COHU INC
Form 10-K
March 05, 2014
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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D. C. 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 28, 2013

OR

¨ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
Commission file number 1-4298

COHU, INC.

(Exact name of registrant as specified in its charter)

Delaware	**95-1934119**
(State or other jurisdiction of Incorporation or Organization)	*(I.R.S. Employer Identification No.)*
12367 Crosthwaite Circle, Poway, California	**92064-6817**
(Address of principal executive offices)	*(Zip Code)*

Registrant s telephone number, including area code: (858) 848-8100

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

Title of Each Class	**Name of Exchange on Which Registered**
Common Stock, $1.00 par value	**The NASDAQ Stock Market LLC**

Preferred Share Purchase Rights, $1.00 par value	**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 þ

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

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 þ No ¨

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes þ No ¨

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant s knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. þ

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 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 þ	Non-accelerated filer ¨	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 Act). Yes ¨ No þ

The aggregate market value of voting stock held by nonaffiliates of the registrant was approximately $116,000,000 based on the closing stock price as reported by the NASDAQ Stock Market LLC as of June 28, 2013. Shares of common stock held by each officer and director and by each person or group who owns 5% or more of the outstanding common stock have been excluded in that such persons or groups may be deemed to be affiliates. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

As of February 18, 2014 the Registrant had 25,101,663 shares of its $1.00 par value common stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Proxy Statement for Cohu, Inc. s 2014 Annual Meeting of Stockholders to be held on May 14, 2014, and to be filed pursuant to Regulation 14A within 120 days after registrant s fiscal year ended December 28, 2013, are incorporated by reference into Part III of this Report.

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COHU, INC.

FORM 10-K FOR THE FISCAL YEAR ENDED DECEMBER 28, 2013

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The following discussion should be read in conjunction with the consolidated financial statements and notes thereto included elsewhere in this Annual Report on Form 10-K. This Annual Report on Form 10-K contains certain forward-looking statements including expectations of market conditions, challenges and plans, within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended (the Exchange Act), and is subject to the Safe Harbor provisions created by that statute. These forward-looking statements are based on management s current expectations and beliefs, including estimates and projections about our industries. Statements concerning financial position, business strategy, and plans or objectives for future operations are forward-looking statements. These statements are not guarantees of future performance and are subject to certain risks, uncertainties, and assumptions that are difficult to predict and may cause actual results to differ materially from management s current expectations. Such risks and uncertainties include those set forth in this Annual Report on Form 10-K under the heading Item 1A. Risk Factors . The forward-looking statements in this report speak only as of the time they are made and do not necessarily reflect management s outlook at any other point in time. We undertake no obligation to update publicly any forward-looking statements, whether as a result of new information, future events, or for any other reason. However, readers should carefully review the risk factors set forth in other reports or documents we file from time to time with the Securities and Exchange Commission (SEC) after the date of this Annual Report.

PART I

Item 1. Business.

Cohu, Inc. (Cohu , we , our and us) was incorporated under the laws of California in 1947, as Kalbfell Lab, Inc. and commenced active operation in the same year. Our name was changed to Kay Lab in 1954. In 1957, Cohu was reincorporated under the laws of the State of Delaware as Cohu Electronics, Inc. and in 1972, our name was changed to Cohu, Inc.

We have three reportable segments: semiconductor equipment, mobile microwave communication systems and video cameras. Our semiconductor equipment segment, Cohu s Semiconductor Equipment Group (SEG), encompasses Cohu s wholly owned subsidiaries Delta Design, Inc. (Delta), Rasco GmbH (Rasco) and Ismeca Semiconductor Holding SA (Ismeca). Delta develops, manufactures and sells pick-and-place semiconductor test handling equipment and thermal sub-systems to semiconductor manufacturers and test subcontractors throughout the world. Rasco develops, manufactures and sells gravity-feed and test-in-strip semiconductor test handling equipment and micro-electro-mechanical systems (MEMS) test modules used in final test operations by semiconductor manufacturers and test subcontractors. Ismeca, acquired by Cohu on December 31, 2012, designs, manufactures and sells turret-based test handling and back-end finishing equipment for integrated circuits, light emitting diodes (LEDs) and discrete components used by semiconductor manufacturers and test subcontractors throughout the world in assembly and packaging of devices.

Our microwave communication systems segment is comprised of our wholly owned subsidiary Broadcast Microwave Services, Inc. (BMS). BMS develops, manufactures and sells mobile microwave communications equipment to government agencies, law enforcement and public safety organizations, unmanned air vehicle program contractors, television broadcasters, entertainment companies, professional sports teams and other commercial entities. Our video camera segment (Electronics Division) develops, manufactures and sells video cameras and related products, specializing in video solutions for security, surveillance and traffic monitoring. Customers for these products are distributed among security, surveillance, traffic control/management, military, scientific imaging and machine vision.

Sales by reportable segment, expressed as a percentage of total consolidated net sales, for the last three years were as follows:

	2013	2012	2011
Semiconductor equipment	87%	81%	84%
Microwave communications	7%	12%	10%
Video cameras	6%	7%	6%
	100%	100%	100%

Additional financial information on our reportable segments for each of the last three years is included in Note 6, Segment and Related Information in Part IV, Item 15(a) of this Form 10-K.

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Semiconductor Equipment

We are a worldwide supplier of semiconductor test handling and back-end finishing systems, MEMS test modules, and thermal sub-systems. Our semiconductor equipment companies develop, manufacture, sell and service a broad line of equipment capable of handling a wide range of integrated circuit and LED packages. Test handlers are electromechanical systems used to automate testing of the packaged integrated circuit in the back-end of the semiconductor manufacturing process. Testing determines the quality and performance of the integrated circuit prior to shipment to customers. Testers are designed to verify the performance of the integrated circuit, such as microprocessors, logic, analog, memory or mixed signal devices. Handlers are automated systems engineered to thermally condition and present for testing the packaged semiconductor devices. The majority of test handlers use either pick-and-place, gravity-feed, turret or test-in-strip technologies. The type of packaged device, test parallelism, thermal requirements and signal interface requirements normally determines the appropriate handling approach. Gravity-feed handling is the predominant solution for temperature testing of high performance small outline leaded and non-leaded packages, as well as for large packages with leads on only one or two sides as is common in high power devices. In gravity-feed handlers, integrated circuits are unloaded from plastic tubes, metal magazines or a bowl at the top of the machine and flow through the system, from top to bottom, propelled by the force of gravity. After testing, the integrated circuits are sorted and reloaded into tubes, magazines, bulk or tape for additional process steps or final shipment.

Integrated circuits with leads on all four sides, such as the quad flat pack, or with balls or pads on the bottom or top of the package, such as ball grid array packages, and quad flat no-lead packages as well as certain low profile integrated circuits with leads on two sides, such as the thin small outline package, and wafer-level packages are predominately handled in pick-and-place systems. Pick-and-place handlers use robotic mechanisms to move integrated circuits from Jedec trays and place them in precision transport boats or carriers for processing through the system. After testing, integrated circuits are sorted and reloaded into designated trays, based on test results.

Test-in-strip handlers accommodate integrated circuits in strips or panels prior to the final singulation step in the semiconductor manufacturing process flow and are typically used for high-parallel testing applications. Turret-based handlers use a rotating turret mechanism that provides very high device throughput and efficient integration of multiple back-end finishing operations. Turret handlers are ideally suited for high-volume and low-mix testing of smaller integrated circuits, discrete and LED devices. MEMS test modules are independent physical stimuli units for testing sensor integrated circuits typically used in the automotive and consumer electronics industries. These MEMS test modules can be integrated to our gravity-feed, pick & place, turret or test-in-strip handlers for testing a variety of sensors, including pressure, acoustic, magnetic field hall effect, optical and others.

To ensure quality, semiconductors are typically tested at hot and/or cold temperatures, which can simulate the final operating environment. Our test handler products are designed to provide a precisely controlled test environment, often over the range of -60 degrees Celsius to +175 degrees Celsius. As the speed and power of certain integrated circuits, such as microprocessors and mobile processors, has increased so has the need to actively manage the self-generated heat during the test process to maximize yield. This heat is capable of damaging or destroying the integrated circuit and can result in speed downgrading, when devices self-heat and fail to successfully test at their maximum possible speed. Device yields are extremely important and speed grading directly affects the selling price of the integrated circuit and the profitability of the semiconductor manufacturer. In addition to temperature capability, other key factors in the design of test handlers are handling speed, flexibility, parallel test capability, alignment to the test contactors, system size, reliability and cost.

Delta provides thermal sub-systems for use in advanced burn-in and system-level test applications. These thermal sub-systems maintain and control the temperature of the integrated circuit during the testing process. Burn-in stresses devices for detection of early failures (infant mortality) prior to distribution. The burn-in process is also used by semiconductor manufacturers to develop reliability models of newly introduced devices. The objective of reliability testing is to determine a device s fault-free operation and estimated useful life by exposing the device to various electrical and thermal conditions that impact its performance. System-level testing is required for functional testing of high-end microprocessors as well as mobile processors combined with memory integrated circuits. This is typically the last test operation of complex, expensive integrated circuits prior to the final electronic integration process.

Our products are complex electromechanical systems that are used in high-volume production environments and many are in service twenty-four hours per day, seven days a week. Customers continuously strive to increase the utilization of their production test equipment and expect high reliability from test handling, MEMS test modules and thermal subsystems used in burn-in and system-level test. The availability of trained technical support

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personnel is an important competitive factor in the marketplace. Our semiconductor equipment companies deploy service engineers worldwide, often within customers production facilities, who work with customer personnel to maintain, repair and continuously improve the performance of our equipment.

Our Semiconductor Equipment Products

We offer products for the pick-and-place, gravity-feed, test-in-strip and turret handling, MEMS and system-level test markets. We currently sell the following products in the semiconductor equipment market:

Pick-and-place

The Delta ***EDGE*** is a pick-and-place handler that combines an economical design with a small footprint and fast index time (processing speed of the contactor placement mechanism). The ***EDGE*** handler is designed to meet the needs of integrated circuit manufacturers and subcontractors who test at ambient and hot temperatures.

The Delta **MATRiX** is a high performance pick-and-place handler capable of thermally conditioning devices from -60 degrees Celsius to +175 degrees Celsius. It provides increased productivity in several dimensions of performance: high throughput and test parallelism, scalability and active thermal control per test site. With an adjustable test site configuration, customers can reuse existing load-boards, including those made for competitor equipment and gravity handlers. The system also provides flexibility with field upgradeable options including a chamberless tri-temperature test site and auto contactor cleaning.

The Delta **Castle** is a pick-and-place test handler capable of thermally conditioning devices from -60 degrees Celsius to +160 degrees Celsius. The Castle can position from one to nine devices for testing. Its large thermal soak chamber provides a continuous flow of thermally conditioned devices to the test site allowing the handler to process parts at high speed when running at temperature. The Castle incorporates an innovative vertical tray storage system that saves space on the test floor by minimizing the handler s footprint.

The Delta **Pyramid** is a high performance thermal handler providing high throughput, high parallel test capability for microprocessors and graphics processors. The Pyramid incorporates Delta s proprietary thermal control technology. The system is highly configurable and is capable of adapting to various customer requirements ranging from small tablet microprocessor testing to high-end server product testing.

Delta s **Summit** series of pick-and-place thermal handlers are designed to meet the requirements of manufacturers of microprocessors, graphic processors and other high speed, high power integrated circuits. The Summit handlers incorporate Delta s proprietary thermal control technology. The Summit PTC, or Passive Thermal Control, and ATC, or Active Thermal Control, models dissipate the heat generated during test enabling the integrated circuit to be tested successfully at its maximum speed and performance.

Delta s **LinX** Series is our new platform serving assembly automation. Back-end semiconductor assembly is the major process step prior to device testing and validation. The new LinX product line offers advanced Jedec handing automation that efficiently links various assembly test processes.

Gravity-Feed

Rasco s **SO1x00** is a high throughput gravity-feed platform that provides an economical solution for testing up to 8 devices in parallel. These handlers can be configured for tube-to-tube or metal magazine input and output, ambient-hot or tri-temperature testing and are easily kit-able for a wide range of integrated circuit packages.

Rasco s **SO2x00** is a modular platform that offers a reliable solution for testing small integrated circuit packages and up to 8 devices in parallel. The base platform can be configured with various input and output modules: tube, metal magazine, bowl, bulk, tape and reel, and an optional laser marking unit. These handlers can be configured for ambient-hot or tri-temperature testing.

Rasco s **Saturn** and **Jupiter** are our next generation gravity handlers delivering a fast index time capability with up to 8 devices tested in parallel at cold and/or hot temperature. Saturn has a configuration that covers testing of very small to medium size packaged integrated circuits, and Jupiter is a version that enables testing of medium to very large packaged integrated circuits typically serving the power management device market.

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Test-in-strip

Rasco s **SO3000**, test-in-strip handler, can process an entire strip at once or index the strip for single/multiple device testing. The system has tri-temperature capability, accommodates either stacked or slotted input/output media and can be configured with optional, automated vision alignment. The SO3000 is also a solution for in-process testing of next generation 3D packages, that integrate multiple substrate layers stacked and connected through silicon. This is a new process for advanced semiconductor package manufacturing that requires several test insertions along the manufacturing process flow.

Turret

Ismeca s **NX16** is a high-speed, 16-position turret handler commonly used for testing and inspection of integrated circuits, LEDs and discrete devices. The product is highly configurable with bowl or tube feeding, tape and bulk output modules along with many processing options including laser marking, inspection and test. The NX16 is capable of testing devices at ambient and hot temperature.

Ismeca s **NX32** is a scalable, 32-position turret handler used for testing and inspection of integrated circuits, LEDs, and discrete devices. There are many configurations of the NX32 turret handler: handling wafers in film-frame for input and/or output that is common for LEDs and wafer level package (WLP) devices; tray and tube input and/or output used for integrated circuits and discretes; and bowl feeding, tape and de-taping, alignment, laser marking, inspection and test modules. The NX32 is capable of testing devices at ambient and hot temperature.

Ismeca s **NY20** is our next generation turret handler platform that delivers higher throughput combined with fast device change-over time for both high-volume and high-mix testing and inspection of integrated circuits, LEDs and discrete devices. The new 20-position turret offers many of the functional modules and capabilities available on the NX16 and NX32 platforms in a smaller footprint, higher throughput handler.

Micro-Electro-Mechanical Systems (MEMS)

Rasco s MEMS series are modules that generate a physical stimuli for testing of sensor integrated circuits typically used in the automotive (e.g. tire pressure, airbag sensors) and consumer electronics (e.g. tilt, motion, microphone and light sensors) industries. The MEMS modules are stand-alone units that can be integrated into Delta, Ismeca or Rasco pick-and-place, turret, test-in-strip, or gravity-feed handlers.

Thermal Sub-Systems

Delta adapted its proprietary thermal control technology for use by integrated circuit manufacturers in high performance burn-in and system level test. The **T-Core** thermal sub-systems provide fast and accurate thermal control of the integrated circuit during the testing process using the same technology available in the Pyramid handler. T-Core is also used in engineering and device characterization applications.

Delta s **Fusion HD** is the next generation tri-temperature thermal sub-system leveraging our advanced T-Core technology for testing advanced mobile processors. The Fusion HD thermal sub-system offers the unique ability to test greater than 450 devices in parallel while thermally conditioning and accurately controlling each device temperature through stringent, power dissipative test scripts. Compared to conventional test methodologies, Fusion HD offers a significant device yield improvement while maintaining a cost effective tool throughput.

Contactors

It is becoming increasingly important to supply an integrated solution for power semiconductor testing in automotive, industrial and LED markets and Delta, Rasco and Ismeca design, manufacture, sell and support various lines of test contactor solutions. These are consumable, electro-mechanical assemblies that connect the device under test, inside our test handlers, and the automated test equipment.

Spares

Delta, Rasco and Ismeca provide consumable and non-consumable items that are used to maintain, sustain or otherwise enable their equipment to meet its performance, availability and production requirements.

Tooling (kits)

Delta, Rasco and Ismeca design and manufacture a wide range of device dedication kits that enable handlers to process different semiconductor packages. Our Philippines and China operations design and manufacture the majority of our handler kits and provide applications support to

customers in the southeast Asia region.

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Sales by Product Line

During the last three years, sales of our semiconductor equipment products were distributed as follows:

	2013	2012	2011
Semiconductor test handler systems	40%	56%	57%
Thermal sub-systems and burn-in equipment	8%	5%	3%
Spares, tooling (kits) and service	52%	39%	40%

Mobile Microwave Communications

BMS develops, manufactures and sells mobile microwave communications equipment, antenna systems and associated equipment. These products are used in the transmission of video, audio and telemetry data. Applications for these microwave data-links include unmanned aerial vehicles (UAVs), law enforcement, security and surveillance, electronic news gathering and live broadcast communications. Customers include government agencies, law enforcement and public safety organizations, unmanned air vehicle program contractors, television broadcasters, entertainment companies, professional sports teams and other commercial entities.

Video Cameras

The Electronics Division develops, manufactures and sells video cameras and related products, specializing in IP video solutions for security, surveillance and traffic monitoring applications. The customer base for these products is distributed among traffic control and management, security/surveillance, military, scientific imaging and machine vision. The Electronics Division s products are high-performance, high-resolution cameras that meet the most demanding performance requirements and are resistant to harsh operating environments. The Electronics Division also offers customized products and accessories including cables, camera mounts and data storage devices.

Customers

Semiconductor Equipment

Our customers include semiconductor integrated device manufacturers and test subcontractors. Repeat sales to existing customers represent a significant portion of our sales. During the last three years, customers from our semiconductor equipment segment that have comprised 10% or greater of our consolidated net sales are as follows:

	2013	2012	2011
Intel	16%	39%	36%
Texas Instruments	*	*	11%

* Less than 10% of net sales

The loss of, or a significant reduction in, orders by these or other significant customers, including reductions due to market, economic or competitive conditions or the outsourcing of final integrated circuit test to subcontractors that are not our customers would adversely affect our financial condition and results of operations and as a result, we believe that our customer concentration is a significant business risk.

Additional financial information on revenues from external customers by geographic area for each of the last three years is included in Note 6, Segment and Related Information in Part IV, Item 15(a) of this Form 10-K.

Mobile Microwave Communications

Our customer base for microwave communications equipment is diverse and includes government agencies, law enforcement and public safety organizations, unmanned air vehicle program contractors, television broadcasters, entertainment companies, professional sports teams and other commercial entities throughout the world. No single customer of this segment accounted for 10% or more of our consolidated net sales in 2013, 2012 or 2011.

Video Cameras

Our customer base in the video camera industry segment is also diverse and includes corporate end-users, state and federal government agencies, original equipment manufacturers, system integrators and value-added resellers. No single customer of this segment accounted for 10% or more of our consolidated net sales in 2013, 2012 or 2011.

Sales and Marketing

We market our products worldwide through a combination of a direct sales force and independent sales representatives. In geographic areas where we believe there is sufficient sales potential, we generally employ our own personnel. The U.S. sales office for our semiconductor equipment businesses is located in Poway, California.

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The Europe sales office is located in Kolbermoor, Germany. We operate in Asia with headquarters in Singapore and branch offices in Taiwan, China, Thailand, Korea and Malaysia. Sales in Japan are made primarily through independent sales representatives.

Competition

Semiconductor Equipment

The semiconductor equipment industry is intensely competitive and is characterized by rapid technological change and demanding worldwide service requirements. Significant competitive factors include product performance, price, reliability, customer support and installed base of products. While we are a leading worldwide supplier of semiconductor test handling equipment, we face substantial competition. The Japanese and Korean markets for test handling equipment are large and represent a significant percentage of the worldwide market. During each of the last three years our sales to Japanese and Korean customers, who have historically purchased test handling equipment from Asian suppliers, have represented less than 10% of our total sales. Some of our current and potential competitors are part of larger corporations that have substantially greater financial, engineering, manufacturing and customer support capabilities and offer more extensive product offerings than Cohu. To remain competitive we believe we will require significant financial resources to offer a broad range of products, maintain customer support and service centers worldwide and to invest in research and development of new products. Failure to introduce new products in a timely manner or the introduction by competitors of products with actual or perceived advantages could result in a loss of competitive position and reduced sales of existing products. No assurance can be given that we will continue to compete successfully throughout the world.

Mobile Microwave Communications and Video Cameras

Our products in the microwave communications and video camera segments are sold in highly competitive markets throughout the world, where we compete on the basis of product performance and integration with customer requirements, service, product quality, reliability and price. Many of our competitors are divisions or segments of large, diversified companies with substantially greater financial, engineering, marketing, manufacturing and customer support capabilities than Cohu. No assurance can be given that we will continue to compete successfully in these market segments.

Backlog

Our backlog of unfilled orders for products, by segment, at December 28, 2013 and December 29, 2012, was as follows:

(in millions)	2013	2012
Semiconductor equipment *	$ 75.4	$ 30.6
Microwave communications	10.1	10.0
Video cameras	2.9	4.1
Total consolidated backlog	$ 88.4	$ 44.7

* Reported backlog for our semiconductor equipment segment as of December 28, 2013, includes Ismeca which was acquired on December 31, 2012.

Backlog is generally expected to be shipped within the next twelve months. Our backlog at any point in time may not be representative of actual sales in any future period due to the possibility of customer changes in delivery schedules, cancellation of orders, potential delays in product shipments, difficulties in obtaining parts from suppliers, failure to satisfy customer acceptance requirements and the inability to recognize revenue under accounting requirements. Furthermore, many orders are subject to cancellation or rescheduling by the customer with limited or no penalty. A reduction in backlog during any particular period could have a material adverse effect on our business, financial condition and results of operations. There is no significant seasonal aspect to our business.

Manufacturing and Raw Materials

Our manufacturing operations are currently located in Poway, California (Delta, BMS and Electronics Division); Laguna, the Philippines (Delta); Kolbermoor, Germany (Rasco); Malacca, Malaysia (Delta and Ismeca); Suzhou, China (Ismeca); La Chaux-de-Fonds, Switzerland

(Ismeca) and Kemel, Germany (BMS).

Many of the components and subassemblies we utilize are standard products, although some items are made to our specifications. Certain components, particularly in our semiconductor equipment businesses, are obtained or are

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available from a limited number of suppliers. We seek to reduce our dependence on sole and limited source suppliers, however in some cases the complete or partial loss of certain of these sources could have a material adverse effect on our operations while we attempt to locate and qualify replacement suppliers.

Patents and Trademarks

Our proprietary technology is protected by various intellectual property laws including patents, licenses, trademarks, copyrights and trade secrets. In addition, we believe that, due to the rapid pace of technological change in the semiconductor equipment industry and our other business segments, the successful manufacture and sale of our products also depends upon our experience, technological know-how, manufacturing and marketing skills and speed of response to sales opportunities. In the absence of patent protection, we would be vulnerable to competitors who attempt to copy or imitate our products or processes. We believe our intellectual property has value and we have in the past and will in the future take actions we deem appropriate to protect such property from misappropriation. However, there can be no assurance such actions will provide meaningful protection from competition. Protecting our intellectual property rights or defending against claims brought by other holders of such rights, either directly against us or against customers we have agreed to indemnify, would likely be expensive and time consuming and could have a material adverse effect on our operations.

Research and Development

Certain of the markets in which we compete, particularly the semiconductor equipment industry, are characterized by rapid technological change. Research and development activities are carried on in our various subsidiaries and division and are directed toward development of new products and equipment, as well as enhancements to existing products and equipment. Our total research and development expense was $48.6 million in 2013 (including Ismeca, acquired December 31, 2012) and $36.2 million, for both 2012 and 2011.

We work closely with our customers to make improvements to our existing products and in the development of new products. We expect to continue to invest heavily in research and development and must manage product transitions successfully as introductions of new products could adversely impact sales of existing products.

Environmental Laws

Our business is subject to numerous federal, state, local and international environmental laws. On occasion, we have been notified by local authorities of instances of noncompliance with local and/or state environmental laws. We believe we are in compliance with applicable federal, state, local and international regulations. Compliance with foreign, federal, state and local laws that have been enacted or adopted regulating the discharge of materials into the environment or otherwise relating to the protection of the environment and the prevention of climate change have not had a material effect and is not expected to have a material effect upon the capital expenditures, results of operations or our competitive position. However, future changes in regulations may require expenditures that could adversely impact earnings in future years.

Executive Officers of the Registrant

The following sets forth the names, ages, positions and offices held by all executive officers of Cohu as of February 18, 2014. Executive Officers serve at the discretion of the Board of Directors, until their successors are appointed.

Name	Age	Position
Cohu:		
James A. Donahue	65	Chairman, President and Chief Executive Officer
Jeffrey D. Jones	52	Vice President, Finance and Chief Financial Officer
John H. Allen	62	Vice President, Administration
Cohu wholly owned subsidiaries:		
Luis A. Müller	44	President Cohu SEG
Hock W. Chiang	56	Vice President Global Sales & Service Cohu SEG
Peter Portmann	56	Vice President Global Operations Cohu SEG
Samer Kabbani	39	President Delta Design Systems
James G. McFarlane	63	President Delta Design Kit Operations

Mr. Donahue has been employed by Delta since 1978 and was President of Delta from May, 1983 until December, 2010. In October, 1999, Mr. Donahue was named President and Chief Operating Officer of Cohu and was appointed to Cohu s Board of Directors. In June, 2000, Mr. Donahue was promoted to Chief Executive Officer and was appointed Chairman of the Board in March, 2010.

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Mr. Jones joined Delta in 2005 as Vice President Finance. In November 2007, Mr. Jones was named Vice President, Finance and Chief Financial Officer of Cohu. Prior to joining Delta, Mr. Jones, was a consultant from 2004 to 2005 and Vice President and General Manager of the Systems Group at SBS Technologies, Inc., a designer and manufacturer of embedded computer products, from 1998 to 2003.

Mr. Allen has been employed by Cohu since June, 1995. He was Director of Finance until September, 1995, became Vice President, Finance in September, 1995, and was appointed Chief Financial Officer in October, 1995. In November 2007, Mr. Allen was made Vice President, Administration. Prior to joining Cohu, Mr. Allen held various positions with Ernst & Young LLP from 1976 until June, 1995 and had been a partner with that firm since 1987.

Mr. Müller joined Delta in 2005 as Director of Engineering. In July 2008, Mr. Müller was promoted to the position of Vice President of the High Speed Handling Group for Delta and in January 2009 he was named Managing Director of Rasco. In January 2011, Mr. Müller was appointed President of Cohu s Semiconductor Equipment Group, which encompasses Cohu subsidiaries Delta Design, Inc., Rasco GmbH and Ismeca Semiconductor.

Mr. Chiang has been employed by Cohu since October 2012 as Vice President, Global Sales & Service for Cohu s Semiconductor Equipment Group. Prior to joining Cohu, Mr. Chiang served as a Director for AXElite Technology Corporation. Additionally, from 1995 through 2011, Mr. Chiang held a variety of positions at Teradyne, Inc. (Teradyne) including Director Asia SOC Marketing & New Business Development, Managing Director of Teradyne s Singapore and China operations and Director of Worldwide Field Total Quality Management.

Mr. Portmann began his employment with Cohu with the acquisition of Ismeca on December 31, 2012 and was named Vice President Global Operations of Cohu s Semiconductor Equipment Group in January 2013. Immediately prior to joining Cohu, Mr. Portman served as the Vice President and Global Operations Manager of Ismeca for seven years. Additionally, from 1994 through 2001, Mr. Portmann held a variety of leadership positions at Ismeca including General Manager of Ismeca Malaysia and Vice President of the Semiconductor Division.

Mr. Kabbani joined Delta in 2003 holding several leadership positions in engineering. In 2007, Mr. Kabbani was promoted to the position of Vice President of the High Performance Logic Group and in 2011 he became Vice President of Engineering for Delta. Mr. Kabbani was named President of Delta Design Systems in February 2013.

Mr. McFarlane has been employed by Delta since 1989. He was Director of Engineering from 1992 to 1998 and was promoted to Vice President of Engineering in 1998. In 2000, Mr. McFarlane was promoted to Senior Vice President and in February 2013 was named President of Delta Design Kit Operations.

Employees

At December 28, 2013, we had approximately 1,400 employees. Our employee headcount has fluctuated in the last five years primarily due to the volatile business conditions in the semiconductor equipment industry and the acquisitions of Rasco and Ismeca. Our employees in the United States and most locations in Asia are not covered by collective bargaining agreements, however, certain employees at Rasco s facility in Kolbermoor, Germany, are represented by a works council, certain employees at Ismeca s facility La Chaux-de-Fonds, Switzerland are members of the micro-technology and Swiss watch trade union and certain employees in Ismeca s China operation belong to local trade unions. We have not experienced any work stoppages and consider our relations with our employees to be good. We believe that a great part of our future success will depend on our continued ability to attract and retain qualified employees. Competition for the services of certain personnel, particularly those with technical skills, is intense. There can be no assurance that we will be able to attract, hire, assimilate and retain a sufficient number of qualified employees.

Available Information

Our web site address is www.cohu.com. We make available free of charge, on or through our web site, our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and all amendments

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to those reports, as soon as reasonably practicable after such material is electronically filed with the Securities and Exchange Commission. Our Code of Business Conduct and Ethics and other documents related to our corporate governance is also posted on our web site at www.cohu.com/investors/corporategovernance. Information contained on our web site is not deemed part of this report.

Item 1A. Risk Factors.

Set forth below and elsewhere in this report on Form 10-K and in other documents we file with the SEC, are risks and uncertainties that could cause actual results to differ materially from the results expressed or implied by the forward-looking statements contained in this Annual Report. Before deciding to purchase, hold or sell our common stock, you should carefully consider the risks described below in addition to the other cautionary statements and risks described elsewhere, and the other information contained, in this Annual Report on Form 10-K. The risks and uncertainties described below are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also affect our business. If any of these known or unknown risks or uncertainties actually occurs with material adverse effects on Cohu, our business, financial condition and results of operations could be seriously harmed. The trading price of our common stock could decline due to any of these risks, and you may lose all or part of your investment.

We are exposed to risks associated with acquisitions, investments and divestitures.

We have made, and may in the future make, acquisitions of, or significant investments in, businesses with complementary products, services and/or technologies such as our acquisition of Ismeca, which was completed on December 31, 2012. Acquisitions and investments involve numerous risks, including, but not limited to:

- difficulties and increased costs in connection with integration of the personnel, operations, technologies and products of acquired businesses;
- increasing the scope, geographic diversity and complexity of our business;
- diversion of management s attention from other operational matters;
- the potential loss of key employees or customers of Cohu or acquired businesses;
- lack of synergy, or the inability to realize expected synergies, resulting from the acquisition;
- failure to commercialize purchased technology; and
- the impairment of acquired intangible assets and goodwill that could result in significant charges to operating results in future periods.

We may be required to finance future acquisitions and investments through a combination of borrowings, proceeds from equity or debt offerings and the use of cash, cash equivalents and short-term investments.

With respect to divestitures, we may divest businesses that do not meet our strategic objectives, or do not meet our growth or profitability targets and may not be able to complete proposed divestitures on terms commercially favorable to us.

Mergers, acquisitions and investments are inherently risky and the inability to effectively manage these risks could materially and adversely affect our business, financial condition and results of operations. At December 28, 2013 we had goodwill and net purchased intangible assets balances of $71.3 million and $45.3 million, respectively.

We are exposed to the risks of operating a global business.

We are a global corporation with offices and subsidiaries in certain foreign locations to support our sales and services to the global semiconductor industry and, as such, we face risks in doing business abroad that we do not face domestically. Certain aspects inherent in transacting business internationally could negatively impact our operating results, including:

- costs and difficulties in staffing and managing international operations;
- unexpected changes in regulatory requirements;
- difficulties in enforcing contractual and intellectual property rights;
- longer payment cycles;
- local political and economic conditions;
- potentially adverse tax consequences, including restrictions on repatriating earnings and the threat of double taxation ; and
- fluctuations in currency exchange rates, which can affect demand and increase our costs.

Additionally, managing geographically dispersed operations presents difficult challenges associated with organizational alignment and infrastructure, communications and information technology, inventory control,

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customer relationship management, terrorist threats and related security matters and cultural diversities. If we are unsuccessful in managing such operations effectively, our business and results of operations will be adversely affected.

The implementation of our Enterprise Resource Planning software could disrupt our business which could decrease our sales, earnings and liquidity.

We are in the process of finalizing the implementation of an Enterprise Resource Planning (ERP) software system which may not result in improvements that outweigh its costs and may disrupt our operations. Our inability to mitigate existing and future disruptions could decrease our sales, earnings and liquidity. The ERP system implementation subjects us to substantial costs and inherent risks associated with migrating from our legacy systems. These costs and risks could include, but are not limited to:

- significant operating expenditures;

- disruptions to our domestic and international supply chains;