

M/A-COM Technology Solutions Holdings, Inc.

Form 10-K

December 05, 2013

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**UNITED STATES**  
**SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

**FORM 10-K**

x ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934  
For the fiscal year ended September 27, 2013

OR

.. TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934  
For the transition period from                      to

Commission file number: 001-35451

**M/A-COM Technology Solutions Holdings, Inc.**

(Exact name of registrant as specified in its charter)

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**Delaware**  
(State or other jurisdiction of  
incorporation or organization)

**27-0306875**  
(I.R.S. Employer  
Identification No.)

**100 Chelmsford Street, Lowell, Massachusetts**  
(Address of principal executive offices)

**01851**  
(Zip Code)

**Registrant's telephone number, including area code: (978) 656-2500**

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

<b>Title of Each Class</b>	<b>Name of Each Exchange on Which Registered</b>
<b>Common Stock, par value \$0.001 per share</b>	<b>NASDAQ Global Select Market</b>

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

**None**

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

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

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

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

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

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

Large accelerated filer  Accelerated filer  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 Exchange Act). Yes  No

The aggregate market value of the registrant's common stock held by non-affiliates of the registrant as of March 29, 2013, the last business day of the registrant's second fiscal quarter, was approximately \$331.5 million based on the closing price of the registrant's common stock as of such date as reported on the NASDAQ Global Select Market. For purposes of the foregoing calculations only, shares of common stock held by each executive officer and director of the registrant have been excluded, as such persons may be deemed to be affiliates. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

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The number of outstanding shares of the registrant's common stock, par value \$0.001 per share, as of November 29, 2013 was 46,646,805.

### **DOCUMENTS INCORPORATED BY REFERENCE**

Part III incorporates certain information by reference from the registrant's definitive proxy statement for the 2014 Annual Meeting of Stockholders, which will be filed no later than 120 days after the close of the registrant's fiscal year ended September 27, 2013.

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M/A-COM TECHNOLOGY SOLUTIONS HOLDINGS, INC.

ANNUAL REPORT ON FORM 10-K

FOR THE FISCAL YEAR ENDED SEPTEMBER 27, 2013

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**CAUTIONARY STATEMENT**

This Annual Report on Form 10-K (Annual Report) contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities and Exchange Act of 1934, as amended, including statements regarding our business outlook, strategy, plans, expectations, estimates and objectives for future operations, and our future results of operations and financial position. Forward-looking statements include all statements that are not historical facts and generally may be identified by terms such as anticipates, believes, could, continue, estimates, expects, intends, may, plans, potential, predicts, projects, seeks, should, target, expressions or variations or the negatives of those terms, but are not the exclusive means of identifying forward-looking statements in this Annual Report.

Although forward-looking statements in this Annual Report reflect the good faith judgment of our management based on what we know at the time they are made, such statements involve inherent risks and uncertainties and actual results and outcomes may differ materially and adversely from the results and outcomes expressed or implied by our forward-looking statements. A number of important factors could cause actual results to differ materially and adversely from those in the forward-looking statements. We urge you to consider the risks and uncertainties in Item 1A. Risk Factors and elsewhere in this Annual Report and the other documents filed by us with the Securities and Exchange Commission (SEC). Except as required by law, we have no plans, and undertake no obligation, to revise or update our forward-looking statements to reflect any event or circumstance that may arise after the date of this report. We caution readers not to place undue reliance upon any such forward-looking statements, which speak only as of the date made.

In this document, the words Company, we, our, us and similar terms refer only to M/A-COM Technology Solutions Holdings, Inc. and its consolidated subsidiaries, and not any other person or entity.

M/A-COM and MACOM are trademarks of M/A-COM Technology Solutions Holdings, Inc. All other brands and names listed are trademarks of their respective owners.

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### **PART I**

#### **ITEM 1. BUSINESS**

##### **Overview**

We are a leading provider of high-performance analog semiconductor solutions for use in wireless and wireline applications across the radio frequency (RF), microwave and millimeterwave spectrum. We leverage our system-level expertise to design and manufacture differentiated, high-value products for customers who demand high performance, quality, and reliability. We offer over 2,700 standard and custom devices, which include integrated circuits (IC), multi-chip modules, power pallets and transistors, diodes, switches and switch limiters, passive and active components and complete subsystems, across 37 product lines serving over 6,000 end customers in four primary markets. Our semiconductor products are electronic components that our customers incorporate into their larger electronic systems, such as point-to-point wireless backhaul radios, radar, automobile navigation systems, digital cable television (CATV) set-top boxes, magnetic resonance imaging systems and unmanned aerial vehicles. Our primary markets are Networks, which includes CATV, cellular backhaul, cellular infrastructure and fiber optic applications; Aerospace and Defense (A&D); Automotive, which includes global positioning system (GPS) modules sold to the automotive industry; and Multi-market, which includes industrial, medical, mobile communications and scientific applications.

We build upon a 60-year heritage of delivering innovative solutions dating back to the founding of Microwave Associates, Inc. We utilize our system-level knowledge and our extensive capabilities in high-frequency modeling, IC design, integration, packaging and manufacturing of semiconductors to address our customers' needs. Our specialized engineers and technologists located across six global design centers collaborate with our customers during the early stage of their system development process to incorporate our standard products and identify custom products we can develop to enhance their overall system performance. We intend to continue to expand our revenue opportunities through our market-facing strategy of aligning our solutions with our customers' needs and collaborating with them during the product definition stage of their systems toward design-in of our products. We believe this approach will allow us to sell more complete semiconductor solutions that integrate more functions and incorporate more highly-valued content into our products. We believe the combination of our market-facing strategy and our engineering expertise enables us to identify profitable growth opportunities and rapidly develop and deliver new products and solutions. We have a comprehensive new product opportunity assessment process with 128 products in development as of September 27, 2013 that we believe will enhance our revenue growth and improve our gross margin over the long term through a richer product mix. Many of our products have long lifecycles ranging from 5 to 10 years, and some of our products have been shipping for over 20 years. We believe these factors create a competitive advantage. Our goal is to leverage this advantage into strengthened customer relationships and sole source design wins, where a customer allows us to be its only supplier of a particular component used in its system.

We believe our fab-lite manufacturing model provides us with a competitive advantage and an attractive financial model through a variable cost structure. We operate a single Gallium Arsenide (GaAs) and silicon semiconductor fab at our Lowell, Massachusetts headquarters, which we are currently in the process of updating to include Gallium Nitride (GaN) fabrication operations as well. We also utilize external semiconductor foundries to supply us with additional capacity in periods of high demand and to provide us access to additional process technologies. The ability to utilize a broad array of internal proprietary process technologies as well as commercially available foundry technologies allows us to select the most appropriate technology to solve our customers' needs. We believe our fab-lite strategy also provides us with dependable domestic supply, control over quality, reduced capital investment requirements, faster time to market, and additional outsourced capacity when needed. In the A&D market, an internal domestic fab can be a requirement to be a strategic supplier. In addition, the experience base cultivated through the continued operation of our internal fab provides us with the expertise to better manage our external foundry suppliers.

We serve our broad and diverse customer base through a multi-channel sales strategy utilizing our direct sales force, a global network of independent sales representatives, distributors and an e-commerce channel. Our

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direct sales force and application engineers are focused on securing design wins by supporting industry-leading original equipment manufacturer (OEM) customers. Our external sales representatives, distributors and our more recently implemented e-commerce channel are focused on increasing our design wins with smaller or emerging customers early in their new product development efforts.

### **Our Markets & Products**

The growth of advanced electronic systems using RF, microwave and millimeterwave technologies has created demand for high-performance analog semiconductor components, modules and solutions. The terms RF, microwave and millimeterwave are used to refer to electromagnetic waves in a particular frequency range produced by applying an alternating current to an antenna or conductor. A wide variety of advanced electronic systems rely on electromagnetic waves for high-speed data transmission or reception. We offer high-performance analog semiconductor products for both wireless and wireline applications across the frequency spectrum from RF to millimeterwave. We regularly develop high-value products to serve our customers in four primary markets: Networks, A&D, Multi-market and Automotive which represented 26.3%, 27.3%, 20.0% and 26.5%, respectively, of our revenue in fiscal year 2013.

The market demand for RF, microwave and millimeterwave semiconductors is driven by the growth of mobile Internet devices, cloud computing and streaming video that strain existing network capacity, as well as the growth in advanced information-centric military applications. In addition, the increasing need for real-time information, sensing and imaging functions in automotive, industrial, medical, scientific and test and measurement applications is driving demand in these markets.

*Networks.* Growth in the Networks market is driven by the proliferation of wireless and wired devices from smartphones and tablets to set-top boxes, as well as the data rich applications and services they enable such as mobile Internet, cloud computing, video-on-demand, social media, global positioning functionality and location based services. Growth in global Internet Protocol traffic drives demand for communications infrastructure equipment consisting of amplifiers, filters, receivers, switches, synthesizers, transformers, upconverters, and other components to expand and upgrade cellular backhaul, cellular infrastructure, CATV, broadband, and fiber optic networks. Semiconductor products and solutions must continually deliver higher throughput performance and functionality as the demands of end users increase.

Our expertise in system-level architectures and advanced IC design capability allow us to offer Networks OEMs highly-integrated solutions optimized for performance and cost. We are a leader in high-frequency semiconductors used in point-to-point radios for cellular backhaul, where we provide a highly-integrated chipset solution featuring innovative IC and low cost package design capabilities. Similarly, our portfolio of opto-electronics products for transmitter and receiver applications in 40/100 gigabits per second (Gbps) fiber optic networks enable telecommunications carriers and data centers to cost-efficiently increase their network capacity by a factor of four to ten times over earlier generation solutions. For optical communications applications, we utilize a proprietary combination of GaAs and Indium Phosphide (InP) technologies to obtain advantages in performance and size. For CATV applications, we offer OEMs the opportunity to streamline their supply chain through our broad portfolio of active components such as active splitters, amplifiers, multi-function ICs and switches, as well as passive components such as transformers, diplexers, filters, power dividers and combiners.

*Aerospace & Defense.* In the A&D market, military applications require more advanced electronic systems, such as radar warning receivers, communications data links and tactical radios, unmanned aerial vehicles (UAVs), RF jammers, electronic countermeasures and smart munitions. Military applications are becoming more sophisticated, favoring higher performance semiconductor ICs based on GaAs and GaN technology due to their high power density, improved power efficiency and broadband capability. Radar systems for mapping and targeting missions are undergoing a major transition from existing mechanically-scanned radar products to a new generation of active electronically-scanned array (AESA) based products. Consisting of hundreds or thousands of transmit/receive modules commonly based on GaAs and increasingly on GaN technology, AESAs deliver greater

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speed, range, resolution and reliability over mechanically-scanned radar products that utilize a single transmitter and receiver with mechanical steering. Military communications employing wireless infrastructure and tactical radios in the field remain critical for allowing geographically dispersed users to exchange information quickly and efficiently. UAVs and their underlying semiconductor content require innovative designs to meet rigorous specifications for high performance, small size, and low power consumption.

We believe our in-depth knowledge of critical radar system requirements, integration expertise and track record of reliability make us a resource for A&D customers faced with demanding application parameters. For radar applications, we offer standard and custom power transistor pallets, discrete components, switch limiters, phase shifters and integrated modules for transmit and receive functions in air traffic control, marine, weather and military radar applications. For military communications data link and tactical radio applications, we offer a family of active, passive and discrete products, such as integrated IC modules, control components, voltage-controlled oscillators (VCOs), transformers, power transistors and pallets, and diodes. In some cases, we design parts specifically for these applications, while in others, our reputation for quality allows these demanding customers to reduce the cost of their high-performance systems by designing in standard dual-use or commercial off-the-shelf parts that we have developed for other applications. We believe manufacturing many of these products in our U.S. fab offers us a competitive advantage in the A&D market because of our proprietary process technologies and certain A&D customers' requirements for a domestic supply chain.

*Automotive.* The Automotive category includes GPS modules we sell to the automotive industry. Semiconductor content in automobiles is projected to grow in order to offer connectivity, safety, performance and navigation features.

*Multi-market.* The Multi-market category encompasses various applications including industrial, medical, mobile communications, test and measurement and scientific applications, where RF, microwave and millimeterwave semiconductor solutions are gaining prevalence. In addition, evolving medical technology has increased the need for high-performance semiconductor solutions in medical imaging and patient monitoring to provide enhanced analysis and functionality.

In Multi-market, our products are used in industrial, medical, mobile communications, test and measurement and scientific applications. In the medical industry, our custom designed non-magnetic diode product line is a critical component for certain MRI applications. For sensing and test and measurement applications, we believe our patented Heterolithic Microwave Integrated Circuit (HMIC) process is ideal for high-performance, integrated bias networks and switches. Our portfolio of general purpose GaAs ICs includes low noise amplifiers, switches and power amplifiers that address a wide range of applications such as industrial automation systems, test and measurement equipment, tablets and other wireless local area network devices.



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To address our target markets, we offer a broad range of standard and custom ICs, modules and complete subsystems across 37 product lines. Our product portfolio currently consists of more than 2,700 products including the following key product platforms: power pallets and transistors, ICs, diodes, switches and switch limiters, passive and active components, multi-chip modules, and complete subsystems. Many of our product platforms are leveraged across multiple markets and applications. For example, our application expertise with regard to power transistor technology is leveraged across both scientific laboratory equipment applications and commercial and defense radar system applications. Our diode technology is used in switch filter banks of military tactical radios as well as medical imaging MRI systems. The table below presents the major product families, major applications and major end customers in our primary target markets.

<b>TARGET MARKET</b>	<b>MAJOR PRODUCT FAMILIES</b>	<b>MAJOR APPLICATIONS</b>	<b>MAJOR OEM CUSTOMERS</b>
Networks	Active Splitters Amplifiers Attenuators Filters/Diplexers Modulator Driver Amplifiers Switches Transformers/Baluns Transimpedance Amplifiers Upconverters/Downconverters Voltage Controlled Oscillators	Point-to-Point Wireless Backhaul 2G/3G/4G Wireless Base Stations Set Top Boxes CATV Infrastructure GPON/Fiber-to-the-x 40/100G Fiber Optics	Arris Cisco Ericsson Huawei Samsung
Aerospace and Defense	Amplifiers Attenuators Components Diodes Power Transistors & Modules Mixers Phase Shifters Switch Limiters Voltage Control Oscillators	Air Traffic Control Radar Weather Radar Public Safety Radios Tactical & Manpack Radios Satellite Communications Military Communications	CIENJ Exelis Iridium Motorola Solutions Thales
Automotive	GPS Module	Global Positioning System	Autoliv Ford
Multi-Market	Amplifiers Attenuators Couplers Diodes Logic Drivers Mixers Power Detectors Power Transistors Switches Transceivers	Industrial Medical Scientific Test & Measurement	Agilent BEA Samsung Siemens

Many of our products have long lifecycles ranging from 5 to 10 years, and some of our products have been shipping for over 20 years. We believe these factors create a competitive advantage. Our goal is to leverage this advantage into strengthened customer relationships and sole source design wins, where a customer allows us to be its only supplier of a particular component used in its system.

**Research and Development**

Our research and development efforts are directed toward the rapid development of new and innovative products and solutions, process technologies and packaging techniques. The interaction of semiconductor process technology, circuit design technology and packaging technology defines the performance parameters of our products. We believe our core competency is the ability to model, design, integrate, package, and manufacture



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differentiated solutions. We leverage this core competency to solve difficult and complex challenges that our customers face during their system design phases. We believe our integrated and customized solutions offer customers high performance, quality, reliability and faster time to market.

*Circuit design and device modeling expertise.* Our engineers are experts in the design of circuits capable of reliable, high-performance RF, microwave and millimeterwave signal conditioning. Our staff has decades of experience in solving complex design challenges in applications involving high frequency, high power, and environmentally-rugged operating conditions. We also developed proprietary device and electro-magnetic modeling techniques that our engineers use to generate predictive models prior to fabrication. Our predictive modeling expertise allows us to achieve faster design cycle times resulting in shorter time to market for our products.

*Packaging expertise.* Our extensive packaging expertise enables us to model the interaction between the semiconductor and its package, and our engineers make appropriate adjustments in the design of both to take account of that interaction. We offer products in a variety of different package types for specific applications, including plastic over-molded, ceramic and laminate-based.

*Semiconductor process technology.* We leverage our domestic semiconductor wafer fabrication capabilities and our foundry suppliers to offer customers the right process technology to meet their particular requirements. Depending on the requirements for the application, our semiconductor products may be designed using an internally developed or externally sourced process technology.

We continue to invest in proprietary processes to enable us to develop and manufacture high-value solutions. For example, we have developed innovative, patented technologies such as HMIC, which provides high integration, high power and low loss switching capabilities for our primary markets. This technology replaces mechanical switches for very high power applications such as wireless basestations. We are also in the process of porting from an external foundry supplier and establishing innovative, high-performance GaN process technology manufacturing capability at our Lowell, MA fabrication facility. Upon completion of the porting and qualification process, we believe that being able to offer our customers this dual-sourced, internal and external GaN supply capability will provide us with a competitive advantage.

Our engineers' system-level design expertise allows us to offer differentiated solutions that leverage multiple process technologies and are integrated into a single, higher-level assembly, thereby delivering our customers solutions with enhanced functionality.

Our new product introductions in fiscal year 2013 included:

optical modulator drivers and transimpedance amplifiers for 40/100 Gbps fiber optic networks;

amplifiers, filters, and transformers for CATV applications such as data over cable service interface specification (DOCSIS) 3.0 and multimedia over coax alliance (MoCA) 2.0;

low phase noise VCOs for the wireless backhaul market and military communications applications;

GaN power transistors and pallets for radar, avionic and military communication applications;

high power PIN diodes and modules for front-end applications in aerospace and defense, military communications, wireless infrastructure and multi-market;

complete GaAs IC discrete and integrated solutions for phased array radar applications from S-Band through Ka-Band; and

highly integrated GaAs chipsets for point-to-point wireless backhaul radio applications from C-Band up through E-Band.

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Research and development expenses were \$40.6 million, \$35.8 million and \$36.1 million for fiscal years 2013, 2012 and 2011, respectively. As of September 27, 2013, we had 128 new products in development. Our

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typical design cycle times range from eight weeks to 18 months. We anticipate that we will continue to make significant research and development expenditures in order to drive future new product and process introductions and maintain our competitive position.

### **Sales and Marketing**

We employ a global multi-channel sales strategy and support model intended to facilitate our customer's evaluation and selection of our products. We sell through our direct sales force, our application engineering staff and our global network of independent sales representatives and distributors, as well as an e-commerce channel. We have strategically positioned our direct sales and applications engineering staff in 25 locations worldwide, augmented by independent sales representatives and distributors in 135 locations worldwide to offer responsive local support resources to our customers and to build long-term relationships. With our global design centers, our application engineers visit customers at their engineering and manufacturing facilities, aid them in understanding our capabilities and collaborate with them to optimize their system performance. Our global distribution network allows us to reach new customers in new geographies more effectively than we can using our direct sales force alone.

Our products are principally sold in the U.S., Asia and Western Europe, which is also where our direct sales force, engineering staff, independent sales representatives and distributors are concentrated. Sales to our distributors accounted for 18.6%, 21.3% and 25.8% of our revenue in fiscal years 2013, 2012 and 2011, respectively. Our agreements with our distributors typically provide for an initial term of one or more years with the opportunity for subsequent renewals and also provide that either party may terminate the agreement for convenience with a minimum period of prior notice to the other party, typically between 30 and 90 days.

Our sales efforts are focused on customer needs in our four primary markets rather than on particular product lines, facilitating product cross-selling across end markets and within key accounts. Through our website, customers can order online, request samples, as well as access our product selection guide, detailed product brochures and data sheets, application notes, suggested design block diagrams and test fixture information, technical articles and information regarding quality and reliability.

### **Customers**

Our diversified customer base of over 6,000 customers includes systems manufacturers, OEMs, contract manufacturers and distributors. For fiscal years 2013, 2012 and 2011, our only direct customer individually accounting for more than 10% of our revenue was Ford Motor Company (Ford) at 25.2%, 15.8% and 11.6%, respectively. In addition, our principal distributor, Richardson Electronics, an Arrow Electronics Company (Richardson) individually accounted for 15.8%, 17.6% and 21.3%, respectively, of our revenue in fiscal years 2013, 2012 and 2011, respectively. Our top 25 direct customers accounted for an aggregate of 59.8%, 54.5% and 56.2% of our revenue in fiscal years 2013, 2012 and 2011, respectively. Revenue from our distributors accounted for 18.6%, 21.3% and 25.8% of our revenue in fiscal years 2013, 2012 and 2011, respectively.

### **Competition**

The markets for our products are highly competitive and are characterized by rapid technological change and continuously evolving customer requirements. We believe that the principal competitive factors in our markets include:

the ability to timely design and deliver products and solutions that meet customers' performance, reliability and price requirements;

the breadth and diversity of product offerings;

the ability to provide a reliable supply of products in sufficient quantities and in a timely manner;

the ability of engineering talent to drive innovation and new product development;

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the quality of customer service and technical support; and

financial and operational stability and reputation.

We believe that we compete favorably with respect to these factors. We compete primarily with other suppliers of high-performance analog semiconductor solutions for use in wireless and wireline RF, microwave and millimeterwave applications. We expect competition in our markets to intensify, as new competitors enter the RF, microwave and millimeterwave markets, existing competitors merge or form alliances, and new technologies emerge. We believe in the future we will see increasing competition from companies utilizing alternative technologies, such as high-volume manufacturers using low-cost silicon process technology. Some of our competitors are also our customers, and in certain product categories we compete with semiconductor manufacturers from which we also obtain foundry services, including Sumitomo Electric Device Innovations, Inc. and RF Micro Devices, Inc. (RFMD).

We compete with Hittite Microwave Corporation across three of our primary markets, Networks, A&D and Multi-market. In the Networks market, we also compete with Avago, Inc. (Avago), RFMD and TriQuint. In the A&D market, we also compete with Aeroflex, Inc. (Aeroflex), Microsemi Corporation (Microsemi) and TriQuint. In the Multi-market arena, we also compete with Aeroflex, Avago, Microsemi and Skyworks Solutions, Inc.

## **Segment and Geographic Information**

We manage our operations in one reportable segment, semiconductors. Financial information about our operations, including our revenue and long-lived assets by geographic region, is included in our consolidated financial statements and accompanying notes in Item 8. Financial Statements and Supplementary Data appearing elsewhere in this Annual Report.

Risks attendant to our foreign operations are discussed in this Annual Report under Item 1A. Risk Factors.

## **Backlog and Inventory**

Our sales are made primarily on a purchase order basis, rather than pursuant to long-term contracts where the customer commits to buy any minimum amount of product over an extended period. On occasion, we ship finished goods inventory to certain customer or third-party hub locations, but do not recognize revenue associated with such shipments until these customers consume the inventory from the hub. Due to these arrangements and industry practice, which allows customers to cancel orders with limited advance notice prior to shipment, and with little or no penalty, we believe that backlog as of any particular date may not be a reliable indicator of our future revenue levels. We also frequently ship products from inventory shortly after receipt of an order, which we refer to as turns business.

## **Intellectual Property**

Our success depends in part upon our ability to protect our intellectual property. To accomplish this, we rely on a combination of intellectual property rights, including patents, copyrights, trademarks and trade secrets, as well as customary contractual protections with our customers, suppliers, employees and consultants.

As of September 27, 2013, we had 89 U.S. and 15 foreign patents and 23 U.S. pending patent applications covering elements of circuit design, manufacturing and wafer fabrication. We do not know whether any of our pending patent applications will result in the issuance of patents or whether the examination process will require us to narrow our claims. The expiration dates of our patents range from 2014 to 2031. We do not regard any of the patents scheduled to expire in the next 12 months as material to our overall intellectual property portfolio. Notwithstanding our active pursuit of patent protection when available, we believe that our future success will be determined by the innovation, technical expertise and management abilities of our engineers and management more than by patent ownership.

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The semiconductor industry is characterized by the existence of a large number of patents, copyrights, trademarks and trade secrets and by the vigorous pursuit, protection and enforcement of intellectual property rights. Many of our customer agreements require us to indemnify our customers for third-party intellectual property infringement claims, which may in the future require that we defend those claims and might require that we pay damages in the case of adverse rulings. Claims of this sort could harm our relationships with our customers and might deter future customers from doing business with us. With respect to any intellectual property rights claims against us or our customers or distributors, we may be required to cease manufacture of the infringing product, pay damages or settlement amounts, expend resources to develop non-infringing technology, seek a license, which may not be available on commercially reasonable terms or at all, or relinquish patents or other intellectual property rights.

### **Manufacturing, Sources of Supply and Raw Materials**

In any particular situation, we may choose to leverage our internal proprietary process technologies or other technologies from external fabs. We believe this ability to leverage our existing internal capabilities and external outsourcing helps us to provide optimized solutions for our customers.

All of our internal wafer fabrication, and a majority of our internal assembly and test operations, are conducted at our Lowell, Massachusetts headquarters. We believe having a U.S.-based four-inch wafer fab is a competitive advantage for us over fabless competitors, in that we have greater control over quality, a secure source of supply and a domestic source for U.S. A&D customers for whom this may be an important sourcing advantage. We also believe that our domestic fab allows us to better control quality and develop products faster with shorter fabrication lead times than we otherwise could at external foundries. We also perform internal assembly and test functions at our Long Beach, California and Hsinchu, Taiwan locations.

The remainder of our manufacturing is outsourced, and our operations staff has extensive expertise in the management of outsourced manufacturing service providers and other supply chain participants. We believe our fab-lite model of outsourcing certain of our manufacturing activities rather than investing heavily in capital-intensive production facilities to support those functions internally provides us with the flexibility to respond to new market opportunities, simplifies our operations and reduces our capital requirements.

We utilize external foundries to supply us with semiconductor wafers manufactured in process technologies which we have chosen not to develop internally, and to provide us additional manufacturing capacity on some internally fabricated process technologies. We also use third-party contract manufacturers for assembly, packaging and test functions, and in some cases for fully-outsourced turnkey manufacturing of our products.

The principal materials used in the production of our IC products are semiconductor substrates and high purity source materials such as gallium, aluminum, arsenic and silicon. We purchase from hundreds of suppliers worldwide a wide variety of other semiconductors, packages, metals, printed circuit boards, electromechanical components and other materials for use in our operations. These supply relationships are generally conducted on a purchase order basis. The use of external suppliers involves a number of risks, including the possibility of material disruptions in the supply of key raw materials and components, the lack of control over delivery schedules, capacity constraints, quality and costs.

While we attempt to maintain alternative sources for our principal raw materials to reduce the risk of supply interruptions or price increases, some of the raw materials and components are not readily available from alternate suppliers due to their unique nature, design or the length of time necessary for re-design or qualification. We routinely utilize single sources of supply for various materials based on availability, performance, efficiency or cost considerations. For example, wafers procured from merchant foundries for a particular process technology are generally sourced through one foundry only, on which we rely for all of our wafers in that process. Our reliance on external suppliers puts us at risk of supply chain disruption if the supplier does not have sufficient raw material inventory to meet our manufacturing needs, goes out of business, changes or discontinues the process in which components or wafers are manufactured, or declines to continue supplying

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us for competitive or other reasons, as discussed in more detail in Item 1A. Risk Factors herein. Where practical, we attempt to mitigate these risks by qualifying multiple sources of supply, redesigning products for alternative components and purchasing incremental inventory of raw materials and components in order to protect us against supply problems.

### **Quality Assurance**

The goal of our quality assurance program is for our products to meet our customers' requirements, be delivered on time, and function reliably throughout their useful lives. The International Organization for Standards (ISO) provides models for quality assurance in various operational disciplines, such as design, manufacturing and testing, which comprise one part of our overall quality management system. Our Lowell, Massachusetts; Long Beach, California; Cork, Ireland; Sydney, Australia and Hsinchu, Taiwan locations have each received ISO 9001:2008 certifications in their principal functional areas. In addition, our Lowell facility has received an ISO 14001:2004 environmental management systems certification.

### **Environmental Regulation**

Our operations involve the use of hazardous substances and are regulated under international, federal, state and local laws governing health and safety and the environment. These regulations include limitations on discharge of pollutants to air, water, and soil; remediation requirements; product chemical content limitations; manufacturing chemical use and handling restrictions; pollution control requirements; waste minimization considerations; and treatment, transport, storage and disposal of solid and hazardous wastes. We are also subject to regulation by the U.S. Occupational Safety and Health Administration and similar health and safety laws in other jurisdictions. While we are committed to compliance with applicable regulations, the risk of environmental liabilities can never be completely eliminated, and there can be no assurance that the application of environmental and health and safety laws to our business will not require us to incur material future expenditures.

We are also regulated under a number of international, federal, state and local laws regarding recycling, product packaging and product content requirements, including legislation enacted in the European Union and other foreign jurisdictions that have placed greater restrictions on the use of lead, among other chemicals, in electronic products, which affects materials composition and semiconductor packaging. These laws are becoming more stringent and may in the future cause us to incur material expenditures.

### **Export Regulations**

We market and sell our products both inside and outside the U.S. Certain of our products are subject to the Export Administration Regulations, administered by the Department of Commerce, Bureau of Industry Security, which require that we obtain an export license before we can export products or technology to specified countries. Additionally, some of our products are subject to the International Traffic in Arms Regulations, which restrict the export of information and material that may be used for military or intelligence applications by a foreign person. Other of our products are controlled by similar laws in other jurisdictions. Failure to comply with these laws could result in sanctions by the government, including substantial monetary penalties, denial of export privileges and debarment from government contracts. We maintain an export compliance program staffed by dedicated personnel under which we screen export transactions against current lists of restricted exports, destinations and end users with the objective of carefully managing export-related decisions and transactions and shipping logistics and ensuring compliance with these regimes.

### **Employees**

As of September 27, 2013, we employed 675 persons worldwide and none of our domestic employees were represented by a collective bargaining agreement; however, a number of our employees working in our European operations were covered by collective bargaining agreements. We consider our relations with employees to be good, and we have not experienced a work stoppage due to labor issues.



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### **General Development**

We were incorporated under the laws of the State of Delaware in March 2009. Our operations are conducted through our various subsidiaries, which are organized and operated according to the laws of their respective jurisdictions of incorporation.

M/A-COM Technology Solutions Inc., our primary operating subsidiary which provides high-performance analog semiconductor solutions for use in wireless and wireline applications across the RF, microwave and millimeterwave spectrum, was incorporated under the laws of the state of Delaware on July 16, 2008. M/ACOM Technology Solutions (Cork) Limited, our primary foreign operating subsidiary, was incorporated under the laws of Ireland on November 18, 2008. In September 2008, Cobham Defense Electronic Systems Corporation (Cobham) acquired certain assets from a third party, including the RF and microwave component and subsystem design and business operations that would ultimately become the operations of M/A-COM Technology Solutions Inc. and M/ACOM Technology Solutions (Cork) Limited. The heritage of some of these business operations dates back over 60 years to the founding of Microwave Associates, Inc. and the M/A-COM brand dates back over 30 years.

On March 30, 2009, we acquired 100% of the outstanding stock of M/A-COM Technology Solutions Inc. and M/ACOM Technology Solutions (Cork) Limited and the related M/A-COM brand from Cobham (MACOM Acquisition) for \$22.1 million in cash net of purchase price adjustments, the issuance of \$35.0 million in short- and long-term debt payable to the seller and contingent consideration of up to \$30.0 million based on our achievement of revenue targets in the 12-month periods ended September 30, 2010, 2011 and 2012. We paid Cobham contingent consideration of \$8.8 million for the period ended September 30, 2010 in November 2010, \$15.0 million for the period ended September 30, 2011 in November 2011, and we \$6.0 million for the final period ended September 30, 2012 in November 2012.

On May 28, 2010, we acquired Mimix Holdings, Inc. (Mimix), a supplier of high-performance GaAs semiconductors, for \$1.2 million in cash and 17.5 million shares of our Series A-2 convertible preferred stock (Mimix Merger). We acquired Mimix for its complementary products and technologies in our core markets, which enabled us to strengthen customer relationships.

On April 25, 2011, we acquired Optomai, Inc. (Optomai), a fabless semiconductor company that develops high-performance ICs and modules for next generation fiber optic networks, for \$1.8 million in cash and potential contingent consideration based on our achievement of certain revenue, product release and contribution margin targets based on sales of products utilizing Optomai intellectual property through, as amended, September 2013. No amounts of contingent consideration have been paid nor are payable pursuant to the terms of the agreement. We acquired Optomai for technologies that have accelerated our entrance into the fiber optics market.

In the second and third quarters of fiscal year 2011, we sold the assets related to our non-core laser diode and ferrite business lines.

On November 5, 2013, we entered into an Agreement and Plan of Merger (the Merger Agreement) with Micro Merger Sub, Inc., our wholly-owned subsidiary (Purchaser), and Mindspeed Technologies, Inc. (Mindspeed), pursuant to which we will acquire Mindspeed (Mindspeed Acquisition). Mindspeed is a supplier of semiconductor solutions for communications infrastructure applications.

Pursuant to the terms and subject to the conditions set forth in the Merger Agreement, on November 19, 2013, we and Purchaser commenced a cash tender offer (the Offer) to purchase all of the outstanding shares of common stock, par value \$0.01, of Mindspeed (the Shares) at a purchase price of \$5.05 per Share, net to the seller in cash, without interest, less any applicable withholding taxes. The Offer will expire at 12:00 midnight at the end of December 17, 2013, unless the Offer is extended. Upon completion of the Offer, and subject to the terms and conditions of the Merger Agreement and pursuant to Section 251(h) of the Delaware General Corporation Law, Purchaser will merge with and into Mindspeed, with Mindspeed as the surviving corporation and a wholly-owned subsidiary of us. See the risk factor titled *We may be unable to successfully integrate the*

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*business and personnel of Mindspeed and may not realize the anticipated synergies and benefits of the Mindspeed Acquisition.* in Item 1A. Risk Factors in this Annual Report.

We intend to continue to pursue acquisitions of technologies, design teams, products and companies that complement our strengths and help us execute our strategies. Our acquisition strategy is designed to accelerate our revenue growth, expand our technology portfolio, grow our addressable market and create shareholder value. We believe our management team has a proven track record in identifying, acquiring and successfully integrating companies and technologies in the high-performance analog semiconductor industry.

**Available Information**

We maintain a website at [www.macomtech.com](http://www.macomtech.com), including an investors section at which we routinely post important information, such as webcasts of quarterly earnings calls and other investor events in which we participate or host, and any related materials. You may access our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports, as well as other reports relating to us that are filed with or furnished to the SEC, free of charge in the investors section of our website as soon as reasonably practicable after such material is electronically filed with or furnished to the SEC. The public may also read and copy materials we file with the SEC at the SEC's Public Reference Room, which is located at 100 F Street, NE, Room 1580, Washington, DC 20549. You can obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC also maintains a website that contains reports, proxy and information statements and other information regarding issuers that file electronically with the SEC at [www.sec.gov](http://www.sec.gov). The contents of the websites mentioned above are not incorporated into and should not be considered a part of this report.

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### **ITEM 1A. RISK FACTORS**

*Our business involves a high degree of risk. If any of the following risks actually occurs, our business, financial condition or results of operations could suffer. The risks described below are not the only ones facing us. Additional risks not presently known to us or that we currently consider immaterial also may adversely affect our Company.*

#### **Risks Relating to Our Business**

*Our revenue growth is substantially dependent on our successful development and release of new products.*

Maintaining or growing our revenue will depend on our ability to timely develop new products for existing and new markets that meet customers performance, reliability and price requirements. The development of new products is a highly complex process, and we have in the past and may in the future experience delays and failures in completing the development and introduction of new products. Our successful product development depends on a number of factors, including the following:

accurate prediction of market requirements, changes in technology and evolving standards;

the availability of qualified product designers and process technologies needed to solve difficult design challenges in a cost-effective, reliable manner;

our ability to design products that meet customers' cost, size and performance requirements;

our ability to manufacture new products according to customer needs with acceptable manufacturing yields;

our ability to offer new products at competitive prices;

acceptance by customers of our new product designs;

identification of and entry into new markets for our products;

acceptance of our customers' products by the market and the lifecycle of such products;

our ability to deliver products in a timely manner within our customers' product planning and deployment cycle; and

our ability to maintain and increase our level of product content in our customers' systems.

A new product design effort may last 12 to 18 months or longer, and requires material investments in engineering hours and materials, as well as sales and marketing expenses, which will not be recouped if the product launch is unsuccessful. We may not be able to design and introduce new products in a timely or cost-efficient manner, and our new products may fail to meet the requirements of the market or our customers, or may be adopted by customers slower than we expect. In that case, we may not reach our expected level of production orders and may lose market share, which could adversely affect our ability to sustain our revenue growth or maintain our current revenue levels.

*Various factors may reduce our gross margin, which could negatively affect our business, financial condition and results of operations.*

## Edgar Filing: M/A-COM Technology Solutions Holdings, Inc. - Form 10-K

If we are unable to utilize our design, fabrication, assembly and test facilities at a high level, the significant fixed costs associated with these facilities may not be fully absorbed, resulting in higher average unit costs and lower gross margin. Our various products have different gross margin and increased sales of lower-margin products, such as our products targeted at automotive and other consumer markets, in a given period relative to sales of higher-margin products such as our optical products may cause us to report lower overall gross margin. In our fourth fiscal quarter of 2012 and at other times in the past, we have experienced periods where our gross margin declined due to, among other things, reduced factory utilization resulting from reduced customer demand,

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reduced selling prices and a change in product mix towards lower-margin products. Future market conditions may adversely affect our revenue and utilization rates and consequently our future gross margin, and this, in turn, could have an adverse impact on our business, financial condition and results of operations. In addition, increased raw material costs, changes in manufacturing yields, more complex engineering requirements and other factors may lead to lower margins for us in the future. As a result of these or other factors, we may be unable to maintain or increase our gross margin in future periods and our gross margin may fluctuate from period to period.

***Our operating results may fluctuate significantly from period to period. We may not meet investors' quarterly or annual financial expectations and, as a result, our stock price may decline.***

Our quarterly and annual operating results and related expectations may vary significantly in the future based upon a number of factors, many of which are beyond our control. Factors that could cause operating results and related expectations to fluctuate include:

general economic growth or decline in the U.S. or foreign markets;

the reduction or cancellation of orders by customers, whether as a result of a loss of market share by us or our customers, changes in the design of customers' products, or slowing demand for our products or customers' products;

the amount of new customer orders we both book and ship in any particular fiscal quarter, which accounts for a significant amount of our net revenue in any particular quarter, and which can often be weighted toward the latter part of each fiscal quarter, making the timing of recognition of the associated revenue difficult to forecast with fidelity and susceptible to slippage between quarters;

the relative linearity of our shipments within any particular fiscal quarter, in that a less linear shipment pattern within a given fiscal quarter tends to result in lower gross margin in that quarter, and a shipment pattern weighted toward the latter part of a fiscal quarter tends to reduce our cash flows from operations in that quarter, as collections of related receivables do not occur until later fiscal periods;

the gain or loss of a key customer or significant changes in the financial condition of one or more key customers;