financing to investing for restricted investments used as collateral for credit cards	$—	$1,399	$—
Non-cash transfer of restricted investments to available-for-sale short-term investments	$—	$4,851	$—

See accompanying notes to consolidated financial statements.

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ECHELON CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Significant Accounting Policies

Operations

Echelon Corporation (the Company) was incorporated in California in February 1988 and reincorporated in Delaware in January 1989. The Company is based in San Jose, California, and maintain offices in seven foreign countries throughout Europe and Asia. Its products enable everyday devices — such as air conditioners, appliances, elevators, electricity meters, light switches, thermostats, and valves — to be made “smart” and inter-connected, part of an emerging market known as the Industrial Internet of Things ("IIoT").

Its proven, open standard, multi-application energy control networking platform powers applications for smart cities, smart buildings, and smart campuses that help customers save on their energy usage, reduce outage duration or prevent them from happening entirely, reduce carbon footprint and more. Today, the Company offers, directly and through its partners worldwide, a wide range of products and services.

Basis of Presentation

The consolidated financial statements include the accounts of the Company, its wholly-owned subsidiaries, and a subsidiary in which it has a controlling interest (collectively referred to as the “Company”). The Company reports noncontrolling interests in consolidated entities as a component of equity separate from the Company’s equity. All material inter-company transactions between and among the Company and its consolidated subsidiaries and other consolidated entities have been eliminated in consolidation.

In the third quarter of 2014, the Company announced and completed the sale of its Grid business to S&T AG, a publicly traded European IT systems provider with an existing focus on smart energy products and services. The results of the Grid business for the years ended December 31, 2015, 2014, and 2013 are now classified as discontinued operations. As a result of this transaction, the Company now operates in one reporting segment- the IIoT segment.

Risks and Uncertainties

The Company’s operations and performance depend significantly on worldwide economic conditions and their impact on purchases of the Company’s products, as well as the ability of suppliers to provide the Company with products and services in a timely manner. The impact of any of the matters described below could have an adverse effect on the Company’s business, results of operations and financial condition.

- The Company's sales are currently concentrated with a relatively small group of customers, as approximately 37.2% of net revenue for the year ended December 31, 2015 was derived from two customers. Customers in any of the Company’s target market sectors may experience unexpected reductions in demand for their products and consequently reduce their purchases from the Company, resulting in either the loss of a significant customer or a notable decrease in the level of sales to a significant customer. In addition, if any of these customers are unable to obtain the necessary capital to operate their business, they may be unable to satisfy their payment obligations to the Company.

- The Company utilizes third-party contract electronic manufacturers to manufacture, assemble, and test its products. If any of these third-parties were unable to obtain the necessary capital to operate their business, they may be unable to provide the Company with timely services or to make timely deliveries of products.

- From time to time, the Company has experienced shortages or interruptions in supply for certain products or components used in the manufacture of the Company’s products that have been or will be discontinued. In order to ensure an adequate supply of these items, the Company has occasionally purchased quantities of these items that are in excess of the Company’s then current estimate of short-term requirements. If the long-term requirements do not materialize as originally expected, or if the Company develops alternative solutions that no longer employ these items and the Company is not able to dispose of these excess products or components, the Company could be subject to increased levels of excess and obsolete inventories.

Recently, in our effort to manage our costs and inventory risks, we decreased our inventory levels of certain products. If there is an unexpected increase in demand for these items, we might not be able to supply our customers with products in a timely manner.

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Use of Estimates

The preparation of financial statements and related disclosures in conformity with accounting principles generally accepted in the United States of America requires management to make judgments, assumptions, and estimates that affect amounts reported in the Consolidated Financial Statements and accompanying notes. Significant estimates and judgments are used for revenue recognition, performance-based equity compensation, inventory valuation, intangible asset valuation, goodwill valuation, contingent consideration valuation, and other loss contingencies. In order to determine the carrying values of assets and liabilities that are not readily apparent from other sources, the Company bases its estimates and assumptions on current facts, historical experience, and various other factors that it believes to be reasonable under the circumstances. Actual results experienced by the Company may differ materially from management's estimates.

Recently Issued Accounting Standards

On May 28, 2014, the FASB issued ASU No. 2014-09, Revenue from Contracts with Customers, which requires an entity to recognize the amount of revenue to which it expects to be entitled for the transfer of promised goods or services to customers. The ASU will replace most existing revenue recognition guidance in U.S. GAAP when it becomes effective. In July 2015, the FASB deferred the effective date of ASU 2014-09 so that it will apply to annual reporting periods beginning after December 15, 2017 (including interim reporting periods within those periods). Early application is permitted to the original effective date of December 15, 2016, in which case ASU 2014-09 would apply to annual reporting periods beginning after December 15, 2016 (including interim reporting periods within those periods). The standard permits the use of either the retrospective or cumulative effect transition method. The Company is evaluating the effect that ASU 2014-09 will have on its consolidated financial statements and related disclosures. The Company has not yet selected a transition method nor has it determined the effect of the standard on its ongoing financial reporting.

In November 2015, the FASB issued ASU 2015-17, Balance Sheet Classification of Deferred Taxes, related to balance sheet classification of deferred taxes. The ASU requires that deferred tax assets and liabilities be classified as noncurrent in the statement of financial position, thereby simplifying the current guidance that requires an entity to separate deferred assets and liabilities into current and noncurrent amounts. The ASU will be effective for us beginning in the first quarter of fiscal year 2018 though early adoption is permitted. We have early-adopted the ASU as of December 31, 2015 and due to the valuation allowance this adoption did not have a significant impact on our financial statements. No prior periods were retrospectively adjusted.

In July 2015, the FASB issued an update to ASC 330, Inventory: Simplifying the Measurement of Inventory. Under this update, subsequent measurement of inventory is based on the lower of cost or net realizable value. Net realizable value is the estimated selling price in the ordinary course of business, less the estimated cost of completion and disposal. This update does not apply to inventory that is measured using last-in, first-out or the retail inventory method. This update should be applied prospectively and will be adopted by the Company in the first quarter of fiscal year 2017. Early adoption is permitted. The Company is currently evaluating the impact of this update on its consolidated financial statements.

In February 2016, the FASB issued ASU 2016-02, Leases (Topic 842), which requires, among other things, the recognition of lease assets and lease liabilities on the balance sheet by lessees for certain leases classified as operating leases under previous GAAP. ASU 2016-02 is effective for annual and interim periods beginning after December 15, 2018. ASU 2016-02 mandates a modified retrospective transition method with early adoption permitted. The Company is currently evaluating the effect that ASU 2016-02 will have on its consolidated financial statements and related disclosures.

Revenue Recognition

The Company's revenues are derived from the sale and license of its products and to a lesser extent, from fees associated with training, technical support, and custom software design services offered to its customers. Product revenues consist of revenues from hardware sales and software licensing arrangements. Service revenues consist of product technical support (including software post-contract support services), training, and custom software

development services.

The Company recognizes revenue when persuasive evidence of an arrangement exists, delivery to the customer's carrier (and acceptance, as applicable) has occurred, the sales price is fixed or determinable, collectability is probable, and there are no post-delivery obligations. For non-distributor hardware sales, including sales to third party manufacturers, these criteria are generally met at the time of delivery to the customer's carrier. However, for arrangements that contain contractual acceptance provisions, revenue recognition may be delayed until acceptance by the customer or the acceptance provisions lapse unless the Company can objectively demonstrate that the contractual acceptance criteria have been satisfied, which is generally accomplished by establishing a history of acceptance for the same or similar products. For sales made to the Company's distributor partners, revenue recognition criteria are generally met at the time the distributor sells the products through to its

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end-use customer. Service revenue is recognized as the training services are performed, or ratably over the term of the support period.

The Company accounts for the rights of return, price protection, rebates, and other sales incentives offered to distributors of its products as a reduction in revenue. With the exception of sales to distributors, the Company's customers are generally not entitled to return products for a refund. For sales to distributors, due to contractual rights of return and other factors that impact its ability to make a reasonable estimate of future returns and other sales incentives, revenues are not recognized until the distributor has shipped its products to the end customer.

The Company's multiple deliverable revenue arrangements have historically been primarily related to sales of its Grid products. As noted above, the Company completed the sale of its Grid division to S&T AG in September 2014. Therefore, multiple element arrangements are now limited. These historical transactions typically included, within a single arrangement, a combination of some or all of the following deliverables: electricity meters, data concentrators and related hardware (collectively, the "Hardware"); NES system software; Element Manager software; post-contract customer support ("PCS") for the NES system and Element Manager software; extended warranties for the Hardware; and, occasionally, specified enhancements or upgrades to software used in the NES system. With the exception of the NES system software, each of these deliverables was considered a separate unit of accounting. The NES system software functions together with an electricity meter to deliver its essential functionality and any related software license fee is charged for on a per meter basis. Therefore, the NES system software and an electricity meter are combined and considered a single unit of accounting. The Element Manager software is not considered to be part of an electricity meter's essential functionality and, therefore, Element Manager software and any related PCS has been accounted for under industry specific software revenue recognition guidance. However, all other NES system deliverables are no longer within the scope of industry specific software revenue recognition guidance.

The Company allocates revenue to each element in a multiple-element arrangement based upon their relative selling price. The Company determines the selling price for each deliverable using vendor specific objective evidence ("VSOE") of selling price or third party evidence ("TPE") of selling price, if it exists. If neither VSOE nor TPE of selling price exists for a deliverable, the Company uses its best estimated selling price ("BESP") for that deliverable. Since the use of the residual method is eliminated under the accounting standards, any discounts offered by the Company are allocated to each of the deliverables. Revenue allocated to each element is then recognized when the basic revenue recognition criteria is met for the respective element.

Consistent with its methodology under previous accounting guidance, if available, the Company determines VSOE of fair value for each element based on historical stand-alone sales to third parties or from the stated renewal rate for the elements contained in the initial contractual arrangement. The Company currently estimates selling prices for its PCS and extended warranties based on VSOE of fair value.

In many instances, the Company is not currently able to obtain VSOE of fair value for all deliverables in an arrangement with multiple elements. This may be due to the Company infrequently selling each element separately or not pricing products within a narrow range. When VSOE cannot be established, the Company attempts to estimate the selling price of each element based on TPE. TPE would consist of competitor prices for similar deliverables when sold separately. Generally, the Company's offerings contain significant differentiation such that the comparable pricing of products with similar functionality cannot be obtained. Furthermore, the Company is unable to reliably determine the stand-alone selling prices for similar products of its competitors. Therefore, the Company is typically not able to obtain TPE of selling price.

When the Company is unable to establish a selling price using VSOE or TPE, which was generally the case for the Hardware and certain specified enhancements or upgrades to the Company's NES software, the Company uses its BESP in determining the allocation of arrangement consideration. The objective of BESP is to determine the price at which the Company would transact a sale if the product or service were sold on a stand-alone basis. BESP is generally used for offerings that are not typically sold on a stand-alone basis or for new or highly customized offerings.

The Company establishes pricing for its products and services by considering multiple factors including, but not limited to, geographies, market conditions, competitive landscape, internal costs, gross margin objectives, and industry pricing practices. The determination of pricing also includes consultation with and formal approval by the

Company’s management, taking into consideration the Company’s go-to-market strategy. These pricing practices apply to both the Company’s Hardware and software products.

Based on an analysis of pricing stated in contractual arrangements for its Hardware products in historical multiple-element transactions and, to a lesser extent, historical standalone transactions, the Company has concluded that it typically prices its Hardware within a narrow range of discounts when compared to the price listed on the Company’s standard pricing grid for similar deliverables (i.e., similar configuration, volume, geography, etc.). Therefore, the Company has determined that, for its

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current Hardware for which VSOE or TPE is not available, the Company's BESP is generally comprised of prices based on a narrow range of discounts from pricing stated in its pricing grid.

When establishing BESP for the Company's specified software enhancements or upgrades, the Company considers multiple factors including, but not limited to, the relative value of the features and functionality being delivered by the enhancement or upgrade as compared to the value of the software product to which the enhancement or upgrade relates, as well as the Company's pricing practices for NES system software PCS packages, which may include rights to the specified enhancements or upgrades.

The Company regularly reviews VSOE and has established a review process for TPE and BESP. The Company maintains internal controls over the establishment and updates of these estimates. There were no material impacts during the year ended December 31, 2015, resulting from changes in VSOE, TPE, or BESP, nor does the Company expect a material impact from such changes in the near term.

Deferred Revenue and Deferred Cost of Goods Sold

Deferred revenue consists substantially of amounts billed or payments received in advance of revenue recognition. Deferred cost of goods sold related to deferred product revenues includes direct product costs and applied overhead. Once all revenue recognition criteria have been met, the deferred revenues and associated cost of goods sold are recognized.

Stock-Based Compensation

The Company accounts for employee stock-based payment transactions in which the Company receives employee services in exchange for equity instruments of the enterprise. Stock-based compensation cost for restricted stock units ("RSUs") granted to employees is measured based on the closing fair market value of the Company's common stock on the date of grant. Stock-based compensation cost for RSUs granted to non-employee consultants is measured based on the closing fair market value of the Company's common stock at the earlier of the date at which a commitment for performance by the consultant to earn the RSUs is reached, or the date at which the consultant's performance necessary for the RSUs to vest has been completed. Stock-based compensation cost for stock options and stock appreciation rights granted to employees ("SARs") is estimated at the grant date based on each award's fair-value as calculated using the Black-Scholes-Merton ("BSM") option-pricing model. The Company recognizes stock-based compensation cost as expense using the accelerated multiple-option approach over the requisite service period. Further information regarding stock-based compensation can be found in Note 8 of these Notes to Consolidated Financial Statements.

Cash and Cash Equivalents

The Company considers bank deposits, money market investments and all debt and equity securities with remaining maturities of three months or less at the date of purchase to be cash and cash equivalents.

Short-Term Investments

The Company classifies its investments in marketable debt securities as available-for-sale. Securities classified as available-for-sale are reported at fair value with the related unrealized holding gains and losses, net of tax, being included in accumulated other comprehensive income (loss).

Fair Value Measurements

The Company measures at fair value its cash equivalents and available-for-sale investments using a valuation hierarchy based on whether the inputs to those valuation techniques are observable or unobservable. Observable inputs reflect market data obtained from independent sources, while unobservable inputs reflect the Company's own assumptions. These two types of inputs have created the following fair value hierarchy:

- Level 1 - Quoted prices for identical instruments in active markets;
- Level 2 - Quoted prices for similar instruments in active markets, quoted prices for identical or similar instruments in markets that are not active, and model-derived valuations in which all significant inputs and significant value drivers are observable in active markets; and
-

Level 3 - Valuations derived from valuation techniques in which one or more significant inputs or significant value drivers are unobservable.

This hierarchy requires the Company to minimize the use of unobservable inputs and to use observable market data, if available, when estimating fair value. Other than cash and money market funds, the Company's only financial assets or liabilities required to be measured at fair value on a recurring basis at December 31, 2015, are fixed income available-for-sale securities. See Note 2 of these Notes to Consolidated Financial Statements for a summary of the input levels used in

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determining the fair value of the Company's cash equivalents and short-term investments as of December 31, 2015.

Inventories

Inventories are stated at the lower of cost (first in, first out) or market and include material, labor and manufacturing overhead. When required, provisions are made to reduce excess and obsolete inventories to their estimated net realizable value. Inventories consist of the following (in thousands):

	December 31, 2015	December 31, 2014
Purchased materials	$164	$402
Finished goods	2,729	2,841
	$2,893	$3,243

Impairment of Long-Lived Assets Including Goodwill

The Company reviews long-lived assets for impairment whenever events or changes in circumstances indicate the carrying amount of an asset may not be recoverable. Recoverability is measured by comparing the asset's carrying value to the future undiscounted cash flows the asset is expected to generate. If long-lived assets are considered to be impaired, the impairment to be recognized equals the amount by which the carrying value of the asset exceeds its fair value. For the year ended December 31, 2014, the Company recognized impairments associated with certain long-lived assets associated with its Grid division and a building that the Company ceased use of at its corporate headquarters facility (see Note 3 for additional information regarding the impairment). For the years ended December 31, 2015 and December 31, 2013, the Company recognized no impairments of long-lived assets.

Costs in excess of the fair value of tangible and other identifiable intangible assets acquired and liabilities assumed in a purchase business combination are recorded as goodwill, which is tested for impairment using a two-step approach. The Company evaluates goodwill, at a minimum, on an annual basis during the first quarter and whenever events and changes in circumstances suggest that the carrying amount may not be recoverable. Impairment of goodwill is tested at the reporting unit level by comparing the reporting unit's carrying amount, including goodwill, to the fair value of the reporting unit. The fair values of the reporting units are estimated using a combination of the income approach and the market approach. If the carrying amount of the reporting unit exceeds its fair value, goodwill is considered impaired and a second step is performed to measure the amount of impairment loss, if any. For both the years ended December 31, 2015 and 2014, the Company recognized impairments of its goodwill, which are described in more detail in Note 10. The Company recognized no impairment of goodwill during the year ended December 31, 2013.

Software Development Costs

For software to be sold, leased, or otherwise marketed, the Company capitalizes eligible computer software development costs upon the establishment of technological feasibility, which the Company has defined as completion of a working model. For the three years ended December 31, 2015, costs that were eligible for capitalization were insignificant and, thus, the Company has charged all software development costs to product development expense in the accompanying consolidated statements of operations.

Accrued Liabilities

Accrued liabilities consist of the following (in thousands):

	December 31, 2015	December 31, 2014
Accrued payroll and related costs	$2,119	$1,463
Warranty reserve	120	143
Contingent consideration	318	—
Restructuring charges	—	701
Other accrued liabilities	328	537
	$2,885	$2,844

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Foreign Currency Translation

The functional currency of the Company's subsidiaries is the local currency. Accordingly, all assets and liabilities are translated into U.S. dollars at the current exchange rate as of the applicable balance sheet date. Revenues and expenses are translated at the average exchange rate prevailing during the period. Gains and losses resulting from the translation of the financial statements are included in accumulated other comprehensive income (loss).

Remeasurement adjustments for non-functional currency monetary assets and liabilities, including short-term intercompany balances, are included in other income (expense) in the accompanying consolidated statements of operations. Currently, the Company does not employ a foreign currency hedge program utilizing foreign currency exchange contracts as the foreign currency transactions and risks to date have not been significant.

Concentrations of Credit Risk and Suppliers

The Company's financial instruments have historically consisted of cash equivalents, short-term investments, accounts receivable, accounts payable, and lease financing obligations. The carrying value of the Company's financial instruments approximates fair value. Financial instruments that potentially subject the Company to concentrations of credit risk consist principally of investments, which are classified as either cash equivalents or short-term investments, and trade receivables. With respect to its investments, the Company has an investment policy that limits the amount of credit exposure to any one financial institution and restricts placement of the Company's investments to financial institutions independently evaluated as highly creditworthy. With respect to its trade receivables, the Company performs ongoing credit evaluations of each of its customers' financial condition. For a customer whose credit worthiness does not meet the Company's minimum criteria, the Company may require partial or full payment prior to shipment. Alternatively, prior to shipment, customers may be required to provide the Company with an irrevocable letter of credit or arrange for some other form of coverage, such as a bank guarantee, to mitigate the risk of uncollectibility. Additionally, the Company establishes an allowance for doubtful accounts and sales return allowances based upon factors surrounding the credit risk of specific customers, historical trends, and other available information. With the exception of amounts owed to the Company on sales made to certain significant customers, concentrations of credit risk with respect to trade receivables are generally limited due to the Company's large number of customers and their dispersion across many different industries and geographies. As of December 31, 2015 and 2014, the percentage of the Company's total accounts receivable balance that were due from the following significant customers is as follows (refer to Note 9 - Significant Customers for a discussion of revenues generated from the Company's significant customers):

	December 31,	
	2015	2014
Enel Distribuzione Spa	18.2%	3.6%
Avnet Europe Comm VA	12.9%	24.0%
Total	31.1%	27.6%

For most of the Company's products requiring assembly, it relies on a limited number of contract electronic manufacturers, principally Bel-Fuse (formerly TYCO). The Company also maintains manufacturing agreements with a limited number of semiconductor manufacturers for the production of key products.

The Neuron Chip is an important component that the Company and its customers use in control network devices. In addition to those sold by the Company, the Neuron Chip is currently manufactured and distributed only by Cypress Semiconductor. Another semiconductor supplier, STMicroelectronics, manufactures the Company's power line smart transceiver products, for which the Company has no alternative source. In addition, the Company currently purchases several key products and components from sole or limited source suppliers with which it does not maintain signed agreements that would obligate them to supply to the Company on negotiated terms.

If any of the Company's key suppliers were to stop manufacturing the Company's products or cease supplying the Company with its key components, it could be expensive and time consuming to find a replacement. There is no guarantee that the Company would be able to find acceptable alternatives or additional sources.

The failure of any key manufacturer to produce a sufficient number of products on time, at agreed quality levels, and fully compliant with the Company's product, assembly and test specifications could adversely affect the Company's revenues and gross profit, and could result in claims against the Company by its customers, which could harm the

Company's results of

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operations and financial position.

Computation of Basic and Diluted Net Loss Per Share

Basic net loss per share is calculated by dividing net loss attributable to Echelon Corporation Stockholders by the weighted average shares of common stock outstanding during the period. Diluted net loss per share attributable to Echelon Corporation Stockholders is calculated by adjusting the weighted average number of outstanding shares assuming conversion of all potentially dilutive stock options and warrants under the treasury stock method.

The following is a reconciliation of the numerators and denominators of the basic and diluted net loss per share computations for the years ended December 31, 2015, 2014 and 2013 (in thousands, except per share amounts):

	Year ended December 31,		
	2015	2014	2013
Net loss (Numerator):			
Net loss from continuing operations attributable to Echelon Corporation Stockholders	$(13,233)	$(15,611)	$(14,739)
Net loss from discontinued operations attributable to Echelon Corporation Stockholders	—	(8,715)	(2,871)
Net loss attributable to Echelon Corporation Stockholders	$(13,233)	$(24,326)	$(17,610)
Shares (Denominator):			
Weighted average common shares outstanding	4,409	4,350	4,309
Shares used in basic computation	4,409	4,350	4,309
Common shares issuable upon exercise of stock options (treasury stock method)	—	—	—
Shares used in diluted computation	4,409	4,350	4,309
Net loss per share:			
Basic and diluted net loss per share from continuing operations attributable to Echelon Corporation Stockholders	$(3.00)	$(3.59)	$(3.42)
Basic and diluted net loss per share from discontinued operations attributable to Echelon Corporation Stockholders	$0.00	$(2.00)	$(0.67)
Basic and diluted net loss per share attributable to Echelon Corporation Stockholders	$(3.00)	$(5.59)	$(4.09)

For the years ended December 31, 2015, 2014 and 2013, the diluted net loss per share calculation is equivalent to the basic net loss per share calculation as there were no potentially dilutive stock options or RSUs due to the Company's net loss position. The number of stock options, stock appreciation rights, restricted stock units ("RSUs"), restricted stock awards ("RSAs"), and contingently issuable shares excluded from this calculation for the years ended December 31, 2015, 2014 and 2013 was 367,363, 406,134 and 547,294, respectively.

Income Taxes

Income taxes are accounted for under the asset and liability method. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases and operating loss and tax credit carryforwards. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date.

The Company takes a two-step approach to recognizing and measuring uncertain tax positions. The first step is to evaluate the tax position for recognition by determining if the weight of available evidence indicates that it is more likely than not that the tax position will be sustained on audit, including resolution of any related appeals or litigation processes. The second step is to measure the tax benefit as the largest amount that is more than 50% likely of being realized upon effective settlement. The Company re-evaluates its income tax positions on a quarterly basis to consider

factors such as changes in facts or circumstances, changes in or interpretations of tax law, effectively settled issues under audit, and new audit activity. Such a change in recognition or measurement would result in recognition of a tax benefit or an additional charge to the tax provision. Interest and penalties on unrecognized tax benefits are classified as income tax expense.

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Comprehensive Income (Loss)

Comprehensive income (loss) for the Company consists of net loss plus the effect of unrealized holding gains or losses on investments classified as available-for-sale and foreign currency translation adjustments.

2. Financial Instruments

Financial Assets Measured at Fair Value on a Recurring Basis

On a recurring basis, the Company measures certain of its financial assets, namely its cash equivalents, and short-term investments, and its liability related to contingent consideration due to Lumewave, Inc. ("Lumewave") shareholders at fair value. The fair value of the Company's financial assets and liabilities measured at fair value on a recurring basis was determined using the following inputs at December 31, 2015 (in thousands):

	Fair Value Measurements at Reporting Date Using			
	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets:				
Money market funds [1]	$2,305	$2,305	$—	$—
U.S. government securities[2]	18,379	—	18,379	—
Total	$20,684	$2,305	$18,379	$—
Liabilities:				
Contingent consideration	$318	$—	$—	$318
Total	$318	$—	$—	$318

The fair value of the Company's financial assets measured at fair value on a recurring basis was determined using the following inputs at December 31, 2014 (in thousands):

	Fair Value Measurements at Reporting Date Using			
	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets:				
Money market funds [1]	$9,023	$9,023	$—	$—
U.S. government securities[2]	30,230	—	30,230	—
Total	$39,253	$9,023	$30,230	$—
Liabilities:				
Contingent Consideration	$968	$—	$—	$968
Total	$968	$—	$—	$968

(1) Included in cash and cash equivalents in the Company's consolidated balance sheets

(2) Represents the portfolio of available for sale securities and is included in restricted investments and short-term investments in the Company's consolidated balance sheets

The Company's available-for-sale securities consist of U.S. government securities with a minimum and weighted average credit rating of A-1+. The Company values these securities based on pricing from pricing vendors, who may use quoted prices in active markets for identical assets (Level 1 inputs) or inputs other than quoted prices that are observable either directly or indirectly (Level 2 inputs) in determining fair value. However, the Company classifies all of its fixed income available-for-sale securities as having Level 2 inputs. The valuation techniques used to measure the fair value of the Company's financial instruments having Level 2 inputs were derived from non-binding market

consensus prices that are corroborated by observable market data, quoted market prices for similar instruments, or pricing models, such as discounted cash flow techniques. The

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Company's procedures include controls to ensure that appropriate fair values are recorded such as comparing prices obtained from multiple independent sources. There were no transfers between Level 1 and 2 hierarchies for the years ended December 31, 2015 and 2014.

The contingent consideration payable to Lumewave's shareholders, which the Company recognized upon it's purchase of Lumewave in August 2014 and is included in other long-term liabilities in the Company's consolidated balance sheets as of December 31, 2015, is classified within Level 3 because significant assumptions for this obligation are not observable in the market. The table below includes a rollforward of the balance sheet amounts for financial instruments classified by the Company within Level 3 of the valuation hierarchy for the two years ended December 31, 2015 (in thousands):

	Contingent Consideration
BALANCE AT DECEMBER 31, 2013	$—
Recorded in conjunction with acquisition of Lumewave, Inc.	925
Adjustment to contingent consideration	43
BALANCE AT DECEMBER 31, 2014	$968
Adjustment to contingent consideration	$(650)
BALANCE AT DECEMBER 31, 2015	$318

During the year ended December 31, 2015, the contingent consideration decreased by approximately $650,000. This decrease was comprised of a $759,000 reduction due to the Company's determination that it was no longer probable that the targets specified in the purchase agreement would be met at a level requiring full payout of the contingent consideration, and to a lesser extent, a reduction in the price of the Company's common stock. Partially offsetting this $759,000 was amortization of interest on the contingent consideration of $109,000. All of the $43,000 adjustment to the contingent consideration for the year ended December 31, 2014 related to amortization of interest.

As of December 31, 2015, the Company’s available-for-sale securities had contractual maturities from 5 to 12 months and an average remaining term to maturity of 4 months. Among the Company's available-for-sale securities, there have been no unrealized holding losses for a period of greater than 12 months as of December 31, 2015. As of December 31, 2015, the amortized cost basis, aggregate fair value, and gross unrealized holding gains and losses of the Company’s short-term investments by major security type were as follows (in thousands):

	Amortized Cost	Aggregate Fair Value	Unrealized Holding Gains	Unrealized Holding Losses
U.S. government and agency securities	$16,989	$16,978	$—	$11

The amortized cost basis, aggregate fair value and gross unrealized holding gains and losses for the Company’s available-for-sale short-term investments, by major security type, were as follows as of December 31, 2014 (in thousands):

	Amortized Cost	Aggregate Fair Value	Unrealized Holding Gains	Unrealized Holding Losses
U.S. government securities	$30,237	$30,230	$—	$7

Market values were determined for each individual security in the investment portfolio. Any decline in value of these investments is primarily related to changes in interest rates and is considered to be temporary in nature. The Company reviews its investments on a regular basis to evaluate whether or not any have experienced an other-than-temporary decline in fair value. The cost of securities sold is based on the specific identification method and realized gains and losses are included in Interest and other income (expense), net.

Non-Financial Assets Measured at Fair Value on a Nonrecurring Basis

The majority of the Company's non-financial assets and liabilities, which include goodwill, intangible assets, inventories, and property, plant and equipment, are not required to be measured at fair value on a recurring basis. However, if certain triggering events occur (or tested at least annually for goodwill) such that a non-financial instrument is required to be evaluated for impairment and an impairment is recorded to reduce the non-financial instrument's carrying value to the fair value as a result of such triggering events, the non-financial assets and liabilities are measured at fair value for the period such triggering events occur. During the years ended December 31, 2015 and 2014, the Company recognized impairments of its goodwill of

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$5.7 million and $3.4 million, respectively, based on Level 1, Level 2, and Level 3 inputs. See Note 10 - Goodwill and Intangible Assets for a further discussion of these impairments.

3. Property and Equipment

A summary of property and equipment, net as of December 31, 2015 and 2014 is as follows (in thousands):

	December 31, 2015	December 31, 2014
Buildings and improvements	$—	$27,629
Computer and other equipment	3,253	4,046
Software	3,130	3,283
Furniture and fixtures	106	2,205
Leasehold improvements	191	894
	6,680	38,057
Less: Accumulated depreciation and amortization	(6,085)	(27,867)
Property and equipment, net	$595	$10,190

Property and equipment are stated at cost. The cost of buildings and improvements for the Company's former leased San Jose, California headquarters facilities, for which it was the “deemed owner” for accounting purposes only, included both the costs paid for directly by the Company and the costs paid for by the builder (lessor) from the period commencing with the start of construction through the lease commencement date for each building. These “building assets” are reflected as “Buildings and Improvements” in the schedule above. Building improvements paid for by the Company subsequent to the lease commencement date of each building are reflected as “Leasehold Improvements” in the schedule above. For additional information regarding the accounting for the Company's former San Jose headquarters, see below.

Depreciation is provided using the straight-line method as follows:

- Building assets and leasehold improvements are depreciated over the shorter of the remaining lease term or estimated useful lives (see further information below);
- Computer equipment and related software, other equipment, and furniture and fixtures are depreciated over their estimated useful lives of two to five years; and
- Certain telecommunications equipment is depreciated over its estimated useful life of 10 years.

Accounting for former San Jose headquarter buildings and improvements

In December 1999, the Company entered into a lease agreement with a real estate developer for its existing corporate headquarters in San Jose, California. In October 2000, the Company entered into a second lease agreement with the same real estate developer for an additional building at its headquarters site. These leases were scheduled to expire in 2011 and 2013, respectively.

Effective June 2008, the building leases were amended resulting in an extension of the lease term for both buildings through March 2020. The extended leases required minimum lease payments through March 2020 totaling approximately $48.9 million. Both leases permitted the Company to exercise an option to extend the respective lease for 2 sequential 5-year terms. In addition, the amended leases eliminated the Company's requirement to provide the landlord with security deposits, which the Company had previously satisfied through the issuance of standby letters of credit (“LOCs”).

The Company has historically accounted for the two buildings at its San Jose, California headquarters site under authoritative guidance pertaining to leases in which the Company is both involved in the construction of the lease assets and for which certain sale-leaseback criteria are not met. This results in the Company being the “deemed owner” of the two buildings for accounting purposes only. Accordingly, the leases associated with these facilities are accounted for as financing obligations.

For the December 1999 and October 2000 lease agreements, the Company initially recorded lease financing obligations of $12.0 million and $15.2 million, respectively, which corresponded to the building asset costs paid for by the lessor. As a result of the lease extension in June 2008, the Company increased the carrying amount of its lease

financing obligations by approximately $12.5 million to approximately $27.6 million (an amount equal to the present value of the revised lease payments at the date of the lease extension), with a corresponding increase to the net carrying amount of the building assets. In addition, all of the accumulated depreciation on the building assets at the date of the lease extensions was eliminated with a

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corresponding decrease to the gross carrying amount of the building assets. As a result of the extension in lease terms, the Company also extended the estimated useful lives of the building assets and the leasehold improvements to equal the amended lease term.

As a result of the sale of the Grid business on September 30, 2014 (see Note 5 - Discontinued Operations), the Company made the decision to cease use of one building within its corporate headquarters and recharacterize the building as a rental property. Consequently, management performed an impairment analysis on this building and determined that its carrying value was not recoverable. In performing this analysis, management analyzed the expected cash flows from different sub-lease scenarios using recent lease data for similar facilities in the area including market activity, expected tenant improvements and commissions, and period of time between recharacterization and lease up. As a result of this analysis,the Company recorded a write down of the building of $4.4 million during the three months ended September 30, 2014.

During the quarter ended June 30, 2015, the Company terminated the lease agreements for its corporate headquarter facility in San Jose, California. In conjunction with the termination of these leases and associated financing obligations, in May 2015 the Company paid an up-front lease termination charge of $10.0 million, which allowed the Company to remove approximately $15.3 million of building related financing obligations from its balance sheet. At the same time, the Company entered into a short-term lease for one of the two buildings for the remainder of 2015. As a result of the lease termination, the Company wrote the carrying value of the buildings and leasehold improvements down to its fair value, which was equal to the present value of the remaining lease payments under the short-term lease. The net effect of the lease termination transaction was a charge of $3.3 million during the quarter ended June 30, 2015.

For the years ended December 31, 2015, 2014, and 2013, the Company recorded depreciation expense associated with the former San Jose headquarter building assets of $1.1 million, $1.9 million, and $2.0 million, respectively. As of December 31, 2015 and 2014, the net book value of the building assets was $0 and $7.7 million, respectively.

Under the lease agreements, a portion of the total lease payments was accounted for as an operating lease of land and recorded as expense on a straight-line basis over the term of the lease. The remaining portions of the monthly lease payments were considered to be payments of principal and interest on the lease financing obligations. For the years ended December 31, 2015, 2014, and 2013, land lease expense was $617,000, $741,000, and $741,000, respectively. For the years ended December 31, 2015, 2014, and 2013, principal reductions on the lease financing obligations were $11.3 million, $2.2 million and $2.0 million, respectively; and interest expense was $387,000, $1.1 million, and $1.2 million, respectively.

Impairment of certain long-lived assets of the Grid business

During the second quarter of 2014, in light of the facts mentioned in Note 5 - Discontinued Operations and Note 10 - Goodwill and Intangible Assets, prior to assessing the goodwill for impairment, the Company evaluated whether the long-lived assets of the Grid business were impaired. As the Company had not yet made a final decision between the two likely scenarios for the Grid business as of June 30, 2014, the Company assessed the realizability of long-lived assets using cash flows associated with two scenarios for this reporting unit (i.e. sale or wind down of the Grid business). The Company applied a probability weighting of two potential scenarios: cashflows from a wind down of the business versus cashflows from a potential sale of the Grid business. The wind down scenario also included an assessment of the residual value of the Grid business' long-lived assets. The results of this analysis showed that the carrying value of the Grid business' long-lived assets exceeded their fair value and accordingly the Company recorded a write down of property, equipment and other assets of $687,000 during the quarter ended June 30, 2014. This impairment charge has been reported as part of the discontinued operations for the year ended December 31, 2014.

4. Acquisitions

On August 15, 2014, the Company purchased 100% of the outstanding shares of Lumewave, Inc. ("Lumewave"). The acquisition was aimed at expanding the Company's outdoor lighting business. The purchase price consisted of $1.8 million in cash paid at closing and $715,000 in common stock of the Company distributed at closing. Additionally, if

certain gross margin targets for the Lumewave business are achieved during the period from August 16, 2014 through August 15, 2016, an additional $1.3 million in consideration will be payable to the selling shareholders of Lumewave. The fair value of this additional consideration was $925,000 as of September 30, 2014. The purchase price was subject to adjustment based on the final working capital balances. As a result of the final agreed-upon working capital balances, the selling shareholders agreed to repay $225,000, which was received by the Company during the quarter ended December 31, 2014. The cash purchase price has been adjusted for this $225,000 working capital adjustment.

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The assets acquired and liabilities assumed have been reflected in the Company's consolidated balance sheet at December 31, 2015, and the results of operations of Lumewave are included in the consolidated statement of operations since August 16, 2014. The following table summarizes the purchase price allocation based on estimated fair values of assets acquired and liabilities assumed at the acquisition date (amounts in thousands):

	Amount
Cash and cash equivalents	$630
Accounts receivable	107
Inventory	31
Other current assets	259
Property and equipment	23
Identifiable intangible assets	1,500
Goodwill	1,257
Accounts payable	(352)
Accrued liabilities	(255)
	$3,200

Identifiable intangible assets include $800,000 in developed technology, $500,000 in customer relationships, and $200,000 for trade names. The identifiable intangible assets will be amortized over a period of 6.5 years. Transaction costs associated with the acquisition were not material. The method used to value the identified intangibles was an income method approach which incorporated a discount rate ranging from 21% to 22%.

Pro forma information for this acquisition is not presented as the results of the acquired business are not material to the Company's consolidated financial statements.

The contingent consideration was measured at fair value based on management's estimate of achieving the specified targets and discounted to its then present value of $925,000. The contingent consideration is payable in a combination of cash and the Company's common stock. Both the fair value of the cash and equity portions of the contingent consideration are recorded as a liability and will be remeasured each reporting period, with any change in their fair values recorded to earnings. The equity component of the contingent consideration will ultimately be settled by issuing additional equity upon final determination of the targets being achieved.The number of shares to be issued will be based on the average closing price of the Company's stock during the six days prior to the acquisition date.

As of December 31, 2015, and 2014, the fair value of the contingent consideration was $318,000 and $968,000, respectively, and is recorded in Other accrued liabilities and Other long-term liabilities, respectively, in the Company's Consolidated Balance Sheet. During the quarter ended December 31, 2015, the Company determined that it was no longer probable that the targets specified in the purchase agreement would be met at a level requiring a full payout of the contingent consideration. Accordingly, the Company reduced the associated liability to management's best estimate of the fair value as of December 31, 2015. This resulted in a $577,000 adjustment, which was recorded as a reduction to General and Administrative expenses in the Company's Consolidated Statements of Operations. The remaining change in contingent consideration was due to amortization of interest on the contingent consideration.

5. Discontinued Operations

During the third quarter of 2014, the Company announced that it had reached an agreement to sell its Grid business in order to focus on its IIoT business and on future opportunities in this market. On September 30, 2014, the Company completed the sale of its Grid business to S&T AG ("S&T"), a publicly traded European IT systems provider.

The consideration received for the sale of the Grid business totaled approximately $4.9 million. The Company also entered into a sub-lease arrangement as well as a supply arrangement for a component of the technology sold to S&T. The supply arrangement has a term of 39 months and the sub-lease agreement concluded during the fourth quarter of

2015 in conjunction with the Company's cancellation of its headquarters facility leases. Both the supply agreement and the sub-lease agreement has been considered indirect cashflows as they were deemed to be insignificant.

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After the impairment charges taken in the second quarter of 2014 (see Notes 3 and 10), and net of transaction costs, the sale of the Grid business resulted in a loss of $254,000, recorded as loss on sale of discontinued operations for the year ended December 31, 2014.

The assets and liabilities of the Company's Grid division joint venture (see Note 18) were not included in the sale to S&T. As of December 31, 2014, the Company was in the process of negotiating the sale of the joint venture's remaining net assets and recorded the assets and liabilities of the joint venture at the lower of their carrying amount or fair value less cost to sell and had classified them as held for sale on the Company's consolidated balance sheets. The remaining asset and liabilities principally relate to inventory, deferred revenues and the related deferred costs of sales, and accrued liabilities. As of December 31, 2015, the Company has determined that the joint venture's remaining net assets will not be sold and have been removed from held for sale.

As a result of restructuring activities during the third quarter of 2014, a total of $1.4 million of restructuring costs is included in loss from discontinued operations for the year ended December 31, 2014. All of this amount was paid as of September 30, 2015.

The Company has classified the results of operations of the Grid business as discontinued operations for the years ended December 31, 2014, and 2013. There was no activity related to the Grid business during the year ended December 31, 2015. The table below provides a summary of the components of the net loss from discontinued operations for 2014 and 2013 and excludes certain shared overhead costs that were previosuly allocated to the Grid segment as ASC 205-20 prohibits the allocation of general overhead costs to discontinued operations.

	Year ended December 31,	
	2014	2013
Revenues [1]	$18,392	$40,303
Cost of revenues	11,774	24,988
Operating expenses	15,614	18,994
Loss from discontinued operations before income taxes	(8,996)	(3,679)
Income taxes	—	—
Loss on sale of Grid business	(254)	—
Net loss from discontinued operations, net of income taxes	(9,250)	(3,679)
Net loss from discontinued operations attributable to non-controlling interest, net of income taxes	535	808
Net loss from discontinued operations attributable to Echelon Corporation Stockholders, net of income taxes	$(8,715)	$(2,871)

[1] Includes related party amounts of $112,000 and $4.4 million for the years ended December 31, 2014 and 2013, respectively.

The sale agreement contains certain indemnification provisions related to the Grid business whereby the Company may have obligations related to the period it owned the Grid business. The Company believes the estimated fair value of these indemnification provisions are minimal and accordingly, no liability is recorded for these indemnifications as of December 31, 2015.

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6. Accumulated Other Comprehensive Income (Loss)

	Foreign currency translation adjustment (Amount in thousands)	Unrealized gain (loss) on available-for-sale securities (Amount in thousands)	Accumulated Other Comprehensive Income (Loss) (Amount in thousands)
Beginning balance at December 31, 2013	$1,007	$8	$ 1,015
Change during the year	(1,431)	(15)	(1,446)
Ending balance at December 31, 2014	$(424)	$(7)	$ (431)
Change during the year	(1,158)	(5)	(1,163)
Ending balance at December 31, 2015	$(1,582)	$(12)	$ (1,594)

7. Stockholders’ Equity and Employee Stock Option Plans

(a) Reverse Stock Split

On December 7, 2015, the Company implemented a 1-for-10 reverse stock split. All share information contained within this report, including the accompanying consolidated financial statements and footnotes, have been retroactively adjusted to reflect the effects of the reverse stock split.

(b) Preferred Stock

As of December 31, 2015, the Company was authorized to issue 5,000,000 shares of new $0.01 par value preferred stock, of which none was outstanding.

(c) Common Stock

As of December 31, 2015, the Company was authorized to issue 10,000,000 shares of $0.01 par value common stock, of which 4,416,452 were outstanding.

(d) Stock Option Programs

The Company grants equity compensation awards under the 1997 Stock Plan (the “1997 Plan”). A more detailed description of the 1997 Plan can be found below.

Stock option and other equity compensation grants are designed to reward employees, officers, directors, and certain non-employee consultants for their long-term contribution to the Company, to align their interest with those of the Company's stockholders in creating stockholder value, and to provide incentives for them to remain with the Company. The number and frequency of equity compensation grants is based on competitive practices, operating results of the Company, and accounting regulations.

Historically, the Company has issued new shares upon the exercise of stock options. However, treasury shares are also available for issuance, although the Company does not currently intend to use treasury shares for this purpose.

1997 Stock Plan

During 1997, the Company adopted the 1997 Stock Plan for employees, officers, directors, and non-employee consultants, which was amended and restated in May 2004, and further amended and restated in April 2013. During 2013, the Board determined that it was in the best interest of the Company and the stockholders to amend and restate the Plan. In setting the share reserve under the amended Plan, the Company considered the number of outstanding awards and forecasted grants under the Plan. As of March 31, 2013 a total of 2,097,283 shares of its Common Stock were reserved for issuance under the Plan, of which 550,540 shares were subject to outstanding awards and 1,546,743 shares remained available for new awards under the Plan. Upon approval of the amended Plan by the shareholders, the total number of shares issuable under the Plan after March 31, 2013, was reduced from 2,097,283 to 1,090,540, including the 550,540 shares subject to current outstanding awards plus an additional 540,000 shares for future new awards. In determining the size of the share reserve, the Company took into account

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historical grant practices and the rate of granting equity awards (“burn rate”). As of December 31, 2015, there were 517,505 shares available for future new awards.

Under the amended and restated Plan, the annual “evergreen” share replenishment was eliminated prospectively and a limitation on the number of shares issuable as restricted stock units and restricted shares (referred to as “full value awards”) was added to the Plan. The latter change would be effected by adding a “fungible share” ratio to the Plan whereby grants of full value awards after May 21, 2013, reduce the number of shares issuable under the Plan by 1.7 shares for each share subject to such awards. If shares subject to such awards are subsequently forfeited or otherwise would return to the Plan reserve, the unvested or cancelled shares will be returned to the share reserve as 1.7 shares for each share forfeited or otherwise returned to the Plan share reserve.

As of December 31, 2015, a total of 867,755 shares of Common Stock were reserved for issuance under the 1997 Plan. Incentive stock options to purchase shares of common stock may be granted at not less than 100% of the fair market value. Options granted from May 6, 2003 to March 31, 2013, generally have a term of 5 years from the date of grant. All other options granted generally have a term of 10 years. The exercise price of stock options granted under the 1997 Plan is determined by the Board of Directors (or a Committee of the Board of Directors), but will be at least equal to 100% of the fair market value per share of common stock on the date of grant (or at least 110% of such fair market value for an incentive stock option granted to a stockholder with greater than 10% voting power of all stock), except that up to 10% of the aggregate number of shares reserved for issuance under the 1997 Plan (including shares that have been issued or are issuable in connection with options exercised or granted under the 1997 Plan) may have exercise prices that are from 0% to 100% of the fair market value of the common stock on the date of grant. Options generally vest ratably over four years.

The 1997 Plan also allows for the issuance of stock purchase rights and options that are immediately exercisable through execution of a restricted stock purchase agreement. Shares purchased pursuant to a stock purchase agreement generally vest ratably over 4 years. In the event of termination of employment, the Company, at its discretion, may repurchase unvested shares at a price equal to the original issuance price. In addition, the 1997 Plan allows for the issuance of stock appreciation rights (“SARs”), restricted stock awards (“RSAs”), and restricted stock units (“RSUs”). SARs are rights to receive, in cash or shares of the Company's common stock, as designated on the grant date, the appreciation in fair market value of common stock between the exercise date and the date of grant. To date, the Company has only issued SARs that can be settled in shares of the Company's common stock. SARs may be granted alone or in tandem with options. The exercise price of a SAR will be at least equal to 100% of the fair market value per share of common stock on the date of grant. SARs issued by the Company generally vest in equal, annual installments over 4 years, and expire on the 5 year anniversary of the grant date. RSUs and RSAs are awards that result in a payment to a participant, generally in the form of an issuance of shares of the Company's common stock, at such time as specified performance goals or other vesting criteria are achieved or the awards otherwise vest. RSUs and RSAs issued by the Company generally vest in equal, annual installments over 4 years. In addition, certain of these RSU and RSA grants have additional financial-based performance requirements that must be met before vesting can occur. RSUs and RSAs with performance-based vesting conditions expire no later than the 5 year anniversary of the grant date if the performance criteria have not been met.

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(d) Stock Award Activity

The following table summarizes stock award activity under all plans for the years ended December 31, 2015, 2014, and 2013:

		Options Outstanding	
	Shares Available for Grant	Number Outstanding	Weighted-Average Exercise Price Per Share
BALANCE AT DECEMBER 31, 2012	1,346,758	393,931	$60.80
Options granted	(178,572)	178,572	23.40
RSUs granted	(70,266)	—	—
Options and stock appreciation rights cancelled	162,019	(162,019)	68.90
RSUs cancelled	47,186	—	—
Unissued shares eliminated from plan	(1,554,243)	—	—
1998 Directors Plan shares expired	(7,500)	—	—
Additional shares reserved	712,203	—	—
BALANCE AT DECEMBER 31, 2013	457,585	410,484	$41.30
Options granted	(46,800)	46,800	24.60
RSUs granted	(219,153)	—	—
Options and stock appreciation rights cancelled	197,066	(197,066)	47.00
RSUs cancelled	126,519	—	—
Options exercised	—	(539)	31.70
BALANCE AT DECEMBER 31, 2014	515,217	259,679	$34.00
Options granted	(112,600)	112,600	9.14
RSUs granted	(83,555)	—	—
Options and stock appreciation rights cancelled	86,743	(86,743)	32.38
RSUs cancelled	111,700	—	—
BALANCE AT DECEMBER 31, 2015	517,505	285,536	$24.72

The total intrinsic value of options and SARs exercised during the years ended December 31, 2015, 2014, and 2013, was approximately $0, $3,000, and $0, respectively. During the years ended December 31, 2015, and 2013, no options or SARs were exercised. The intrinsic value is calculated as the difference between the market value on the date of exercise and the exercise price of the shares.

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The following table provides additional information regarding RSU and RSA activity for the years ended December 31, 2015, 2014, and 2013:

	Number Nonvested and Outstanding	Weighted-Average Grant Date Fair-Value
BALANCE AT DECEMBER 31, 2012	192,781	$ 65.60
RSUs and RSAs granted	41,906	23.38
RSUs vested and released	(52,199)	69.98
RSUs cancelled	(45,777)	61.99
BALANCE AT DECEMBER 31, 2013	136,711	$ 52.20
RSUs granted	128,945	25.03
RSUs vested and released	(50,022)	57.84
RSUs cancelled	(86,312)	36.88
BALANCE AT DECEMBER 31, 2014	129,322	$ 33.15
RSUs granted	49,150	9.03
RSUs vested and released	(40,414)	35.32
RSUs cancelled	(73,344)	32.29
BALANCE AT DECEMBER 31, 2015	64,714	$ 14.45

The fair value of each RSU and RSA granted to employees was estimated on the date of grant by multiplying the number of shares granted times the fair market value of the Company's stock on the grant date.

The total intrinsic value of RSUs and RSAs vested and released during the years ended December 31, 2015, 2014, and 2013 was approximately $379,000, $1.2 million, and $1.2 million, respectively. The intrinsic value of vested and released RSUs and RSAs is calculated by multiplying the fair market value of the Company's stock on the vesting date by the number of shares vested. As of December 31, 2015, the number of RSUs and RSAs outstanding and expected to vest was 59,172, with a total intrinsic value of $334,000. The intrinsic value of the outstanding and expected to vest RSUs and RSAs is calculated based on the market value of the Company's closing stock price of $5.64 as of December 31, 2015, the last market trading day of 2015.

The following table provides additional information for significant ranges of outstanding and exercisable stock options and SARs as of December 31, 2015:

Exercise Price Range	Number Outstanding	Weighted Average Remaining Contractual Life (in years)	Weighted Average Exercise Price per Share	Aggregate Intrinsic Value
$6.90-$9.10	6,500	9.43	$8.25	$—
9.11	89,000	9.45	9.11	—
9.15-22.30	24,400	8.69	15.46	—
22.40	44,000	8.25	22.40	—
23.70	35,960	7.44	23.70	—
24.20-26.50	9,800	7.97	24.92	—
31.70	34,476	6.18	31.70	—
32.50-35.20	12,400	6.00	33.37	—
74.60	25,000	1.63	74.60	—
$90.80	4,000	0.39	90.80	—
Outstanding	285,536	7.54	$24.72	$—
Vested and expected to vest	273,003	7.53	$25.10	$—

Exercisable	112,091	5.62	$39.15	$—

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The aggregate intrinsic value in the preceding table represents the total pretax intrinsic value, based on the Company's closing stock price of $5.64 as of December 31, 2015, which would have been received by the option holders had all option holders exercised their options as of that date.

8. Stock-based Compensation

(a) Valuation of Options, SARs, and RSUs Granted

The Company has elected to use the BSM option-pricing model to estimate the fair value of stock options and SARs that it grants. The BSM model incorporates various assumptions including volatility, expected term of the option from the date of grant to the time of exercise, risk-free interest rates, and dividend yields. The weighted average fair value of options and SARs granted during the years ended December 31, 2015, 2014, and 2013, was $4.54, $14.70, and $13.90, respectively, and was determined using the following weighted average assumptions:

	Year ended December 31,		
	2015	2014	2013
Expected dividend yield	—%	—%	—%
Risk-free interest rate	1.7%	2.0%	1.6%
Expected volatility	56.3%	66.3%	64.8%
Expected term (in years)	5.08	5.98	6.16

The expected dividend yield reflects the fact that the Company has not paid any dividends in the past and does not currently intend to pay dividends in the foreseeable future. The risk-free interest rate assumption is based on U.S. Treasury yields in effect at the time of grant for the expected term of the option. The expected volatility is based on both the historical volatility of the Company's common stock over the most recent period commensurate with the expected life of the option as well as on implied volatility calculated from the market traded options on the Company's stock. The expected term has been calculated by applying the simplified method calculation to the new 10-year term option grants made during 2013, 2014, and 2015, as the Company does not have relevant and adequate exercise history for such options. Prior to this, the expected term had been calculated by applying a Monte Carlo simulation model that incorporated the Company's historical data on post-vest exercise activity and employee termination behavior.

The grant date fair value of RSUs and RSAs granted to employees is determined by multiplying the fair market value of the Company's stock on the grant date times the number of RSUs and RSAs awarded. During the years ended December 31, 2015 and 2014, the Company issued a limited number of RSUs to non-employee consultants. The final measurement date for these awards is determined at the earlier of the date at which a commitment for performance by the consultant to earn the RSUs is reached, or the date at which the consultant's performance necessary for the RSUs to vest has been completed. Between the date of issuance and the final measurement date, which is expected to be the date the consultants' performance is complete and the awards vest, the awards are remeasured based on the fair market value of the Company's stock at each reporting date. During the year ended December 31, 2015, awards granted to non-employee consultants and the related share-based payment expense was not significant.

(b) Equity Compensation Expense for RSUs and RSAs with Financial or other Performance-Based Vesting Requirements

As of December 31, 2015, there were no equity compensation awards outstanding that contained financial or other performance-based vesting requirements.

As of December 31, 2014, there were 70,080 non-vested RSUs and RSAs that were granted in 2010, 2011, and 2014 which were subject to service-based vesting conditions as well as certain financial or other performance-based vesting requirements that must be achieved before vesting can occur. The following table contains pertinent information regarding these outstanding awards as of December 31, 2014 (in thousands except for number of awards granted):

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Grant Date	# of Awards Granted and Outstanding	Fair Value on Grant Date	Cumulative Expense Recognized	Unearned Compensation Expense	Latest Date Performance Condition Could be Met
August 2010	8,000	$596	$—	$596	April 2015
November 2011	5,000	277	—	277	April 2015
June 2014	57,080	1,404	324	1,080	December 2014
Total	70,080	$2,277	$324	$1,953	

Through June 30, 2012, cumulative compensation expense of $264,000 associated with the 13,000 unvested RSUs and RSAs granted in 2010 and 2011 had been recognized. From the date of grant through June 30, 2012, the Company had believed it was probable that the associated performance requirements would be achieved and therefore recognized expense on these awards. During the third quarter of 2012, the Company believed that the performance condition was no longer probable of achievement, however the Company had also not yet determined that the performance condition was improbable of achievement. Accordingly, expense recognition was discontinued beginning in the third quarter of 2012. As of December 31, 2013, the Company determined that the performance condition was improbable of achievement and therefore the cumulative compensation expense of $264,000 associated with these awards was reversed in the quarter ended December 31, 2013. No further compensation expense associated with these awards has been recorded. These awards expired unvested in April 2015.

In addition to the awards issued in 2010 and 2011, there were 95,330 non-vested RSAs as of December 31, 2014 with a grant date fair value of $2.3 million that were granted on June 10, 2014, which were also subject to service-based vesting conditions as well as certain performance-based vesting requirements that must be achieved before vesting can occur. These awards vested over a nine month period ending March 14, 2015, provided the performance conditions were met as of December 31, 2014. Of these RSAs issued in June 2014, 30,200 awards with a total fair value of approximately $743,000 were granted to employees of the Grid business. As of September 30, 2014, in conjunction with the sale of the Grid business, the Company reversed all compensation expense previously recognized associated with these awards as they will not vest. Additionally, as of December 31, 2014, 8,050 awards with a grant date fair value of approximately $198,000 were granted to employees who terminated their employment during 2014. Accordingly, the Company reversed all compensation expense previously recognized associated with these awards as they will not vest. As of December 31, 2014, the Company determined that the performance conditions associated with a portion of the remaining unvested awards with a grant date fair value of $965,000 will not be achieved and therefore any previously recorded expense associated with these awards was reversed and no additional expense was recorded during the year ended December 31, 2014.

c) Expense Allocation

Compensation expense for all share-based payment awards has been recognized using the accelerated multiple-option approach. As stock-based compensation expense recognized in the Consolidated Statements of Operations for the years ended December 31, 2015, 2014, and 2013 is based on awards ultimately expected to vest, it has been reduced for estimated forfeitures. Forfeitures are required to be estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates. Forfeitures have been estimated based on historical experience.
As of December 31, 2015, total compensation cost related to non-vested stock options and other equity based awards not yet recognized was $977,000, which is expected to be recognized over the next 1.0 year on a weighted-average basis.

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The following table summarizes stock-based compensation expense for the years ended December 31, 2015, 2014, and 2013 and its allocation within the consolidated statements of operations (in thousands):

	Year ended 31 December,		
	2015	2014	2013
Cost of revenues	$(74)	$292	$198
Product development	304	(73)	156
Sales and marketing	(92)	206	84
General and administrative	155	1,114	967
Discontinued operations	—	(342)	1,133
Total stock based compensation expense related to stock options and share awards	293	1,197	2,538
Tax benefit	—	—	—
Stock-based compensation expense related to stock options and share awards, net of tax	$293	$1,197	$2,538

As of December 31, 2015, approximately $5,000 and $1,000 of stock-based compensation expense was capitalized as part of the cost of inventory and deferred cost of goods sold, respectively. As of December 31, 2014, approximately $8,000 and $2,000 of stock-based compensation expense was capitalized as part of the cost of inventory and deferred cost of goods sold, respectively.

9. Significant Customers

The Company markets its products and services throughout the world to original equipment manufacturers (OEMs) and systems integrators in the building, industrial, transportation, utility/home, and other automation markets. During the years ended December 31, 2015, 2014 and 2012, the Company had two customers that accounted for a significant portion of its revenues: Avnet Europe Comm VA (“Avnet”), the Company’s primary distributor of its IIoT products in Europe, and Enel Distribuzione Spa ("Enel"), an Italian utility company. For the years ended December 31, 2015, 2014 and 2013 the percentage of the Company’s revenues attributable to sales made to these customers was as follows:

	Year ended December 31,		
	2015	2014	2013
Avnet	24.5%	26.2%	26.6%
Enel	12.7%	7.7%	16.1%
Total	37.2%	33.9%	42.7%

Avnet is an indirect subsidiary of Avnet, Inc., a New York corporation, which is a distributor of electronic parts, enterprise computing and storage products, and embedded subsystems. Our agreement with Avnet has been renewed periodically and is now set to expire in May 2016.

We do not expect additional shipments to Enel in 2016 apart from those currently scheduled for the quarter ending March 31, 2016. As such, we expect our revenues from Enel will decrease significantly in 2016 as compared to 2015.

10. Goodwill and Intangible Assets

Goodwill

The carrying amount of goodwill as of December 31, 2015, 2014, and 2013 relates to four acquisitions, including ARIGO Software GmbH (“ARIGO”) in 2001, BeAtHome in 2002, MTC in 2003, and Lumewave, Inc. in 2014. The goodwill acquired as part of the ARIGO transaction is valued in Euros, and is therefore subject to foreign currency translation gains and losses.

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The changes in the carrying amount of goodwill, net, for the years ended December 31, 2015 and 2014 are as follows (in thousands):

	Total
Balance as of December 31, 2013	$8,390
Unrealized foreign currency translation loss	(323)
Goodwill impairment - Grid division	(3,388)
Goodwill associated with Lumewave acquisition	1,257
Balance as of December 31, 2014	5,936
Unrealized foreign currency translation loss	(238)
Goodwill impairment	(5,698)
Balance as of December 31, 2015	$—

2014 Goodwill Impairment - Effective in the fourth quarter of 2013, the Company changed the way it managed the business and re-organized to focus the business on two operating segments - Grid and IIoT. As a result, the Company, with the assistance of an external service provider, reallocated goodwill of the Company to the Grid and IIoT operating segments using a relative fair value approach. Each operating segment's fair value was determined based on comparative market values and discounted cash flows. Goodwill is tested for impairment using a two-step approach. The Company evaluates goodwill, at a minimum, on an annual basis during the first quarter and whenever events and changes in circumstances suggest that the carrying amount may not be recoverable. Impairment of goodwill is tested at the reporting unit level by comparing the reporting unit's carrying amount, including goodwill, to the fair value of the reporting unit. The fair values of the reporting units are estimated using a combination of the income approach and the market approach. If the carrying amount of the reporting unit exceeds its fair value, goodwill is considered impaired and a second step is performed to measure the amount of impairment loss, if any. There was no indication of impairment when goodwill was reallocated to the new operating segments, as the respective fair values of each substantially exceed their carrying values (including goodwill) as of December 31, 2013.

For the quarter ended June 30, 2104, the Company concluded there were indicators of potential goodwill impairment for the Company’s Grid business, including continued weakness and increased uncertainty in the Grid market; changes in the extent and manner of use of the unit's long-lived assets; and changes in our long-term strategy for the Grid business. As a result of identifying indicators of impairment, the Company performed an impairment test of goodwill as of June 30, 2014.

In performing Step 1 of the impairment test, the Company estimated the fair value of the reporting unit using the income approach. The income approach is based on a discounted cash flow analysis and calculates the fair value of the reporting unit by estimating the after-tax cash flows attributable to the reporting unit and then discounting the after-tax cash flows to a present value, using a weighted average cost of capital (“WACC”). The cash flows used in the income approach were based on two scenarios, cash flows associated with a winding down of the business and cash flows associated with a sale of the business. Management's assumptions included forecasted revenues and operating income for the wind down scenario and estimated proceeds from the sale of the business based on known third-party interest. We calculated the fair value for the Grid business by using a probability weighted average of the estimated fair value from both scenarios, with significantly higher weight placed on the wind down scenario. Ultimately, in the third quarter of 2014, the Company was able to locate a buyer for the Grid business during the third quarter of 2014, which led to the disposition of the business on September 30, 2014.

Based on the above analysis, it was determined that the carrying value of the Grid business, including goodwill, exceeded the fair value of the reporting unit, requiring the Company to perform Step 2 of the goodwill impairment test to measure the amount of impairment loss, if any. In performing Step 2 of the goodwill impairment test, the Company compared the implied fair value of the reporting unit’s goodwill to its carrying value of goodwill. This test resulted in a non-cash, goodwill impairment charge of $3.4 million and a write-off of all goodwill associated with the Grid

division, which was recognized during the three months ended June 30, 2014. This impairment has been reported as part of the discontinued operations results for the year ended December 31, 2014. As a result, the Company had no goodwill remaining related to the Grid business, with the entire remaining goodwill balance of $5.9 million at December 31, 2104, being attributable to the IIoT reporting unit.

2015 Goodwill Impairment - During the quarter ended December 31, 2015, the Company concluded there were indicators of a potential goodwill impairment, resulting primarily from a continued decline in the Company's stock price and other market indicators, as well as a change in the Company's forecast for certain revenue streams. As a result of these indicators of impairment, the Company performed an impairment test of goodwill as of December 31, 2015.

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As a result of the sale of the Grid business, the Company operates as one reporting unit. In performing Step 1 of the impairment test, the Company estimated the fair value of the reporting unit using a combination of approaches, including, among others, the income approach and the market approach. We calculated the fair value for the Company by using a weighted average of the various approaches, with significantly higher weight placed on the market approach.

Based on this analysis, it was determined that the carrying value of the business, including goodwill, exceeded the fair value of the reporting unit, requiring the Company to perform Step 2 of the goodwill impairment test to measure the amount of impairment loss, if any. In performing Step 2 of the goodwill impairment test, the Company compared the implied fair value of the reporting unit's goodwill to its carrying value of goodwill. This test resulted in a non-cash, goodwill impairment charge of $5.7 million, which was recognized during the three months ended December 31, 2015. As a result, the Company no longer has has any goodwill remaining on its balance sheet as of December 31, 2015.

Identifiable Intangible Assets

The Company's identifiable intangible assets as of December 31, 2015, relate to the acquisition of Lumewave, Inc. in August 2014 (see Note 4 for additional details). The identifiable intangible assets include $800,000 in developed technology, $500,000 in customer relationships, and $200,000 for trade names.

The changes in the carrying amount of identifiable intangible assets, net for the years ended December 31, 2015 and 2014 is as follows (in thousands):

	Total
Balance as of December 31, 2013	$—
Intangible assets acquired	1,500
Amortization	(87)
Balance as of December 31, 2014	$1,413
Amortization	$(230)
Balance as of December 31, 2015	$1,183

Intangible assets other than goodwill are amortized on a straight-line basis over the following estimated remaining useful lives. The following table presents the details of the Company's finite-lived intangible assets as of December 31, 2015 (in thousands, except for weighted-average remaining useful life):

	Gross Carrying Value	Accumulated Amortization	Net Carrying Value	Weighted-Average Remaining Useful Life (in years)
Developed technology	$800	$169	$631	5.13
Customer relationships	500	106	394	5.13
Trade names	200	42	158	5.13
Total	$1,500	$317	$1,183	5.13

The following table presents the amortization of finite-lived intangible assets included in the Consolidated Statements of Operations for the years ended December 31, 2015 and 2014 (in thousands):

	Year ended December 31,	
	2015	2014
Cost of revenues	$123	$46
Operating expenses	107	41

Total	$230	$87

The following table presents the estimated future amortization of finite-lived intangible assets as of December 31, 2015 (in thousands):

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	Estimated Future Amoritization
2016	$230
2017	229
2018	229
2019	229
2020 and thereafter	266
Total	$1,183

11. Commitments and Contingencies

(a) Lease Commitments

The Company leases facilities under operating leases for its personnel located within the United States and in several foreign countries throughout Europe and Asia. These operating leases expire on various dates through 2019, and in some instances are cancelable with advance notice. Lastly, the Company also leases certain equipment and, for some of its sales personnel, automobiles. These operating leases are generally less than five years in duration.

As of December 31, 2015, future minimum lease payments under all operating leases were as follows (in thousands):

2016	$ 835
2017	917
2018	818
2019	397
Total payments	$ 2,967

Although certain of the operating lease agreements provide for escalating rent payments over the term of the lease, rent expense under these agreements is recognized on a straight-line basis. As of December 31, 2015, the Company has accrued approximately $112,000 of deferred rent related to these agreements, of which approximately $15,000 is reflected in current liabilities while the remainder is reflected in other long-term liabilities in the accompanying consolidated balance sheet. As of December 31, 2014, the Company had accrued approximately $180,000 of deferred rent related to its lease agreements, of which approximately $32,000 is reflected in current liabilities while the remainder is reflected in other long-term liabilities in the accompanying consolidated balance sheet.

As discussed in Note 5 - Discontinued Operations, in conjunction with the sale of its Grid division, the Company entered into a sublease with S&T for a portion of its corporate headquarters facility. As of December 31, 2015, the sublease was cancelled in conjunction with the Company's termination of its main headquarters leases as discussed in Note 3.

The components of net rent expense for all operating leases for the years ended December 31, 2015, 2014, and 2013, were as follows (in thousands):

	Year ended 31 December		
	2015	2014	2013
Rent expense	$1,260	$1,483	$1,527
Sublease rentals	(685)	(202)	—
Rent expense included in discontinued operations	—	(160)	(145)
Rent expense, net	$575	$1,121	$1,382

(b) Royalties

The Company has certain royalty commitments associated with the shipment and licensing of certain of its products. Royalty expense is generally based on a dollar amount per unit shipped or a percentage of the underlying revenue. Royalty

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expense, which is recorded as a component of cost of revenues in the Company's Consolidated Statements of Operations, was approximately $390,000, $500,000, and $418,000 for the years ended December 31, 2015, 2014, and 2013, respectively. During the years ended December 31, 2014, and 2013, royalty expense reported in discontinued operations was approximately $1,000 and $52,000, respectively.

The Company will continue to be obligated for royalty payments in the future associated with the shipment and licensing of certain of its products. The Company is currently unable to estimate the maximum amount of these future royalties. However, such amounts will continue to be dependent on the number of units shipped or the amount of revenue generated from these products.

(c) Guarantees

In the normal course of business, the Company provides indemnifications of varying scope to its customers against claims of intellectual property infringement made by third parties arising from the use of its products. Historically, costs related to these indemnification provisions have not been significant. However, the Company is unable to estimate the maximum potential impact of these indemnification provisions on its future results of operations.

As permitted under Delaware law, the Company has entered into agreements whereby it indemnifies its officers and directors for certain events or occurrences while the officer or director is, or was serving, at the Company's request in such capacity. The indemnification period covers all pertinent events and occurrences during the officer's or director's lifetime. The maximum potential amount of future payments the Company could be required to make under these indemnification agreements is unlimited. However, the Company has directors and officers insurance coverage that would enable it to recover a portion of any future amounts paid. The Company believes the estimated fair value of these indemnification agreements in excess of the applicable insurance coverage is minimal, if any.

(d) Taxes

The Company conducts operations in many tax jurisdictions throughout the world. In many of these jurisdictions, non-income based taxes such as property taxes, sales and use taxes, and value-added taxes are assessed on the Company's operations in that particular location. While the Company strives to ensure compliance with these various non-income based tax filing requirements, there have been instances where potential non-compliance exposures have been identified. In accordance with accounting principles generally accepted in the United States of America, the Company makes a provision for these exposures when it is both probable that a liability has been incurred and the amount of the exposure can be reasonably estimated. To date, such provisions have been immaterial, and the Company believes that, as of December 31, 2015, it has adequately provided for such contingencies. However, it is possible that the Company's results of operations, cash flows, and financial position could be harmed if one or more non-compliance tax exposures are asserted by any of the jurisdictions where the Company conducts its operations.

(e) Legal Actions

From time to time, in the ordinary course of business, the Company may be subject to other legal proceedings, claims, investigations, and other proceedings, including claims of alleged infringement of third-party patents and other intellectual property rights, and commercial, employment, and other matters. In accordance with generally accepted accounting principles, the Company makes a provision for a liability when it is both probable that a liability has been incurred and the amount of the loss can be reasonably estimated. These provisions are reviewed at least quarterly and adjusted to reflect the impacts of negotiations, settlements, rulings, advice of legal counsel, and other information and events pertaining to a particular case. While the Company believes it has adequately provided for such contingencies as of December 31, 2015, the amounts of which were immaterial, it is possible that the Company’s results of operations, cash flows, and financial position could be harmed by the resolution of any such outstanding claims.

Line of Credit

Until December 2014, the Company maintained a $5.0 million line of credit with its primary bank. The line of credit was secured by a collateral of the first priority on $6.3 million of the Company's investments placed in a separate account. In December 2014, the Company cancelled this line of credit. It continues to maintain an operating credit line of $1.0 million with its primary bank for company credit card purchases, as well as 1 standby letter of credit for $113,000. These lines of credit continue to be secured by a collateral of the first priority on $1.4 million of the Company's investments (presented as restricted investments in the Consolidated Balance Sheets). The restricted

investments are classified as current assets due to the contractual duration of the underlying credit agreement. No amounts have ever been drawn against the standby letters of credit issued by the bank.

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12. Income Taxes

The provision for income taxes attributable to continuing operations is based upon loss from continuing operations before provision for income taxes as follows (in thousands):

	Year ended December 31,		
	2015	2014	2013
Domestic	$(11,932)	$(15,592)	$(14,358)
Foreign	(1,251)	192	(70)
	$(13,183)	$(15,400)	$(14,428)

There were no income taxes attributable to discontinued operations in any of the periods presented.

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

	Year ended December 31,		
	2015	2014	2013
Federal:			
Current	$—	$—	$—
Deferred	—	—	—
Total federal provision	—	—	—
State:			
Current	20	16	17
Deferred	—	—	—
Total state provision	20	16	17
Foreign:			
Current	30	195	294
Deferred	—	—	—
Total foreign provision	30	195	294
Total income tax expense	$50	$211	$311

The provision for income taxes differs from the amount estimated by applying the statutory Federal income tax rate to loss before taxes as follows (in thousands):

	Year ended December 31,		
	2015	2014	2013
Federal tax at statutory rate of 35%	$(4,615)	$(5,390)	$(5,050)
State taxes, net of federal benefit	(634)	(577)	17
U.S.-Foreign rate differential	480	100	342
Change in Valuation Allowance	3,072	4,115	5,862
Research and Development credits	175	357	(1,241)
Permanent items	1,566	1,560	406
Others	6	46	(25)
Total income tax expense	$50	$211	$311

As of December 31, 2015 and 2014, a valuation allowance has been recorded against 100% of the net deferred tax asset. A valuation allowance is recognized if, based on the weight of the available evidence, it is more likely than not that some portion or all of the deferred tax asset will not be realizable in a particular tax jurisdiction. All available evidence, both positive and negative, is considered to determine whether, based on the weight of that evidence, a valuation allowance is needed for some portion or all of a deferred tax asset. The Company determined that it is more likely than not that it will not realize a benefit

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from its United States deferred tax assets based on historical cumulative losses incurred in the United States. Therefore, a valuation allowance has been maintained on all deferred tax assets. The components of the net deferred income tax asset are as follows (in thousands):

	Year ended December 31,	
	2015	2014
Deferred tax assets:		
Net operating loss carry forwards	$83,522	$72,058
Tax credit carry forwards	18,940	26,571
Fixed and intangible assets	868	6,424
Capitalized research and development costs	58	58
Stock based compensation and other reserves and allowances	3,828	15,535
Gross deferred income tax assets	107,216	120,646
Valuation allowance	(107,216)	(120,646)
Net deferred income tax assets	$—	$—

As of December 31, 2015, part of the Company's valuation allowance on deferred tax assets pertains to certain tax credits and net operating loss carry forwards. In the future, it will reduce the valuation allowance associated with these credits and losses upon the earlier of the period in which it utilizes them to reduce the amount of income tax it would otherwise be required to pay on its income tax returns, or when it becomes more likely than not that the deferred tax assets are realizable. In addition, the Internal Revenue Code of 1986, as amended, contains provisions that limit the net operating loss and credit carry forwards available for use in any given period upon the occurrence of certain events, including a significant change in ownership interests. The Company performed an analysis of the ownership changes in 2001. Since that time, some ownership changes may have occurred, which could cause certain of the Company's net operating loss and credit carry forwards to be limited in future periods.

In general, a corporation that undergoes an "ownership change" under Section 382 of the Internal Revenue Code is subject to limitations on its ability to utilize its pre-change net operating loss carry forwards (NOLs) to offset future taxable income and its ability to utilize tax credit carry forwards. As of December 31, 2015, the Company had net operating loss carry forwards of $253.2 million for federal income tax reporting purposes and $126.1 million for state income tax reporting purposes, which expire at various dates through 2035. In addition, as of December 31, 2015, the Company had approximately $11.0 million and $15.9 million of tax credit carry forwards for increased research expenditures for federal and California purposes, respectively. The federal research tax credits will expire at various dates if not utilized by 2035 and the state tax credit can be carried over indefinitely. In accordance with current Internal Revenue Code rules, federal net operating loss carry forwards must be utilized in full before federal research and development tax credits can be used to offset current tax liabilities. As a result, depending on the Company's future taxable income in any given year, some or all of the federal research tax credits, as well as portions of the Company's federal and state net operating loss carry forwards, may expire before being utilized.

Amounts held by foreign subsidiaries are generally subject to United States income taxation on repatriation to the United States. The Company currently intends to permanently reinvest its undistributed earnings from its foreign subsidiaries outside the United States and United States income taxes have not been provided on cumulative total earnings of $12.1 million. It is not practicable to determine the income tax liability that might be incurred if these earnings were to be distributed.

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The following is a rollforward of the Company's unrecognized tax benefits related to uncertain tax positions for the years ended December 31, 2015 and 2014 (in thousands):

	Year ended December 31,	
	2015	2014
Balance as of the beginning of the year	$1,359	$2,138
Tax positions related to current year:		
Additions	147	76
Reductions	(18)	(48)
Tax positions related to prior years:		
Additions	7,991	—
Reductions	(28)	(232)
Settlements	—	—
Lapses in statute of limitations	(385)	(575)
Balance as of the end of the year	$9,066	$1,359

Included in the balance of total unrecognized tax benefits at December 31, 2015 are potential benefits of $409,000, which if recognized, would affect the effective rate on income from continuing operations.

On December 31, 2015, the Company had accrued interest and penalties related to the uncertain tax benefits of approximately $74,000. During 2015, the Company decreased the prior year balance by $25,000 due to lapses in statutes of limitations. During 2014 and 2013, the Company decreased the prior year balance by $35,000 and $6,000, respectively, due to foreign currency fluctuations, lapses in statutes of limitations, and changes in methodology.The Company recognizes interest and penalties related to unrecognized tax benefits as a component of income tax expense.

The Company is subject to taxation in the United States and various state and foreign jurisdictions. In the United States, the tax years from 1996 remain open to examination by federal and most state tax authorities due to certain net operating loss and credit carryforward positions. In the foreign jurisdictions, the number of tax years open to examination by local tax authorities ranges from three to six years.

Other Tax Disclosures

Federal research tax credit - On December 18, 2015, The Consolidated Appropriations Act of 2014 was signed into law, which retroactively reinstated and made permanent the federal research tax credit provisions from January 1, 2015 through December 31, 2015.

13. Warranty Reserves

When evaluating the reserve for warranty costs, management takes into consideration the term of the warranty coverage, the quantity of product in the field that is currently under warranty, historical return rates, and historical costs of repair. In addition, certain other applicable factors, such as technical complexity, may also be taken into consideration when historical information is not yet available for recently introduced products. Estimated reserves for warranty costs are generally provided for when the associated revenue is recognized. In addition, additional warranty reserves may be established when the Company becomes aware of a specific warranty related problem, such as a product recall. Such additional warranty reserves are based on the Company's current estimate of the total out-of-pocket costs expected to be incurred to resolve the problem, including, but not limited to, costs to replace or repair the defective items and shipping costs. The reserve for warranty costs was $120,000 as of December 31, 2015 and $143,000 as of December 31, 2014.

14. Related Parties

In June 2000, the Company entered into a stock purchase agreement with Enel pursuant to which Enel purchased 300,000 newly issued shares of its common stock for $130.7 million. The closing of this stock purchase occurred on September 11, 2000. At the closing, Enel had agreed that it would not, except under limited circumstances, sell or otherwise transfer any of those shares for a specified time period. That time period expired September 11, 2003. To the Company’s knowledge, Enel has

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disposed none of its 300,000 shares. Under the terms of the stock purchase agreement, Enel has the right to nominate one member of the Company's board of directors. A representative of Enel served on the board until March 14, 2012; no Enel representative is presently on the board.

At the time the Company entered into the stock purchase agreement with Enel, it also entered into a research and development agreement with an affiliate of Enel (the "R&D Agreement"). Under the terms of the R&D Agreement, the Company cooperated with Enel to integrate its LONWORKS technology into Enel's remote metering management project in Italy, the Contatore Elettronico. The Company completed the sale of its components and products for the deployment phase of the Contatore Elettronico project during 2005. During 2006, the Company supplied Enel and its designated manufacturers with limited spare parts for the Contatore Elettronico system. In October 2006, the Company entered into a new development and supply agreement and a software enhancement agreement with Enel. Under the development and supply agreement, Enel and its contract manufacturers purchase additional electronic components and finished goods from the Company. Under the software enhancement agreement, the Company provides software enhancements to Enel for use in its Contatore Elettronico system. The software enhancement was assigned to S&T as part of the sale of our Grid division in September 2014. The development and supply agreement expired in December 2015, although delivery of products can extend beyond then and the agreement may be extended under certain circumstances.

For the years ended December 31, 2015, 2014, and 2013, the Company recognized revenue from products and services sold to Enel and its designated manufacturers of approximately $4.9 million, $3.0 million, and $7.4 million, respectively. As of December 31, 2015 and 2014, $827,000 and $158,000 of the Company's total accounts receivable balance related to amounts owed by Enel and its designated manufacturers, respectively.

15. Restructuring

On February 12, 2013, the Company undertook restructuring actions affecting approximately 43 employees to be terminated between February 2013 and December 2013, as part of an overall plan to reshape the Company for the future. In connection with this restructuring, the Company recorded restructuring charges of approximately $2.5 million related to termination benefits for these personnel during the year ended December 31, 2013.

The following table sets forth a summary of restructuring activities related to the Company's February 2013 restructuring program (in thousands):

	December 31, 2012	Costs Incurred	Cash Payments	December 31, 2013
Termination benefits	—	2,522	2,522	—

On September 30, 2014, and again in the fourth quarter of 2014, in connection with the sale of the Grid business, the Company undertook further restructuring actions affecting approximately 44 employees to be terminated between September 2014 and March 31, 2015, as part of the strategic plan to focus on the Company's IIoT business. In connection with this restructuring, the Company recorded restructuring charges as noted in the table below, of which $1.4 million was included in the net loss from discontinued operations for the year ended December 31, 2014.

The following table sets forth a summary of restructuring activities related to the Company's 2014 restructuring program in 2015 (in thousands):

	December 31, 2014	Costs Incurred	Cash Payments	December 31, 2015
Termination benefits	701	—	701	—

The following table sets forth a summary of restructuring activities related to the 2014 restructuring program in 2014 (in thousands):

	December 31, 2013	Costs Incurred	Cash Payments	December 31, 2014
Termination benefits	—	1,841	1,140	701

Accrued restructuring charges as of December 31, 2014 comprise the remaining liability balance from the 2014 restructurings and are reflected in accrued liabilities on the Company's Consolidated Balance Sheet as of December 31, 2014.

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16. Valuation and Qualifying Accounts (in thousands)

	Balance at Beginning of Period	Charged/ (Credited) to Revenues and Expenses	Write-Off of Previously Provided Accounts	Balance at End of Period
Year Ended December 31, 2015:				
Allowance for Doubtful Accounts	$57	$(19)	$7	$31
Allowance for Customer Returns and Sales Credits	$401	$3,442	$3,353	$490
Year Ended December 31, 2014:				
Allowance for Doubtful Accounts	$353	$(46)	$250	$57
Allowance for Customer Returns and Sales Credits	$530	$3,729	$3,858	$401
Year Ended December 31, 2013:				
Allowance for Doubtful Accounts	$430	$55	$132	$353
Allowance for Customer Returns and Sales Credits	$429	$5,375	$5,274	$530

17. Segment Disclosure

ASC Topic 280, Segment Reporting, establishes standards for reporting information about operating segments, products and services, geographic areas of operations and major customers. Operating segments are defined as components of an enterprise about which separate financial information is available that is evaluated regularly by the chief operating decision maker in deciding how to allocate resources and in assessing business performance. The Company's chief operating decision-making group is the Executive Staff, which is comprised of the Chief Executive Officer and his direct reports (CODM).

In September 2014, the Company sold its Grid business to S&T, thus reducing the number of reportable segments from two to one. For the years ending December 31, 2014 and 2013, the Grid business is captured in discontinued operations.

The Company operates in one principal industry segment - the IIoT segment, which is its reportable segment. The IIoT segment sells products and services aimed at Embedded Control Platforms, such as LONWORKS and IzoT, which include components, control nodes, and development software, and which are sold typically to Original Equipment Manufacturers (OEMs) to build into their industrial application solutions. These platforms allow a single device to be brought to market as a LONWORKS®, BACnet®, or other protocol-supporting device; and it can be used with any underlying wired or wireless communications link, such as Ethernet, RS-485, Wi-Fi, 15.4, or Echelon's free topology (FT) standard. The IzoT platform provides a smooth migration path for legacy devices to the IIoT. The product portfolio includes Smart Transceivers, SmartServer Controllers, LNS and OpenLNS Operating Systems, Outdoor Lighting Controllers, SmartServer Segment Controllers and PL/RF Bridges.
The Company operates in three main geographic areas: the Americas; Europe, Middle East and Africa ("EMEA"); and Asia Pacific / Japan ("APJ"). Each geographic area provides products and services to the Company's customers located in the respective region. The Company's long-lived assets include property and equipment, goodwill, purchased technology, and deposits on its leased facilities. Long-lived assets are attributed to geographic areas based on the country where the assets are located. As of December 31, 2015 and December 31, 2014, long-lived assets of approximately $2.6 million and $15.6 million, respectively, were domiciled in the United States. Long-lived assets for all other locations are not material to the consolidated financial statements.

In North America, the Company sells its products primarily through a direct sales organization and select third-party electronics representatives. Outside North America, the Company sells its products through direct sales organizations in EMEA and APJ, value-added resellers, and local distributors. Revenues are attributed to geographic areas based on

the country where the products are shipped to or the services are delivered. Summary revenue information by geography for the years ended December 31, 2015, 2014 and 2013 is as follows (in thousands):

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	Year ended December 31,		
	2015	2014	2013
Americas			
United States	$11,138	$10,680	$11,787
Other Americas	1,242	2,074	1,380
Total Americas	12,380	12,754	13,167
EMEA			
Germany	9,987	10,733	12,789
Other EMEA	7,812	3,761	7,105
Total EMEA	17,799	14,494	19,894
APJ			
China	$2,436	$3,225	$5,286
Other APJ	$6,189	$8,257	$7,510
Total APJ	$8,625	$11,482	$12,796
Total	$38,804	$38,730	$45,857

For information regarding the Company’s major customers, please refer to Note 9, Significant Customers.

18. Joint Venture

On March 23, 2012, the Company entered into an agreement with Holley Metering Limited (“Holley Metering”), a designer and manufacturer of energy meters in China, to create a joint venture, Zhejiang Echelon-Holley Technology Co., Ltd. (“Echelon-Holley”). The joint venture's intended focus was on the development and sales of smart energy products for China and rest-of-world markets. The Company has a 51% ownership interest in the joint venture and exercises controlling influence. Therefore, Echelon-Holley’s accounts are included in the Company’s Consolidated Financial Statements as of December 31, 2015, and for the three years then ended. Holley Metering’s interests in Echelon-Holley’s net assets are reported in the noncontrolling interest in subsidiary on the Consolidated Balance Sheet as of December 31, 2015 and 2014. Net loss attributable to the noncontrolling interest in Echelon-Holley was $0, $535,000, and $808,000 during years ended December 31, 2015, 2014, and 2013, respectively.

As of December 31, 2015, Echelon and Holley Metering had contributed in cash a total of approximately $4,000,000 in Share Capital, as defined, to Echelon-Holley in proportion to their respective ownership interests.

In connection with the decision to sell the Grid business announced in the third quarter of 2014, the Company undertook a process to sell the remaining net assets of the joint venture and recorded the net assets and liabilities of the joint venture at the lower of their carrying amount or fair value less cost to sell, and classified them as held for sale on the accompanying balance sheet at December 31, 2014. The major classes of assets and liabilities that were classified as held for sale were inventory, deferred revenues and the related deferred costs of sales, and accrued liabilities. In addition, the net loss attributable to the non-controlling interests have also been presented as part of discontinued operations in the consolidated statement of operations for the years ended December 31, 2014 and 2013.

During the quarter ended September 30, 2015, the Company concluded that it would no longer pursue a sale, but would instead work with Holley Metering to shut the joint venture down. The remaining net assets of the joint venture were immaterial as of September 30, 2015. As the net losses attributable to the joint venture were immaterial in all years, they have been presented as part of discontinued operations in the consolidated statements of operations for the years ended December 31, 2014 and 2013.

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19. SELECTED QUARTERLY FINANCIAL DATA (UNAUDITED):

The following tables set forth certain consolidated statement of operations data for each of the quarters in 2015 and 2014. This information has been derived from the Company's quarterly unaudited consolidated financial statements. The quarterly unaudited consolidated financial statements have been prepared on the same basis as the audited consolidated financial statements included in this report and include all adjustments, consisting only of normal recurring adjustments, that we consider necessary for a fair presentation of such information when read in conjunction with the annual audited consolidated financial statements and notes appearing in this report. The operating results for any quarter do not necessarily indicate the results for any subsequent period or for the entire fiscal year.

	Three months ended							
	December 2015	September 2015	June 2015	March 2015	December 2014	September 2014	June 2014	March 2014
Consolidated Statement of Operations Data:								
Revenues	$9,590	$9,983	$9,363	$9,868	$9,647	$9,178	$8,981	$10,924
Cost of revenues	4,093	4,370	3,821	4,244	4,316	4,180	3,784	4,538
Gross profit	5,497	5,613	5,542	5,624	5,331	4,998	5,197	6,386
Operating expenses:								
Product development	2,341	2,454	2,340	2,612	2,286	2,305	2,170	2,749
Sales and marketing	1,602	1,848	2,194	2,188	2,498	2,160	2,265	2,175
General and administrative	1,694	2,547	2,187	2,821	2,847	3,538	3,579	3,770
Goodwill impairment	5,698	—	—	—	—	—	—	—
Lease termination charges	—	—	3,337	—	—	—	—	—
Loss on write down of property, equipment and other	—	—	—	—	—	4,409	—	—
Restructuring charges	—	—	—	—	164	227	—	—
Total operating expenses	11,335	6,849	10,058	7,621	7,795	12,639	8,014	8,694
Loss from continuing operations	(5,838)	(1,236)	(4,516)	(1,997)	(2,464)	(7,641)	(2,817)	(2,308)
Interest and other income (expense), net	227	184	(458)	838	269	719	(69)	11
Interest expense on lease financing obligations	(2)	(5)	(128)	(252)	(261)	(271)	(280)	(288)
Loss from continuing operations before provision for income taxes	(5,613)	(1,057)	(5,102)	(1,411)	(2,456)	(7,193)	(3,166)	(2,585)
Income tax expense (benefit)	(14)	(10)	61	13	97	33	106	(25)
Net loss from continuing operations attributable to Echelon Corporation Stockholders	(5,599)	(1,047)	(5,163)	(1,424)	(2,553)	(7,226)	(3,272)	(2,560)
Net loss from discontinued operations, net of income taxes	—	—	—	—	—	(2,141)	(5,579)	(1,530)
Net loss from discontinued operations attributable to non-controlling interest, net of income taxes	—	—	—	—	—	179	239	117
Net loss from discontinued operations attributable to	—	—	—	—	—	(1,962)	(5,340)	(1,413)

Echelon Corporation Stockholders, net of income taxes								
Net loss attributable to Echelon Corporation stockholders	$(5,599)	$(1,047)	$(5,163)	$(1,424)	$(2,553)	$(9,188)	$(8,612)	$(3,973)
Basic and diluted net loss per share from continuing operations attributable to Echelon Corporation Stockholders	$(1.27)	$(0.24)	$(1.17)	$(0.32)	$(0.58)	$(1.66)	$(0.76)	$(0.59)
Basic and diluted net loss per share from discontinued operations attributable to Echelon Corporation Stockholders	$—	$—	$—	$—	$—	$(0.45)	$(1.23)	$(0.33)
Basic and diluted net loss per share attributable to Echelon Corporation Stockholders	$(1.27)	$(0.24)	$(1.17)	$(0.32)	$(0.58)	$(2.11)	$(1.99)	$(0.92)
Shares used in net loss per share calculation:								
Basic	4,416	4,413	4,406	4,395	4,390	4,351	4,333	4,326
Diluted	4,416	4,413	4,406	4,395	4,390	4,351	4,333	4,326

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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.

	ECHELON CORPORATION
Date: March 30, 2016	By: /s/ C. Michael Marszewski C. Michael Marszewski Vice President and Chief Financial Officer (Duly Authorized Officer and Principal Financial Officer)

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Ronald Sege and C. Michael Marszewski his true and lawful attorney-in-fact and agent, with full power of substitution and, for him and in his name, place and stead, in any and all capacities to sign any and all amendments to this Report on Form 10-K, and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact and agent full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent, or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

PURSUANT TO THE REQUIREMENTS OF THE SECURITIES EXCHANGE ACT OF 1934, THIS REPORT HAS BEEN SIGNED BY THE FOLLOWING PERSONS ON BEHALF OF THE REGISTRANT AND IN THE CAPACITIES AND ON THE DATES INDICATED.

Signatures	Title	Date
/s/ Ronald Sege Ronald Sege	Chairman of the Board, President and Chief Executive Officer (Principal Executive Officer)	March 30, 2016
/s/ C. Michael Marszewski C. Michael Marszewski	Vice President and Chief Financial Officer (Principal Financial and Principal Accounting Officer)	March 30, 2016
s/ Armas Clifford Markkula, Jr Armas Clifford Markkula, Jr.	Vice Chairman	March 30, 2016
/s/ Robert J. Finocchio, Jr. Robert J. Finocchio, Jr	Director	March 30, 2016
/s/ Robert R. Maxfield Robert R. Maxfield	Director	March 30, 2016
/s/ Betsy Rafael Betsy Rafael	Director	March 30, 2016

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EXHIBIT INDEX

Exhibit No.	Description of Document
3.2[1]	Amended and Restated Certificate of Incorporation of Registrant.
3.3[2]	Amended and Restated Bylaws of Registrant.
4.1[3]	Form of Registrant's Common Stock Certificate.
4.2[4]	Second Amended and Restated Modification Agreement dated May 15, 1997.
10.1[4]	Form of Indemnification Agreement entered into by Registrant with each of its directors and executive officers.
10.2[10]	1997 Stock Plan (as amended and restated March 26, 2004)
10.2[16]+	1997 Stock Plan (as amended and restated April 3, 2013)
10.2(a)[5]+	Form of 1997 Stock Plan Stock Option Agreement with early exercise feature
10.2(b)[5]+	Form of 1997 Stock Plan Nonqualified Stock Option Agreement with early exercise feature
10.2(c)[6]+	Form of 1997 Stock Plan Nonqualified Stock Option Agreement
10.2(d)[5]+	Form of 1997 Stock Plan Performance Share Agreement (re: non-standard vesting schedule)
10.2(e)[5]+	Form of 1997 Stock Plan Performance Share Agreement for non-US employees
10.2(f)[5]+	Form of 1997 Stock Plan Performance Share Agreement with performance based vesting criteria for non-US employees
10.2(g)[5]+	Form of 1997 Stock Plan Stock Appreciation Right Agreement for non-US employees
10.2(h)[5]+	Form of 1997 Stock Plan Performance Share Agreement with performance based vesting criteria
10.2(i)[5]+	Form of 1997 Stock Plan Performance Share Agreement
10.2(j)[13]+	Form of 1997 Stock Plan Stock Appreciation Right Agreement
10.2(k)[7]+	Form of 1997 Stock Plan Performance Share Agreement for US-based corporate officers
10.2(l)[11]+	Form of 1997 Stock Plan Performance Share Agreement for non US-based corporate officers
10.2(m)[7]+	Form of 1997 Stock Plan Stock Appreciation Right Agreement for US-based corporate officers
10.2(n)[7]+	Form of 1997 Stock Plan Stock Appreciation Right Agreement for non US-based corporate officers
10.2(o)[12]+	Form of 1997 Stock Plan Restricted Stock Award Agreement
10.2(p)[15]+	Form of 1997 Stock Plan Stock Option Agreement for U.S. Optionees (2012)
10.2(q)[15]+	Form of 1997 Stock Plan Stock Option Agreement for U.S. Corporate Officers (2012)
10.2(r)[15]+	Form of 1997 Stock Plan Stock Option Agreement for Optionees Outside the U.S. (2012)
10.2(s)[15]+	Form of 1997 Stock Plan Stock Option Agreement for Corporate Officers Outside the U.S. (2012)
10.2(t)[15]+	Form of 1997 Stock Plan Stock Option Agreement Appendix A for Optionees Outside the U.S. (2012)
10.2(u)[15]+	Form of 1997 Stock Plan Performance Share Agreement for Participants Outside the U.S. (2012)
10.2(v)[15]+	Form of 1997 Stock Plan Performance Share Agreement for Corporate Officers Outside the U.S. (2012)
10.2(w)[15]+	Form of 1997 Stock Plan Performance Share Agreement Appendix A for Participants Outside the U.S. (2012)
10.2 [15]+	1997 Stock Plan (as amended and restated August 18, 2010)
10.3 [4]	1988 Stock Option Plan and forms of related agreements.
10.4 [4]	Second Amended and Restated Modification Agreement dated May 15, 1997 (included in Exhibit 4.2).
10.5 [4]	Form of International Distributor Agreement.
10.6 [4]	Form of OEM License Agreement.
10.7 [4]	Form of Software License Agreement.
10.8 [4]	International Distributor Agreement between the Company and EBV Elektronik GmbH as of December 1, 1997.
10.9 [8]	1998 Director Option Plan.
10.10 [9]	Building 1 Lease Agreement dated December 30, 1999
10.11 [9]	First Amendment to Building 1 Lease Agreement dated May 10, 2000

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10.12 [9]	Echelon Corporation Common Stock Purchase Agreement with ENEL S.p.A. dated June 30, 2000
10.13 [9]	Second Amendment to Building 1 Lease Agreement dated September 22, 2000
10.14 [9]	Building 2 Lease Agreement dated November 15, 2001
10.15 [9]	Third Amendment to Building 1 Lease Agreement dated April 10, 2008
10.16 [9]	First Amendment to Building 2 Lease Agreement dated April 10, 2008
10.17 [14]	Form of Value Added Reseller Agreement
10.18	Assignment and Amendment dated April 29, 2011 between the Company and Avnet Europe Comm VA (assigning and modifying the International Distributor Agreement filed as Exhibit 10.8 to the Registration Statement on Form S-1 filed on June 1, 1998)
10.19+	Echelon Corporation Employment Agreement by and between Echelon Corporation and Ronald A. Sege dated August 18, 2010
10.20+	Echelon Corporation Employment letter with William R. Slakey dated September 6, 2011
10.21[16]+	Form of Executive Change in Control and Severance Agreement (2013)
10.22[16]+	Echelon Corporation Employment letter with Alicia Jayne Moore dated June 27, 2013
21.1[3]	Subsidiaries of the Registrant.
23.1	Consent of KPMG LLP, Independent Registered Public Accounting Firm.
24.1[4]	Power of Attorney (see signature page).
31.1	Certificate of Echelon Corporation Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certificate of Echelon Corporation Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32	Certification by the Chief Executive Officer and the Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS*	XBRL Instance Document
101.SCH*	XBRL Taxonomy Extension Schema
101.CAL*	XBRL Taxonomy Extension Calculation Linkbase
101.DEF*	XBRL Taxonomy Extension Definition Linkbase
101.LAB*	XBRL Taxonomy Extension Label Linkbase
101.PRE*	XBRL Taxonomy Extension Presentation Linkbase

* The financial information contained in these XBRL documents is unaudited and is furnished, not filed with the Securities and Exchange Commission.

+ Indicates management contract or compensatory plan or arrangement required to be filed as an exhibit pursuant to Item 14(c) of Form 10-K.

(1) Incorporated herein by reference to the Registrant's Quarterly Report on Form 10-Q for the quarterly period ended September 30, 2000, filed on November 14, 2000.

(2) Incorporated herein by reference to the Registrant's Current Report on Form 8-K dated August 16, 2007, filed on August 17, 2007.

(3) Incorporated herein by reference to the Registrant's Registration Statement on Form S-1/A filed on July 9, 1998.

(4) Incorporated herein by reference to the Registrant's Registration Statement on Form S-1 filed on June 1, 1998.

(5) Incorporated herein by reference to the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2006, filed on March 16, 2007.

(6) Incorporated herein by reference to the Registrant's Current Report Form 8-K dated April 12, 2007, filed on April 18, 2007.

(7) Incorporated herein by reference to the Registrant's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2008, filed on August 11, 2008.

(8) Incorporated herein by reference to the Registrant's Registration Statement on Form S-8 filed on August 21, 2000.

(9) Incorporated herein by reference to the Registrant's Annual Report on Form 10-K/A for the fiscal year ended December 31, 2008, filed on March 11, 2010.

(10) Incorporated herein by reference to the Registrant's Registration Statement on Form S-8 filed on June 1, 2005.
(11) Incorporated herein by reference to the Registrant's Registration Statement on Form S-8 filed on August 6, 2010.
(12) Incorporated herein by reference to the Registrant's Quarterly Report on Form 10-Q for the quarterly period ended September 30, 2010, filed on November 3, 2010

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(13) Incorporated herein by reference to the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2007, filed on March 17, 2008

(14) Incorporated herein by reference to the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2009, filed on March 16, 2010

(15) Incorporated herein by reference to the Registrant's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2012, filed on August 8, 2012

(16) Incorporated herein by reference to the Registrant's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2013, filed on August 8, 2013