

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

**FORM 10-K**

(Mark One)

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

For the fiscal year ended December 31, 2014

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: 001-35348

**Intermolecular, Inc.**

(Exact Name of Registrant as Specified in its Charter)

**Delaware**

(State or Other Jurisdiction of Incorporation or Organization)

**20-1616267**

(I.R.S. Employer Identification No.)

**3011 N. First Street  
San Jose, California**

(Address of Principal Executive Offices)

**95134**

(Zip Code)

**(408) 582-5700**

(Registrant's Telephone Number, Including Area Code)

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

**Title of Each Class**

**Name of Each Exchange on Which Registered**

Common Stock, \$0.001 par value

The NASDAQ Global Select Market

Securities registered pursuant to Section 12(g) of the Act: **None**

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

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

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

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

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements 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. (Check one):

Non-accelerated filer   
(Do not check if a  
smaller reporting company)

Large accelerated filer       Accelerated filer       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

As of June 30, 2014 (the last business day of the registrant's most recently completed second quarter), the aggregate market value of the registrant's common stock, par value \$0.001, held by non-affiliates of the registrant was \$41.1 million based upon the closing price reported for such date by the NASDAQ. Shares of the registrant's common stock held by executive officers and directors of the registrant and by each person who owned 10% or more of the outstanding common stock have been excluded because such persons may be deemed to be affiliates of the registrant. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

As of February 25, 2015, the number of outstanding shares of the registrant's common stock, par value \$0.001 per share, was 48,351,253.

**DOCUMENTS INCORPORATED BY REFERENCE**

Portions of the registrant's Definitive Proxy Statement to be filed with the Commission pursuant to Regulation 14A in connection with the registrant's 2014 Annual Meeting of Stockholders, to be filed subsequent to the date hereof, are incorporated by reference into Part III of this Report. Such Definitive Proxy Statement will be filed with the Securities and Exchange Commission not later than 120 days after the conclusion of the registrant's fiscal year ended December 31, 2014. Except with respect to information specifically incorporated by reference in this Form 10-K, the Proxy Statement is not deemed to be filed as part of this Form 10-K.

**INTERMOLECULAR, INC.**  
**FORM 10-K FOR THE FISCAL YEAR ENDED DECEMBER 31, 2014**

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## SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

The following discussion and analysis should be read in conjunction with our audited consolidated financial statements and the related notes that appear elsewhere in this Annual Report on Form 10-K. This Annual Report on Form 10-K contains "forward-looking statements" within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act, particularly in Part I, Item 1: "Business," Part I, Item 1A: "Risk Factors" and Part 2, Item 7: "Management's Discussion and Analysis of Financial Condition and Results of Operations." These statements are often identified by the use of words such as "may," "will," "expect," "believe," "anticipate," "intend," "could," "should," "estimate," or "continue," and similar expressions or variations. All statements other than statements of historical fact could be deemed forward-looking, including, but not limited to: any projections of financial information; any statements about historical results that may suggest trends for our business; any statements of the plans, strategies, and objectives of management for future operations; any statements of expectation or belief regarding future events, technology developments, our customers and collaborative development programs (CDPs), expenses, liquidity, cash flow, growth rates or enforceability of our intellectual property rights and related litigation expenses; and any statements of assumptions underlying any of the foregoing. Such forward-looking statements are subject to risks, uncertainties and other factors that could cause actual results and the timing of certain events to differ materially from future results expressed or implied by such forward-looking statements. Accordingly, we caution you not to place undue reliance on these statements. For Intermolecular, particular uncertainties that could affect future results include: our limited operating history; fluctuations in quarterly results; our ability to achieve profitability, which is dependent on, among other things, (i) customer acceptance of our HPC platform as an alternative to conventional research and development; (ii) our ability to collaborate with customers to develop technological innovations sought by our customers; (iii) whether our customers can successfully commercialize products that incorporate technology and IP developed during our CDPs with them, which may be challenging due to fluctuations in the number, price and timing of products sold by our customers and the shortening life cycles of those products, in each case impacting our licensing and royalty revenue; and (iv) our ability to successfully negotiate agreements for payment of license and royalty revenue with potential customers, and to monitor and enforce such agreements with existing customers; our dependence on a limited number of customers; the length of our sales cycles and the possibility that we will devote significant resources to a potential customer that may not result in material revenue, if any; rapid technological changes and market cyclicality in the semiconductor industry; the early stage of development of the clean energy sector and the challenges each industry within the sector faces; our ability to scale our development services to accommodate more CDPs; our ability to make the substantial research and development investments required to stay competitive in our business and to be able to address a wider range of markets and customers; our ability to adequately protect against potential conflicts of interest and breaches of confidentiality among our customers; our ability to work cooperatively with our customers' materials suppliers and equipment manufacturers; the ability of our suppliers to deliver sufficient quantities of materials in a timely manner; our ability to manage our future growth, including an increasing number of employees, customers and CDPs; our ability to scale our development efforts and secure new CDPs with new or existing customers and the timing of those CDPs; the degree to which existing CDPs are completed or expanded; our ability to realize any expected growth, synergies or benefits from acquisitions, strategic investments or joint ventures we may enter into; our potential need for additional capital to finance our business for purposes that could include potential acquisitions as well as repayment of debt; the potential loss of key personnel; our general ability to compete successfully in challenging markets; risk associated with transactions with related parties; potential warranty claims, product recalls and product liability for our HPC tools and for our customers' products that incorporate technology developed through our CDPs; the costs and risks associated with environmental, health and safety laws and regulations; global or regional economic, political and social circumstances that could adversely affect our business; business interruptions such as earthquakes and other natural disasters; our ability to use our tax credit carryforwards; our ability to effectively protect our intellectual property, including patents, trade secrets and other proprietary information; any potential involvement in intellectual property litigation; and any potential payments to our customers resulting from our intellectual property indemnification policies and obligations. For a discussion of some of the factors that could cause actual results to differ materially from our forward-looking statements, see the discussion on risk factors that appear in Part I, Item 1A: "Risk Factors" of this Form 10-K and other risks and uncertainties detailed in this and our other reports and filings with the Securities and Exchange Commission, or SEC. The forward-looking statements in this Form 10-K represent our views as of the date of this Form 10-K. We anticipate that subsequent events and developments will cause our views to change. However, while we may elect to update these forward-looking statements at some point in the future, we have no current intention of doing so except to the extent required by applicable law. You should, therefore, not rely on these forward-looking statements as representing our views as of any date subsequent to the date of this Form 10-K.

## PART I

### ITEM 1. BUSINESS

#### Overview

We provide thin film solutions to advanced technological problems facing multiple industries. These industries manufacture products by depositing thin films of advanced materials using customized processes to create structures that must meet increasingly rigorous optical, mechanical or electrical specifications. Developing advanced thin film structures capable of addressing the specifications of particular applications increasingly requires the evaluation of a wider range of materials, as well as the development of a broader range of processes. Due to our flexibility, speed and materials focus, we are able to assist our customers by more quickly evaluating candidate materials and combining them into thin film solutions that meet their specific needs.

Our ability to rapidly develop and deploy new thin film solutions depends on our unique, multi-disciplinary development team and its use of our proprietary approach to accelerating research and development (R&D) using our patented high productivity combinatorial (HPC™) platform. Our development team included approximately 123 scientists and engineers (of whom approximately 43% have Ph.D.s) or approximately 74% of our total headcount as of December 31, 2014. Our HPC platform, which consists of our Tempus™ processing tools, our unique, automated characterization methods, and our Informatics analysis software, is purpose-built for R&D using combinatorial process systems. Combinatorial processing is a methodology for experimentation, discovery and development that employs parallel and other high-throughput experimentation, which allows R&D experimentation to be performed at speeds up to 100 times faster than conventional R&D platforms, which are optimized for manufacturing rather than for R&D. Our development team designs customized workflows for our customers' specific applications using the HPC platform, and applies the workflows in collaboration with our customers.

We currently target large markets that rely on thin films for differentiation. Within these broad markets, we target customers that have track records of technological innovation, deploy significant R&D, manufacturing and sales and marketing resources and are pursuing technical advancements that are critical to their success and strategy. Our customers include:

- ATMI, Inc. (ATMI; a wholly owned subsidiary of Entegris, Inc.)
- Elpida Memory, Inc. (Elpida; a wholly owned subsidiary of Micron Technology, Inc.)
- First Solar, Inc. (First Solar)
- Guardian Industries Corp. (Guardian)
- Micron Technology, Inc. (Micron)
- SanDisk Corporation (SanDisk)
- Toshiba Corporation (Toshiba)
- Ulyanovsk Center for Technology Transfer of the Russian Federation (UCTT)

Each of GLOBALFOUNDRIES, Guardian and Micron accounted for more than 10% of our revenue for the year ended December 31, 2014. Each of ATMI, First Solar, GLOBALFOUNDRIES, and Micron accounted for more than 10% of our revenue for the year ended December 31, 2013, and each of ATMI, Elpida, and GLOBALFOUNDRIES accounted for more than 10% of our revenue for the year ended December 31, 2012. To date, we have received the substantial majority of our revenue from customers in DRAM, flash memory, complex logic, materials and energy-efficient applications in flat glass.

We engage our customers in a variety of ways including through multi-year paid collaborative development programs (CDPs), in which we develop proprietary technology and intellectual property (IP) specific to our customers' needs in exchange for service fees. CDPs typically have a term of one to three years. Our CDP customers typically receive field-limited, exclusive rights to the technology and IP developed during the CDPs in exchange for license fees, royalties and/or success fees. When our CDP customers commercialize products using this technology and IP, they pay us for their use of the technology IP primarily through royalties or success fees.

To increase our ability to serve and accelerate innovation more broadly across certain market segments, we expect to engage in an increasing number of pre-competitive programs that allow us to accumulate, reuse and more broadly license information and innovation that we discover and develop. Such engagements include but are not limited to "micro-CDPs," which are shorter and narrower in scope than full CDPs and intended to give new customers an opportunity to become more familiar with our approach before making a long-term commitment. In certain cases, we may sell HPC processing tools to our

customers, who pay us a recurring license fee for the right to operate those tools using our combinatorial processing methodology.

## Industry Background

Our customers serve large and growing markets, including the markets for semiconductors, flat glass, solar cells, light-emitting diodes (LEDs), flat-panel displays, and other applications. Success in these markets requires rapid and cost-effective product innovation, fast time-to-market, competitive pricing, production scalability and the ability to achieve specific product performance requirements. Our customers' products are manufactured using thin-film deposition of advanced materials through customized processes that create a specific device architecture. These thin-film structures must then be scaled and integrated into cost-effective manufacturing processes to serve high-volume end markets. Conventional R&D approaches are increasingly challenged by the ever increasing device complexity and the market need to accelerate innovation in our target markets.

Empowered with our inter-disciplinary team and HPC platform for accelerating R&D, we believe we are uniquely positioned to assist manufacturing industries that increasingly rely on the discovery and introduction of new thin film materials, which traditionally have required intensive, time-consuming experimentation due to the fact that advanced materials are not well-understood and accurate, robust models do not exist. Ironically, the greater expertise and higher costs required to discover and introduce advanced materials have led to increased specialization among materials, capital equipment, semiconductor manufacturing and IC (integrated circuit) design companies. This specialization has left gaps in the industry knowledge base with respect to the complex interactions among materials science, process technology, device integration and the ability to scale to high-volume, high-performance IC production. Our HPC platform allows us to greatly accelerate the rate of experimentation, and our inter-disciplinary team has been assembled to address such gaps.

## Current Challenges with Innovation in Thin Film Materials

Advanced materials and materials integration are driving forces behind technology advancement in our target markets. In addition, innovation in these markets and control of the resulting IP are critical to enable competitive differentiation. However, the existing approach used to explore new materials, processes, integration and device architectures (referred to as learning cycles) is complex and time-consuming.

Traditionally, manufacturers have conducted conventional R&D using expensive high-volume manufacturing tools that are not specifically built for that purpose. Production tools typically can only run one process at a time, which leads to limited cycles of learning. Furthermore, using tools deployed in a production environment for R&D requires reserving tool time on high-volume manufacturing lines to evaluate each experiment, resulting in substantial opportunity costs for existing product manufacturing. High-volume manufacturing environments are also not conducive to R&D because these environments require stability to minimize risk and to reduce contamination that the research-based introduction of new materials, tools or processes may cause. Additionally, high-volume manufacturing is conducted by operators focused on repetitive, mistake-free processing, not on many cycles of data generation and analysis. In addition to some of the challenges above, certain clean energy device manufacturers use laboratory-scale tools for R&D, which do not address the scale-up requirements critical to high-volume manufacturing. These factors combine to increase development risks due to long learning cycles, limited data sets, narrow exploration capabilities and slow time-to-market.

Successful R&D programs require flexibility around experimentation and the introduction of new materials, chemicals, processes, integration flows and tools to derive the most efficient high-volume integrated device solutions. Furthermore, we believe they are best administered by scientists and engineers with experience across various disciplines of equipment, materials, integration, device architectures and processes to conduct successful experiments and derive optimized solutions.

The following existing approaches have been used to complement internal R&D, but each has specific limitations:

- **Equipment suppliers.** Equipment suppliers provide high-volume manufacturing solutions that are not purpose-built for researching the interaction of advanced materials, processes, integration and device architectures. Additionally, they provide solutions that are not always uniquely tailored to specific customer applications.
- **Industry consortia.** Industry consortia provide solutions that offer no competitive differentiation because the customer must share the IP with all consortium participants, including competitors.
- **Alliance partnerships.** Alliance partnerships impose limitations on the overall outcome, as they are typically structured to find generic solutions rather than the solutions for a particular application. Additionally, these generic solutions are offered to a small set of competitors and are not customer-specific or application-specific.

- **University research.** University research provides theoretical solutions requiring additional work and time to commercialize, since this work typically does not address manufacturing or commercialization challenges.
- **Third-party IP licensing.** Third-party IP licensing is primarily used for defensive purposes or market access. Those who cross-license IP do not necessarily receive a solution that is specific to the customer, manufacturing process or application, and the received solution is not differentiated from what their competitors receive through the same license.

Substantially improved methodologies are required to generate the learning cycles necessary to accelerate innovation, improve product development and ensure manufacturing scalability of high-volume integrated devices. Further, companies require new ways to develop proprietary technology and obtain IP rights to support competitive advantage for their new products.

## Our Solution

We have pioneered a proprietary approach to accelerate research and development, innovation and time-to-market for industries whose products rely on thin films for differentiation. Using our approach, we develop technology and IP rights focused on advanced materials, processes, integration and device architectures in collaboration with our customers. This technology enables our customers to bring optimized, high-volume manufacturing-ready integrated devices and other products to market faster and with less risk than conventional approaches to R&D. Our proprietary HPC platform consists of our Tempus HPC processing tools, automated characterization, and informatics and analysis software. Our HPC platform increases R&D productivity because it is purpose-built for R&D and utilizes advanced combinatorial processing systems, which allow for experiments to be performed at speeds up to 100 times faster than traditional methods. We provide our customers with proprietary technology through various fee arrangements and grant them rights to IP developed during the collaboration, primarily through royalty-bearing licenses. Our multi-disciplinary team of approximately 123 scientists and engineers as of December 31, 2014, of whom approximately 43% have Ph.D.s, designs customized workflows for our customers' specific applications using our HPC platform, and applies the workflows in collaboration with our customers to develop proprietary technology for them.

The key elements of our HPC platform include the following:

- **Tempus HPC processing.** We use our Tempus HPC processing tools to rapidly process different experiments consisting of various combinations of materials, processing parameters, sequencing and device structures. We are able to perform up to 192 experiments on a single substrate, as compared to conventional methods, which typically allow only a single experiment at a time.
- **Automated characterization.** We use automated characterization systems to characterize the substrates processed by our Tempus HPC processing tools, thereby generating experimental data at a speed that matches our processing throughput.
- **Informatics and analysis software.** We use our informatics and analysis software to automate experiment generation, characterization, data analysis and reporting (in each case matching our processing throughput), and to create an aggregated and searchable database of information that includes the experimental results we generate.

## Benefits to Our Customers

Our business model aligns our interests with those of our customers as we develop optimized, differentiated, manufacturing-ready IP for high-volume integrated devices. Our differentiated platform solution is designed to deliver the following significant benefits to our customers:

- **Accelerated time to solution.** Faster processing of experiments, throughput-matched characterization and real-time data management and analysis allow additional learning cycles and broader exploration of materials and process solution combinations. In highly competitive markets, the resulting speed to solution enables our customers to deliver improved, lower-cost products.
- **Development of application and manufacturing-ready IP tailored to our customers' specifications.** When we engage in a CDP with our customers, we use our HPC platform and customized workflows to develop IP-protected, proprietary technology that is tailored to our customers' applications and ready for high-volume manufacturing. We provide our CDP customers rights to the IP for their applications primarily through royalty-bearing licenses.
- **Increased R&D productivity and reduced technology risk.** Using our combinatorial processes, we narrow the potential combinations of advanced materials, processes and device architecture solutions through a series of

increasingly rigorous screening stages to guide the selection of solutions that meet device performance requirements and that are cost-efficient and ready for high-volume manufacturing. The combinatorial process of screening and evaluating these solutions and their manufacturability mitigates our customers' technology risk earlier in the development cycle.

## Strengths

We have pioneered, developed and patented a proprietary platform and methodology for accelerating R&D in our target markets. Our strengths include:

- **Proprietary and patented HPC platform.** Our HPC platform employs proprietary and patented combinatorial methods to parallel and rapid-serial process up to 192 experiments on a single substrate as compared to conventional methods, which typically allow only a single experiment at a time. As of December 31, 2014, we owned or had exclusive rights within our field of use to 1,252 U.S. patents and patent applications (some of which also have foreign counterparts), which provide us with a competitive advantage in the use of combinatorial methods and systems in our target markets.
- **Flexible technology platform configurable for and extendable to multiple markets.** Our HPC platform can be configured for many applications and extended to address the broad set of integrated device markets. Because of the similarities and synergies in materials deposition, manufacturing processes and device integration complexities across markets, our platform allows us to create customized workflows and support innovation across multiple markets.
- **Seasoned engineering team with multi-disciplinary expertise.** We have assembled a multi-disciplinary team of approximately 123 scientists and engineers, of whom approximately 43% have Ph.D.s, with expertise across various disciplines, fields and technologies, including materials science, chemistry, physics, engineering, process equipment development, software and informatics, process development and integration, device technologies and device integration.
- **Deep expertise in advanced materials, processes, integration and device architectures.** We have accelerated innovation for a broad set of customers across multiple markets. Our team and our platform enable more rapid comprehension and learning about advanced materials, processes, integration and device architectures, some of which is applicable across markets. We aggressively protect IP that we generate. IP such as materials characteristics, optimized processes and interoperability of systems and architectures can be applicable beyond the field of use of any specific CDP and can benefit customers in the same or other fields without impacting competitive differentiation of current customers.
- **Collaborative customer engagements leading to IP generation and strategic alignment.** Customers pay us development service and HPC platform subscription fees during multi-year CDPs. We grant them rights to proprietary technology and IP developed during our collaborations. As customers successfully commercialize products incorporating technology developed through the CDPs, we receive licensing fees and/or royalties. In certain cases, we sell HPC processing tools to our customers, and customers pay us a license fee for use of our HPC platform and associated software. This alignment of interests facilitates collaboration and open communication that improves development efficiencies and is more likely to result in innovative, differentiated products.
- **Multi-Year CDPs provide predictable revenue and high-margin royalties.** Our multi-year CDPs generate predictable CDP and services revenue from our customers. Our CDPs also establish the terms upon which we will receive licensing and royalty revenue from the sale of our customers' products that incorporate technology developed through our CDPs. Licensing and royalty revenue over the past three years has accounted for 36%, 22%, and 24% of revenue in the years ended December 31, 2014, 2013 and 2012, respectively. Included in licensing and royalty revenue, during the year ended December 31, 2014, is an accelerated payment in the amount of \$4.2 million from a customer in connection with the suspension of CDP activities with them. Excluding the impact of this payment our licensing and royalty revenue would have accounted for 30% of revenue in the year ended December 31, 2014.

## Our Strategy

Our mission is to drive our customers' success by transforming R&D and accelerating innovation in markets that derive competitive advantage from the interaction of materials science, processes, integration and device architecture. To accomplish this, we:

- **Target large, high-volume semiconductor markets.** We target customers in large, high-volume semiconductor markets, including DRAM, flash memory and complex logic. Success in these markets requires semiconductor companies to consistently remain at the leading edge of cost and performance, which demands innovation around materials science, processes, integration and device architectures.
- **Target large, high-growth, emerging clean energy markets.** We target customers in large clean energy markets with high growth or continued high growth potential, including the markets for flat glass coatings and glass-based devices, thin film and crystalline solar cells, LEDs and other energy efficiency technologies. We believe we can deliver significant improvements in cost, performance and manufacturability in these markets with our HPC platform.
- **Engage with existing and potential market leaders in our target markets.** We seek to engage with customers that are well-positioned to lead their markets and/or who have track records of technological innovation.
- **Create proprietary IP with our customers.** We develop differentiated, IP-protected technologies, and we grant rights to these technologies and IP, primarily through royalty-bearing licenses. We structure our customer engagements so that our business interests align with their market success.
- **Enhance our HPC platform and multi-disciplinary team.** We continue to develop, broaden and protect our processing, characterization, data analysis and workflow capabilities. To enhance our existing platform, we recruit personnel with broad, highly technical skill sets.
- **Explore and develop new technologies in high-volume integrated devices.** We will continue to explore and internally develop new technologies and expertise to serve future customers in our targeted markets. We will focus these efforts in markets that are in the early stages of development to speed innovation, capture value and facilitate success for customers.

## Our Platform

### HPC Workflows

We begin the development and discovery process by working with our customers to define the specific requirements that a new solution should have in order to meet the needs of a given application. These criteria can be beyond the performance attributes of currently available solution sets. We then apply the components of our HPC platform to develop and discover solution sets that match these criteria.

Once an experiment is processed, the data sets of each experiment are stored in a secure database and analyzed for desired properties. As with processing, our clean room labs include a broad array of characterization and metrology instruments and software to evaluate different properties under a wide variety of process conditions. These properties include physical, electrical, mechanical, thermal, chemical, and optical properties. In general, we are able to design, process and characterize tens to hundreds of experiments in a single day.

To reach the point of commercialization or transfer to our customers' manufacturing process qualification, a solution set must progress through an extensive series of screening stages, as described below:

- **Primary Screening.** Primary screening incorporates and focuses on materials discovery. Materials are screened for certain properties to select possible candidates for a next level of screening. In the initial primary screening there may be thousands of candidates that are subsequently reduced to hundreds of candidates.
- **Secondary Screening.** Solution candidate materials from primary screening are advanced to secondary screening processes that will examine materials and unit process development. In this secondary screening, processes and integration are considered to narrow the candidates from hundreds of candidates to tens of candidates.
- **Tertiary Screening.** Solution candidate materials and process conditions that continue to meet or exceed the defined criteria through the secondary screening stage are then either transferred to our customer or processed internally for additional characterization and scale up. These candidates are then characterized on a larger scale, and correlation of the desired process is developed to allow the transfer of the developed technology to a manufacturing scale process.
- **Manufacturing and Commercialization.** Once a candidate has passed this development scale analysis, it is ready for commercialization and the customer will decide whether to commercialize the developed technology.

Secondary screening begins while primary screening is still ongoing, and while we are still generating additional primary screening candidates. Tertiary screening begins once we have identified a reasonable set of options from secondary

screening, and while we are still generating additional secondary screening candidates. As these stages overlap, there may be feedback from later stages that is then incorporated back into an earlier stage to further optimize the selection of materials, unit processes and process sequences.

### **Wet Processing Tools**

We offer a series of wet processing tools that apply HPC methods to fluids-based applications such as cleans, deposition, wet etch, self-assembly, and surface treatment processes. These tools, which can be used alone or in combination, include:

- *Tempus F-20.* A stand-alone system for materials and process screening, which is used for library creation as well as processing of wafer coupons. This product can be used for primary or secondary screening, depending on the reactor block design and the substrate type.
- *Tempus F-30.* A stand-alone system for integration and tertiary scale up screening, which is used to scale up the most promising results from primary and secondary screening to full patterned wafer processing.

### **Dry Processing Tools**

In addition, we offer dry processing tools that apply HPC methods to vapor-based applications. Each of these tools can be used in primary, secondary and tertiary screening. These tools, which can be used alone or in combination, include:

- *Tempus P-30 HPC Physical Vapor Deposition (PVD).* A 300mm chamber with the ability to use up to four PVD sources and three optional deposition methods (including DC, RF and pulse DC) on a vast range of film thicknesses and/or compositions and/or film stacks within each site-isolated region of a substrate.
- *Tempus A-30 HPC Atomic Layer Deposition (ALD).* A 300mm chamber capable of site isolation of both metal and dielectric films across quadrants of the wafer, with the ability to introduce variation of film thickness and/or composition and/or film stacks within each quadrant.
- *Tempus ST-30 Surface Treatment.* A 300mm chamber capable of exposing critical layers pre or post dry deposition at variable temperatures to different chemistries which can be modulated by the chamber's downstream plasma source.
- *Tempus AP-30.* A configurable platform with multiple A-30, P-30 or ST-30 chambers and common support modules to facilitate in-situ processing of ALD, PVD or Surface Treatment for rapid screening of thin-film metal alloys, dielectrics and multilayer stacks. Processes can be scaled to facilitate high-volume manufacturing.

### **Automated Characterization**

Immediately after processing substrates on our Tempus HPC processing tools, we use automated and customized characterization instruments to rapidly generate physical and electrical data from the experiments. The aggregated data is automatically loaded into our informatics data warehouse. As with processing, our clean room labs include a broad array of characterization and metrology instruments and software to evaluate different properties under a wide variety of process conditions. Our characterization instruments are optimized to match the throughput of our processing tools to maximize experimental learning cycles.

### **Informatics Software, Analysis and Services**

Our informatics software has the ability to automate the capture and storage of HPC processing, characterization, and metrology data, and then to evaluate, summarize and securely distribute this data in real time to the appropriate parties. Additionally, we use our informatics software to leverage experiments processed and characterized in the past for a customer to increase the speed and effectiveness of the engagement. The key components of our informatics software include:

- *Workflow Management Software.* Manages the design and process of experiments, metrology and collection of data and summarizes aggregated data for the various working teams in the form of status reports; provides our customers with real-time access to results of our experiments and analysis.
- *Analysis and Reporting Software.* Provides data and analysis tools to evaluate process distributions, correlate electrical distributions, map defectivity distributions, perform spectral analysis and facilitate interactive creation of summary reporting.
- *Security and Collaboration Management Software.* Provides secure communication between geographically dispersed working teams, ensures the security of created documentation and presentations, manages the minutes

for meetings, provides programs and project plans to coordinate working teams, shares summary reports across the working team and provides reviews of finished processes and status of ongoing processes.

- *Integration Services.* Facilitate collaboration between our tools and the customer's process and metrology tools, automate the recipe loading, automate data collection and leverage software to customize reports.

## Our Technology

Embedded throughout our hardware and software, our technology is based upon the parallel and/or rapid serial experimentation capabilities of combinatorial methods. High-productivity combinatorial methods generally refer to techniques that vary materials, unit processes, process, and device integration sequences across multiple regions of one or more substrates, the output of which can then be evaluated in parallel or rapid serial fashion. Our informatics software and analytical methods characterize and analyze these combinations of materials, unit processes, process, and device integration sequences for the most promising solutions in a structured, automated and throughput-matched fashion. The relationship between materials, processes, integration and device output are established earlier in the development process, so that performance and manufacturability considerations are taken into account from the outset, instead of late in the R&D process.

Although our approach is unique in high-volume integrated device markets, combinatorial technology has been widely used in other industries, especially where new materials function as primary enablers of product innovation. Examples include the pharmaceutical, biotechnology, and energy sectors, where combinatorial techniques have been accelerating development since the early 1990s.

We are able to deploy and benefit from our proprietary combinatorial methods because of our multi-disciplinary technical team. The following shows important characteristics of our technical team:

<b>DISCIPLINES</b>	<b>TECHNICAL EXPERTISE</b>	<b>PROCESS TECHNOLOGIES (Hardware &amp; Process)</b>	<b>DEVICE AND APPLICATIONS (Materials, Process and Integration)</b>
<b>Science</b> Chemistry Materials Science Physics Surface Science <b>Engineering</b> Chemical Electrical Mechanical Software and Informatics Systems and Controls	<b>Design, development, qualification, manufacturing</b> Process development Integration Yield Management Statistical Methods Test Structures Device (electrical, optical) Test <b>Modeling</b> ab-initio phenomenological TCAD <b>Process Equipment Development</b> Semiconductor Solar LED Flat panel display	<b>Deposition</b> ALD/PEALD PVD CVD/PECVD MOCVD ECD Electroless CBD Curtain coating Evaporation <b>Dry Surface Prep/Modification</b> <b>Wet Processing</b> <b>Lithography/Etch</b> <b>Thermal Processing</b> RTP Laser Annealing Selenization <b>Defect Inspection/Characterization</b> <b>Materials Characterization</b>	<b>Memory</b> DRAM Flash Non-volatile memories Emerging memories Embedded <b>Logic</b> <b>High K/Metal Gate stack (Si and Non-Si)</b> <b>Advanced contacts</b> <b>Advanced interconnects</b> <b>Shallow trench isolation/gapfill</b> <b>Advanced Packaging</b> <b>Low E Glass Coatings</b> <b>Solar cells</b> CIGS CdTe Thin film Si cSi <b>LED</b> <b>TFT</b> <b>Transparent conductive oxides</b> <b>Oxide semiconductors</b> <b>GaN</b>

## Our Collaborative Development Programs

Our CDPs allow our customers to collaborate with our multi-disciplinary team on specific technical challenges. Our CDP work is primarily carried out at our facility in close collaboration with our customers. We have established strict processes and procedures to protect our customers' confidential information during these CDPs. In addition, we support device qualification for pilot manufacturing at our customers' manufacturing and development sites. Customer teams and our teams collaborate on development of new materials, unit processes, process modules and integration sequences, and qualify the supply chain for high-volume manufacturing. Our multi-disciplinary team can rapidly adapt our Tempus HPC platform to meet customer requirements and develop and optimize device and product technologies that will contribute to successful customer programs.

We typically initiate new CDP engagements with smaller, customer-paid programs called micro-CDPs. Our micro-CDPs precede the full CDP. These are smaller programs that require significantly less investment from our customers but allow us to demonstrate the capabilities of our HPC platform to a customer without requiring them to commit to a longer-term agreement. We use these micro-CDPs to demonstrate the capabilities and value of our HPC platform to these new customers, with the objective of engaging with these customers in a full CDP.

Our CDPs are designed to result in the development of proprietary technology and IP for new devices, manufacturing process technology and materials, which we license to our customers for use in volume production. We provide our customers with proprietary technology through various fee arrangements and grant them rights to associated IP primarily through royalty-bearing licenses.

In the early stages of developing our business, we structured engagements with customers to allow us to continue to grow while also giving certain customers an opportunity to invest in our business and success. During 2014 we did not provide our customers or partners with opportunities to invest in our company, independent of their ability to do so in the open market.

### **Our Customers**

Our customers include semiconductor device, semiconductor materials and equipment and clean energy market leaders, including ATMI, Elpida, First Solar, Guardian, Micron, SanDisk, Toshiba and UCTT. Typically, our customers have engaged in CDPs with our team leveraging our HPC platform to develop and commercialize high-volume integrated devices using collaboratively developed technology. To date, ATMI and Elpida have already successfully developed products through their CDPs and we have granted them rights to the associated technology and IP rights through royalty-bearing licenses.

The majority of our revenue during 2014 came from our three largest customers, GLOBALFOUNDRIES, Guardian and Micron, which represented a combined 62% of our total revenue during the year ended December 31, 2014. The majority of our revenue during the year ended December 31, 2013 came from our four largest customers for that period, ATMI, First Solar, GLOBALFOUNDRIES and Micron, which represented a combined 55%. The majority of our revenue during the year ended December 31, 2012 came from our three largest customers for those periods, ATMI, Elpida (now Micron) and GLOBALFOUNDRIES, which represented a combined 67%.

In February 2014, GLOBALFOUNDRIES agreed to accelerate the payment of all amounts that were due to us in 2014. We further agreed with GLOBALFOUNDRIES to suspend development activities under the CDP for the remainder of 2014.

### **Intellectual Property**

Our success depends in large part on our IP. We have patented and continue to seek patent protection for combinatorial methods and systems included in our HPC platform. We have also patented and continue to seek patent protection of innovations that result from applying our HPC platform to design, develop and manufacture ICs, solar cells, glass coatings and glass-based devices, LEDs and thin films for electronics, optical and energy applications (Program IP). We may develop Program IP either on our own or in collaboration with our customers through CDPs.

As of December 31, 2014, we owned or had exclusive rights to 1,252 U.S. patents and patent applications (some of which also have foreign counterparts). Of the 926 U.S. patents and applications that we owned as of December 31, 2014, 53% are related to the HPC platform and 46% are related to Program IP. We also have a license to approximately 326 U.S. patents and applications granted to us by Symyx Technologies, Inc. (Symyx), a wholly-owned subsidiary of Accelrys, Inc. that exclusively provided us the right to use combinatorial methods to develop Program IP.

As of December 31, 2014, we owned 289 patents and 209 patent applications related to our HPC platform in the United States, and 59 patents and 63 patent applications in other jurisdictions. The expiration dates of these patent rights range from January 2015 to December 2034. We continue to file patent applications to seek protection for further advancements of our HPC platform. We own all rights to such patents and generally do not grant licenses to third parties under these patents other than in connection with their use of our HPC platform. Our patents and patent applications cover the following aspects of the HPC platform:

- Combinatorial systems and methods related to fluids-based processing.
- Combinatorial systems and methods related to vacuum-based processes, including deposition and etch.
- Systems and methods for site-isolated processing.
- Combinatorial systems and methods related to high-volume manufacturing.
- Processing techniques using combinatorial and non-combinatorial methods.

We also have and seek patent protection for innovations we develop internally on our HPC Platform, either on our own or in collaboration with our customers through CDPs. Such innovations cover advancements in new materials, processes, process conditions, process sequences and device architectures in applications such as semiconductor memory, semiconductor complex logic, glass coatings and glass-based devices, solar cells and LEDs. As of December 31, 2014, we owned 219 patents and 223 patent applications in the U.S. covering Program IP, as well as 74 patents and patent applications in other countries.

In most cases, we maintain an ownership interest in the Program IP that results from CDPs and we grant licenses under this Program IP to the CDP customer. Such licenses generally allow the CDP customer to have exclusivity for a limited term in a particular field. We keep the right to grant licenses under the CDP patents outside that field. Furthermore, if the CDP customer elects to not extend the term of exclusivity beyond the limited term, we have the right to grant licenses to third parties within the field. We assign separate teams for each CDP, maintain separate databases of experimental data and limit access to such databases only to the specific team that assists the CDP customer.

We may also develop Program IP internally where we believe such IP may have broad applicability in the relevant market. We are able to leverage this Program IP to begin CDPs with new customers. In addition, our ability to own the Program IP in these situations allows us to leverage learning and patent protection across industries and applications while providing our existing customers with the IP rights they desire to gain competitive advantage in their fields for the markets they serve.

### **Sales and Marketing**

We sell and market our solutions worldwide through our own sales force by developing direct relationships with our customers. We have sales personnel located in Japan, Taiwan, Europe and the United States, including account managers, who are responsible for specific customer accounts. We have product marketing personnel, who provide business development support and application and workflow platform expertise.

Our business development and product marketing group focuses on our strategy, platform and technology roadmap, new platform introduction process, demand assessment and competitive analysis. The group coordinates new application evaluation and development both internally with our engineering teams and externally with new and existing customers. As market opportunities arise for our products and services, we intend to increase our sales and marketing efforts and further expand our business development and product marketing organization.

### **Manufacturing**

We manufacture our HPC tools through partnerships with experienced contract manufacturers that manufacture and assemble sub-assemblies incorporating our designs. We believe that our third party manufacturers have adequate sources and supplies of the raw materials needed to manufacture our products. We believe that partnering with contract manufacturers provides us with access to the most current facilities and processes without significant capital outlay on our part, allowing us to focus our resources on R&D, product design and CDP support. Although we have historically relied on a small number of contract manufacturers for the manufacture and assembly of a majority of our workflow platforms, we have relationships with a variety of contract manufacturers and are not dependent on any single contract manufacturer.

### **Research and Development**

We conduct R&D activities for CDPs and for internal research and development on both workflow platform development and application R&D. As of December 31, 2014, we employed a research and development team of 123 full-time employees. This R&D team includes many experienced engineers, scientists and managers with advanced degrees from leading universities around the world and experience with leading chip manufacturers, solar PV companies and equipment and materials suppliers. We believe these R&D professionals on our team have enabled us to develop our HPC platform, support customer CDPs, implement our technology roadmap rapidly and provide us with the foundation for our technology advancement in the future.

We devote a substantial portion of our resources to engineering of our next-generation platforms by integrating future generations of technology and developing standardized software and hardware modules. We work closely with multiple vendors during the development of new workflows or workflow modifications for use in our future platforms. The synergies among existing and new workflows often enable us to operate with adjacent vertical technologies such as clean energy markets. Our R&D expenses were \$24.3 million, \$24.5 million, and \$21.8 million for the years ended December 31, 2014, 2013 and 2012, respectively; this represented approximately 51%, 36%, and 33% of our revenue in those years, respectively.

### **Competition**

The principal capabilities required to be competitive in our market include technical expertise, processes and integration capabilities, diversity of platform offerings, development speed and performance, quality and reliability of engineers, depth of collaboration with customers and technical support. We believe we compete favorably with respect to these factors because of the breadth of capabilities of our HPC platform, the depth of multi-disciplinary expertise of our internal research team and external engineering teams who collaborate with customers and our use of combinatorial processing and throughput matched characterization and analysis. These differentiating factors allow us to explore more comprehensive solution sets and provide faster solutions to our customers. We are not aware of any companies that currently compete or have to date competed with us in the use of combinatorial methods in semiconductor and clean energy R&D applications; however,

we do believe that we compete for the R&D resources of our customers with third-party IP licensors, equipment suppliers, industry consortia, alliance partnerships and university research teams. In addition, many of our customers design, develop, manufacture and market solutions based on their own unique device architectures and develop their own intellectual property in-house.

A portion of our revenue is generated from the sales of end products by our customers, and our competitive position therefore is dependent on their competitive positions. The markets for our customers' products that incorporate technology developed through our CDPs are intensely competitive and characterized by rapid technological change. These changes result in frequent product introductions, short product development cycles and increased product capabilities typically representing significant price and performance improvements.

#### **Environmental Regulation**

We are subject to various foreign, federal, state and local environmental laws and regulations governing, among other matters, emissions and discharges of hazardous materials into the air and water, the use, generation, storage, handling, transportation and disposal of, and exposure to, hazardous materials and wastes, remediation of contamination and employee health and safety. In addition, under certain of these environmental laws, liability can be joint and several and without regard to comparative fault. Our operations involve the use of hazardous materials and produce hazardous waste, and we could become liable for any injury or contamination that could arise due to such use or disposal of these materials. Failure to comply with environmental laws and regulations or to obtain or maintain required environmental permits could result in the imposition of substantial civil and criminal fines and sanctions, could require operational changes or limits or the installation of costly equipment or otherwise lead to third party claims. Future environmental laws and regulations, stricter enforcement of existing laws and regulations, or the discovery of previously unknown contamination or violations of such laws and regulations could require us to incur costs, or become the basis for new or increased liabilities or subject us to fines or other sanctions.

#### **Employees**

As of December 31, 2014, we had a total of 166 full-time employees, consisting of 123 people engaged in CDPs and R&D activities and 43 people in sales and marketing, legal, finance and other general and administrative roles. None of our employees are represented by a labor union, and we consider our employee relations to be good.

Our CDPs are labor-intensive, and we evaluate our hiring needs on a project by project basis, taking into account current and anticipated CDP timelines and lifecycles, as well as the availability of highly-skilled scientists, engineers and other technical staff needed to support the CDPs. We believe our location in San Jose, California provides us with access to a large population of highly-skilled personnel who will be able to meet the technical requirements necessary to support our existing and new CDPs.

#### **Financial Information about Segments and Geographic Areas; Backlog**

We derive a significant portion of our revenue from customers that are based in foreign countries, particularly those based in Japan. Revenue generated from customers in Japan accounted for 6%, 19%, and 20%, of total revenue for the years ended December 31, 2014, 2013 and 2012, respectively. We expect that a significant portion of our total future revenue will continue to be derived from companies based in Japan and other foreign countries.

For geographic information, see Note 12 to our consolidated financial statements included in this Form 10-K. We report all of our business activities as a single reporting segment.

Our backlog as of December 31, 2014 was \$39.5 million, of which \$25.5 million is scheduled to be recognized as revenue during 2015 and \$14.0 million is scheduled to be recognized as revenue in periods beyond 2015. As of December 31, 2013 we had backlog of approximately \$56.4 million.

#### **Corporate and Available Information**

We were originally incorporated as The BEP Group, Inc. in Delaware in June 2004. In November 2004, we changed our name to Intermolecular, Inc. We are headquartered in San Jose, California.

Our Internet address is [www.intermolecular.com](http://www.intermolecular.com). Information included on our website is not part of this Form 10-K. We make available free of charge on our website our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and all amendments to those reports as soon as reasonably practicable after such material is electronically filed with or furnished to the SEC. See <http://ir.intermolecular.com>. In addition, copies of our annual reports are available free of charge upon written request. The SEC also maintains an Internet site that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC. The address of that site is <http://www.sec.gov/cgi-bin/browse-edgar>.

## ITEM 1A. RISK FACTORS

We describe our business risk factors below. You should carefully consider the risks described below together with the other information set forth in this Form 10-K, which could materially affect our business, financial condition or future results. The risks described below are not the only risks facing our company. Risks and uncertainties not currently known to us or that we currently deem to be immaterial also may materially adversely affect our business, financial condition and operating results.

### **Risks Related to Our Business, Financial Condition and Results of Operations**

***We have a limited operating history, which makes it difficult for investors to evaluate our current business and future prospects.***

We do not have a long history of operating results on which you can base your evaluation of our business. We are still proving our business model, and we have not yet demonstrated our ability to generate significant revenue, particularly licensing and royalty revenue (which represented 36%, 22% and 24% of total revenue in fiscal 2014, 2013 and 2012, respectively). As a result, it may be difficult for analysts and investors to evaluate our future prospects. If we do not generate significant licensing and royalty revenue, we may never achieve sustained profitability. Furthermore, because of our limited operating history and because the semiconductor and clean energy industries are rapidly evolving, we have limited experience in analyzing and understanding the trends that may emerge and affect our business. If we are unable to obtain significant licensing and royalty revenue from products that use or incorporate technology developed under our CDPs, our financial condition and results of operations would be materially and adversely affected. Included in licensing and royalty revenue, during the year ended December 31, 2014, is an accelerated payment in the amount of \$4.2 million from a customer in connection with the suspension of CDP activities with them. Excluding the impact of this this payment our licensing and royalty revenue would have accounted for 30% of revenue in the year ended December 31, 2014.

***Our operating results may fluctuate from quarter to quarter, which may make it difficult to predict our future performance.***

Our revenue, expenses and operating results have fluctuated, and may in the future continue to fluctuate significantly from quarter to quarter due to a number of factors, many of which are outside our control. Factors that may contribute to these fluctuations include the following, as well as other factors described elsewhere in this Form 10-K:

- our dependence on a limited number of customers;
- the length of our sales cycles for CDPs, which makes it difficult to predict the timing of new or expanded CDPs;
- the length of our development cycles for CDPs, which makes it difficult to predict the timeframe in which technology developed under CDPs will be available for commercialization;
- fluctuations in the volume and prices of products manufactured and sold by our customers that use or incorporate technology developed under our CDPs (CDP Products) and that generate licensing and royalty revenue for us;
- our revenue mix, which may vary from quarter to quarter as (i) we enter into new CDPs and related customer arrangements; (ii) existing CDPs, particularly for significant customers, are completed, extended, contracted or undergo a change in scope; (iii) licensing arrangements take effect; (iv) we enter into product sale transactions and/or (v) we enter into IP sale transactions;
- the highly cyclical nature of and price volatility in the semiconductor industry;
- the financial stability of any of our customers;
- the timing and extent to which we enter into new CDPs or complete, extend the duration, expand the scope or reduce the duration or scope of existing CDPs;
- non-cash charges relating to stock-based compensation, amortization of intangible assets, write-down expenses related to inventory, and impairment expenses related to long-lived assets;
- any involvement in significant litigation, and in particular IP litigation;

- any payments resulting from our IP indemnification policies and obligations;
- any need for significant additional capital to finance our business;
- any delay in shipments caused by shortages of components used or incorporated in products sold into the market, design errors, manufacturing problems, or difficulties or delays gaining required export licenses for such products;
- warranty claims, product recalls and product liability for our HPC tools and any other products; and
- business interruptions such as earthquakes and other natural disasters.

You should not rely on quarter-to-quarter comparisons to predict our future performance. Unfavorable changes in any of these or other factors may adversely affect our business, financial condition and results of operations.

***We have incurred operating losses since our inception and may not be able to achieve or maintain sustained profitability.***

We have generated net losses each year since our inception, including \$21.8 million, \$8.8 million and \$0.8 million for the fiscal years ended December 31, 2014, 2013 and 2012, respectively. Our accumulated deficit as of December 31, 2014 was \$131.9 million. We will need to significantly increase revenue and operating margins (through greater licensing revenue and other mechanisms) to achieve sustained profitability, which we may not be able to accomplish.

Our ability to achieve and maintain profitability will depend, in large part, on our success in addressing the following four challenges, as well as the other risk factors in this Item 1A:

- **We may be unable to achieve broad customer acceptance of our HPC platform and approach as an alternative to conventional research and development activities.**

Historically, semiconductor companies have conducted R&D activities internally using conventional research methods, and they have vigorously protected the confidentiality of their R&D activities. In order for us to increase revenue, we must convince these companies that our technology and capabilities justify collaborating with us on their basic R&D programs. A significant cultural transition is required for a customer's internal R&D team to embrace us as a collaborative partner. This contributes to the long sales cycles we experience, and may require us to make significant investments in the expansion of our sales and marketing efforts. We must also convince potential customers in the clean energy industry that our HPC platform and approach are useful tools in an emerging industry. We may not achieve the levels of customer acceptance necessary for us to maintain and grow a profitable business. Failure to achieve the necessary customer acceptance to extend or add current or new customer relationships would adversely affect our revenue and profitability.

- **We may be unable to successfully collaborate with all of our customers to achieve the technological innovations sought by our customers.**

Even if we achieve sufficient levels of customer acceptance of our HPC platform as an effective tool for R&D, we will not achieve significant revenue or profitability from a CDP if a project to which we have devoted technology and significant resources fails to produce any measurable success or value to our customers in the form of differentiated technology and IP. CDPs are extremely complex and time-consuming to implement and costly to maintain. We rely to some degree on the efforts and resources of the customer. Differences of opinion over the implementation and management of the program may occur, which could lead to material delays and/or a failure to achieve the successful development of technology. In addition, there are a limited number of CDPs to which we can commit our resources at any given time. For a variety of reasons, including but not limited to insufficient R&D budgets of our customers or us, we may fail to achieve the technological innovations sought by our customers in a reasonable amount of time or at all. We do not know whether our customers will have sufficient resources to maintain or increase the level of investment in R&D required for a successful CDP. If a customer reduces the scope of its CDP with us, it will result in a greater concentration of risk of success being placed upon the remaining scope of our engagement, and we cannot guarantee that the remaining scope of the engagement will lead to a successful result. If a CDP does not generate sufficient revenue to recover the upfront costs and cash we invested in the CDP, this would adversely affect our results of operations.

- **Our customers may not be successful in commercializing products that use or incorporate technology and IP developed under our CDPs with them.**

If we are successful in developing valuable technology for our customers, they still face significant challenges in commercializing products that use or incorporate the technology. The markets for products related to our engagements are intensely competitive and are characterized by rapid technological change. These changes result in frequent product introductions, short product life cycles and the necessity of continually increasing product capabilities. We cannot assure you that our customers will dedicate the resources necessary to successfully execute their business strategies for these products. Our customers are not contractually obligated to us to make or sell any CDP Products. They may not have the financial strength to cost-effectively manufacture the CDP Products at high volume and in quantities sufficient to meet demand, or the competitiveness to price, market and sell the CDP Products in intensely competitive markets. They may experience delays in shipments caused by shortages of components incorporated in the CDP Products, design errors or other manufacturing problems associated with the CDP Products. A decline in demand or average selling prices in the end markets for CDP Products could result in declining sales revenue for our customers and could adversely affect our business and results of operations. Any failure of a customer to achieve market success for CDP Products could also negatively affect the customer's willingness to work with us on other collaborations and could more generally harm our reputation and business prospects. Even if a customer is able to successfully commercialize a CDP Product, there may be a significant delay before we receive any licensing or royalty revenue due to the complexities inherent in production and manufacturing in our customers' target markets.

- **Existing and potential customers may be resistant to paying license and royalty fees, and we may face challenges in monitoring and enforcing royalty agreements with existing customers.**

Our royalty-bearing licenses with our customers lay the framework for ongoing royalty revenue from CDP Products. Although our R&D activities under CDPs generate revenue for us, in order to achieve profitability we must be able to structure, negotiate and enforce agreements for the calculation and payment of higher-margin license and royalty revenue. Unless we adequately demonstrate the value of our platform to our customers and potential customers, we may face resistance to structuring royalty arrangements in the future that are acceptable to us, or our customers and our potential customers may not agree to enter into royalty-bearing licenses with us at all.

If we are able to negotiate appropriate agreements, we will need to rely on our customers to make those payments on a timely basis. Licensing and royalty revenue we may receive in the future may be based on sales of CDP Products. In order to accurately report our financial results on a timely basis, we will need to receive timely, complete and accurate information from our customers regarding their sales and resulting payments they owe us. If the information that we receive is not timely, complete or accurate, we may not receive the full amount of revenue to which we are entitled under these arrangements on a timely basis, which could result in adjustments to our financial results in a future period. Although we typically have audit rights with these customers, performing this type of audit could be harmful to our collaborative relationships, expensive and time-consuming and may not be sufficient to reveal any discrepancies in a timeframe consistent with our financial reporting requirements.

***If a project to which we have devoted technology and significant resources fails to produce any measurable success or value to our customer in the form of differentiated technology and intellectual property that our customer can successfully commercialize, we may not earn licensing and royalty revenue sufficient to recover our upfront investment in the CDP, which could adversely affect our revenue and profitability.***

In some cases, the revenue we receive from our customers during the development stage is not sufficient for us to fully recover our costs and cash invested in HPC platforms dedicated to customer engagements, and our business model relies on licensing and royalty revenue based on the sales by our customers in the end-markets of CDP Products. Our CDPs involve complex R&D, and our ability to develop the differentiated technology and intellectual property sought by our customers is inherently uncertain and difficult to predict. If a project fails to produce any measurable value to a customer, or if we are otherwise not successful in maintaining and managing a CDP, we may not receive sufficient amounts of licensing and royalty revenue to recover our upfront investment in the CDP.

***We depend on a limited number of customers, and a loss of any of them, or a significant reduction in revenue from any of them, would adversely affect our business, financial condition and results of operations.***

Our customer base is highly concentrated. Revenue has historically come from a few customers, and we expect that revenue from a small number of customers will continue to account for a high percentage of our revenue for the foreseeable future. Our three largest customers accounted for 62% of revenue in the fiscal year ended December 31, 2014, and our four largest customers accounted for 55% of our revenue in the fiscal year ended December 31, 2013. Our three largest customers accounted for 67% of our revenue in the fiscal year ended December 31, 2012. Our largest customer accounted for 35%, 17% and 28% of our revenue in each of these periods, respectively, and as of December 31, 2014 our largest customer accounted for 54% of our account receivables. Our concentration of customers is somewhat a reflection of the concentrated nature of manufacturers in the DRAM, flash memory and complex logic markets, and our revenue is and may continue to be heavily reliant on key high-volume customers. The loss of any of these customers or a decrease or delay in the manufacturing or sales volumes of the CDP Products, or a renegotiation of the licensing or royalty revenue owed to us by our customers, or their failure to pay amounts due to us or renew, extend or maintain their existing relationships with us, and the related impact on our future anticipated licensing and royalty revenue, would materially and adversely affect our business, financial condition and results of operations, and we may not be able to replace the business from these customers. Additionally, any significant decrease in revenue from one or more key customers may require reductions in our employee workforce, which could reduce our ability to grow as well as expose us to an increased risk of employment and labor claims against us.

As an example, in February 2014 our customer GLOBALFOUNDRIES suspended development activities under its CDP with us through the remainder of calendar year 2014. Accordingly, we experienced a reduction in the scope of R&D activities, associated employee workforce and associated CDP revenue, which has adversely affected our business, financial condition and results of operations this fiscal year. Similarly, Toshiba and SanDisk did not renew or extend the term of our CDP with them. As of March 15, 2014, Toshiba and SanDisk no longer pay us fees for development services. Our customer Micron notified us that they would stop further development work in the non-volatile memory (NVM) portion of the CDP effective April 1, 2015.

***Our sales cycles are long, and we commit significant resources to a project before we have any commitment that a potential customer may agree to use our platform or service. One or more failures to enter into a CDP after we have devoted significant resources to a project could adversely affect our business, financial condition and results of operations.***

Our sales efforts require us to educate our potential customers about the benefits of our solutions, which often requires significant time and expense, including a significant amount of our senior management's time and effort. Our sales cycles to date have typically ranged from 9 to 24 months and may be even longer in the future. Furthermore, we need to target those individuals within a customer's organization who have overall responsibility for the profitability of their products. These individuals tend to be senior management or executive officers. We may face difficulty identifying and establishing contact with these individuals. In addition, our customers' technology and product pipelines are highly confidential and they may choose to withhold certain information from us during the sales cycle to protect their own proprietary technology. Our ability to implement our HPC platform and methodology is heavily dependent upon the information provided to us by our customers. If our customers reveal the complexities of their specifications after we enter into a CDP with them, that complexity may cause delays unanticipated at the time we entered into the program. During our sales cycles, we incur significant expenses and, in many cases, may begin to build new systems, configure, modify, expand or customize existing systems, develop software and design workflows to meet our customers' requirements prior to obtaining contractual commitments, without any assurance of resulting revenue. Where a potential customer engagement requires a new dedicated HPC platform, we may invest in new capacity ahead of a customer commitment. Our cycles to build, configure, modify, expand or customize the HPC platform to date have ranged from three to nine months and may be even longer in the future. Investment of time and expense in a particular customer engagement that does not ultimately result in material revenue will adversely affect our revenue and other results of operations. Other factors impacting the length of our sales cycles include, but are not limited to, the following:

- the limited number of customers that are appropriate sales targets for our platform and that are willing to enter into licensing agreements with us;
- our ability to enter into CDPs with customers who are or will become market leaders in larger, growing market segments; and
- our customers' budgetary constraints and internal review procedures that must be completed to begin collaboration with us, including but not limited to those customers whose R&D expenditure and product purchasing decisions are impacted by potential delays in or cancellation of funding by governmental agencies

***Semiconductor industry technology is rapidly changing. If we are unable to anticipate trends in technology development and introduce new technologies reflecting the latest innovations, it could adversely affect our business, financial condition and results of operations.***

Our customers expect us to be continuously innovative in their sectors and expect that the technology developed under our CDPs will help them develop new products that keep pace with or push the limits of technological innovation. We rely heavily on the judgment of our management and advisers to anticipate the technology trends in the semiconductor industry and we must continually devote significant engineering resources to keep up with the rapidly growing and evolving varieties of semiconductor architecture, materials, applications, processes and equipment used in semiconductor design and manufacturing. In particular, we must be prepared for the cost, technical complexity and timing of a proposed industry transition to the use of extreme ultraviolet (EUV) lithography.

These innovations are inherently complex and require long development cycles. If we are not able to accurately predict industry changes, or if we are unable to adapt our HPC platform to meet our customers' needs on a timely basis, our existing solutions will be rendered obsolete and our existing and potential customers may choose to develop their own solutions internally as an alternative to ours. If we lose customers, it could have a material adverse impact on our results of operations.

***The semiconductor industry is highly cyclical, subject to significant downturns, price volatility, and other dynamics that make the industry very unpredictable. These factors can have a material adverse impact on our business both directly, and indirectly through the impact on our customers in the industry.***

The semiconductor industry is highly cyclical and has been subject to significant economic downturns at various times, characterized by diminished product demand, accelerated erosion of average selling prices and production overcapacity. The semiconductor industry also periodically experiences increased demand and production capacity constraints. The timing and length of these cycles is extremely difficult to predict, which makes it challenging for us to forecast our operating results, make business decisions and identify risks that may affect our business, financial condition and results of operations. In addition, the semiconductor industry has historically experienced price volatility. Because the substantial majority of our revenue comes from customers in the semiconductor industry, we may experience significant fluctuations in operating results due to the cyclicity and price volatility of the industry.

The industry has also been affected in recent years by uncertainty in the credit markets. In addition, future uncertainty may cause sudden changes in our customers' manufacturing capacity requirements and spending, which depend in part on capacity utilization, demand for products using or incorporating our technology by consumers, inventory levels relative to demand, and access to affordable capital.

Industry consolidation (including but not limited to the transition of semiconductor manufacturing to foundries and large-scale manufacturers, and the subsequent concentration of research and innovation in manufacturing process development) has increased in recent years, and we may continue to see consolidation in the future. This will likely result in fewer small companies, and more large companies with greater financial resources - companies that may be less likely to become our customers than smaller companies with more limited R&D resources. Furthermore, if any of our existing customers are acquired, the acquirer may not continue to engage in a CDP with us or may choose to focus its product development and commercialization on technologies not covered by our CDP.

***The clean energy sector includes a number of industries that are in a very early stage of development, each of which may experience economic challenges. As a result, we may not earn significant revenue from our initiatives in these industries for an extended period.***

The clean energy industry is comprised of several sectors, including energy-efficient glass, solar cells, LEDs, flat-panel displays, advanced batteries and other energy-efficiency technologies. Most sectors of the clean energy industry are in the very early stages of development. Many of the associated technologies have not yet achieved commercial viability in comparison to available alternatives, and may never achieve widespread market adoption. Many of the associated technologies will require substantial investments of capital to achieve scale, which may not be available on attractive terms, if at all. Certain technologies may depend on government subsidies to be commercially viable, and those subsidies may not be available from federal and state governments facing increasing financial constraints. If sectors of the clean energy industry take an extended period to achieve market acceptance, and to garner significant revenue, we may not earn material revenue from our initiatives in this area until market acceptance, if ever. Furthermore, it may be difficult for us to predict which clean

energy companies and which technologies will become market leaders, and we may invest time and resources in collaborations with companies who are ultimately unsuccessful, which could adversely affect our operating results.

The clean energy industry may again experience a challenging environment as it has in the recent past. The demand for clean energy products is also influenced by macroeconomic factors such as global economic conditions. A global economic downturn that affects the availability of financing can slow enterprise clean energy projects; it can also affect individual customers, who may be reluctant to assume high up-front costs and will have more difficulty getting access to capital to cover those costs. Any negative market and industry trends in the clean energy industry could materially and adversely affect our existing and potential customers and ultimately have a negative impact on our clean energy business.

***If we are unable to scale our development services to accommodate new CDPs, including as a result of our reductions in force, our growth prospects would be limited and our business, financial condition and results could be adversely affected.***

Our customers require a significant amount of individualized attention and many of our customers also require lab space at our facilities for CDPs. We have limited space and internal capacity, both in terms of personnel as well as capital equipment resources, to meet these types of demands for our customers. In addition, because of the significant confidentiality concerns associated with the projects and products we work on and the restrictions on resource and information sharing we have implemented in response, we are not able to fully capitalize upon economies of scale. If the demand for our services and products exceeds our capacity to meet such demand, including as a result of our reductions in force, we may be required to turn down potential opportunities, which would cause us to lose potential revenue, and our potential customers may take their business to a competitor or decide to develop or expand internal R&D capabilities. If we are unable to scale our development services to meet demand, our future growth may be hindered and our business and operating results could be adversely affected.

***We may be unable to make the substantial R&D investments required to remain competitive in our business.***

The semiconductor and clean energy industries require substantial investment in R&D to develop and bring to market new and enhanced technologies and products. To remain competitive, we anticipate that we will need to continue to increase our levels of R&D expenditures to keep pace with the development efforts of our customers. We are continually working to develop and broaden our HPC platform, including our software and informatics capabilities, to address a wider range of markets and customers for multiple applications within semiconductors, flat glass, solar cells, LEDs, flat-panel displays, advanced batteries and other energy-efficiency technologies. This is an extremely complex and costly process. We expect R&D expenses to continue to increase in absolute dollars for the foreseeable future, due to the increasing complexity and number of platforms and solutions we plan to develop both for our customers and internally, the expansion of our customer base, and any associated increase in upfront R&D costs. If we are unable to build new systems, or configure, modify, expand or customize our existing systems for these fields and develop our expertise to support these fields, our business growth might be limited, and our business and results of operations could be materially and adversely affected.

Although we are making progress in certain fields of technology, we have limited expertise and experience in other fields. We may be required to invest significantly greater resources than anticipated in our R&D efforts. If we are unable to develop expertise or experience in these fields, or if the investment of our resources in these fields is unsuccessful, our business and results of operations could be materially and adversely affected.

***Our strategy includes conducting proprietary R&D efforts in collaboration with and on behalf of multiple customers. Any failure on our part to adequately protect against potential conflicts of interest and breaches of confidentiality by us would harm our reputation and our relationships with our customers, and our business prospects and operating results would be materially and adversely affected. Moreover, some customers may hesitate to grant us access to their proprietary information, which could impair our ability to provide value for such customers.***

Our strategy includes conducting proprietary R&D efforts in collaboration with and on behalf of customers who in some cases may have overlapping interests and technologies. We seek to structure our collaborative agreements and business practices to minimize any potential conflicts among customers and the possibility of any breaches of confidentiality. We may need access to some of our customers' proprietary information, and they may be reluctant to share it with us because of the risk of a potential conflict between us and/or our customers and other potential customers and the risk of a breach of confidentiality. In an effort to address these significant potential conflicts of interest and confidentiality concerns, we have implemented internal restrictions on resource and information sharing. However, we cannot ensure that our existing and potential customers will perceive these measures to be adequate and effective, or that they will be, in all circumstances. Our

failure to adequately and effectively address these concerns could result in our inability to attract new customers or retain existing customers, or lead to our having incomplete information with respect to existing customers that could impair our ability to fully address the customers' needs and demonstrate the value of our technology to the customers. Even though we make significant efforts to isolate each development activity from other development activities, we may fail to meet our contractual confidentiality commitments to one or more customers. Moreover, even if we meet these commitments, conflicts of interest between a customer and us, or between or among customers, could nevertheless arise. In either event, we may become involved in a dispute with our customers regarding the solutions developed during the collaboration or the rights to these solutions, including possible litigation. Disputes of this nature could harm the relationship between us and our customers, have a material adverse effect on our ability to retain and to enter into new CDPs, and cause our revenue and operating results to decline significantly.

***Our business strategy requires us to evaluate, integrate and develop elements of our customers' value chains, including development and manufacturing processes. Our ability to evaluate these effectively may sometimes depend on the cooperation from our customers' materials suppliers and equipment manufacturers as well as access to their data and tools. If these third parties do not cooperate with us or provide us access to the necessary data, materials, tools or equipment, we may not be able to deliver effective solutions to our customers, which would adversely affect our business and results of operations.***

We have to evaluate multiple elements of our customers' value chains to help them test and develop end products that meet their specifications, including the materials, tools and equipment used by them during the manufacturing process. Our ability to evaluate a customer's value chain effectively may sometimes depend on cooperation from such customer's materials suppliers and equipment manufacturers and on access to their data and tools. Our evaluation of the materials and equipment in the value chain must be unbiased to maintain credibility with our customers, and our evaluation sometimes results in recommendations that our customers change materials and tools providers or equipment manufacturers. Our recommendations may negatively impact our relationships with materials and tools providers and equipment manufacturers. Tensions in our relationships with these providers and manufacturers may cause these parties to limit or deny our access to their newest materials and equipment, which would in turn limit our ability to complete our development activities with our customers or control the quality of the combinatorial methods applied to our development efforts on their behalf, which would adversely affect our business and operations.

***Failure of our suppliers to timely deliver sufficient quantities of the components or materials that we use in our collaborations may result in delays or other disruptions in executing our CDPs, which could adversely affect our business, financial condition and results of operations.***

We have historically relied on a small number of contract manufacturing companies for the manufacture and assembly of a majority of our HPC tools. While we are not dependent on any single contract manufacturing company, key parts of our tools are currently available only from a limited number of sources. In addition, components of our capital equipment are available from only a few suppliers. If supplies from these vendors are delayed or interrupted for any reason, we may not be able to get equipment or components for our tools or our own research efforts in a timely fashion or in sufficient quantities or under acceptable terms, if at all. Even though alternative sources of supply would be available, it could be time-consuming and expensive for us to qualify new vendors and work with them to integrate our designs into the tools they manufacture for us. In addition, we depend upon our vendors to provide components of appropriate quality and reliability. Consequently, if supplies from these vendors were delayed or interrupted for any reason, it could materially and adversely affect our business.

***Our future growth may present challenges to our management and administrative systems and resources, which could adversely affect our business, financial condition and results of operations.***

In order to successfully expand our business we will need to grow in all operational areas and to successfully integrate new employees. In particular, we expect growth as we expand our R&D capacity for current and additional CDPs. The expansion of our business may place a strain on our management, as well as our operational systems and facilities, which may make it difficult for us to implement our business strategy. We have experienced employment and labor claims against us by our employees in the past, and we may experience such claims in the future. For example, on August 23, 2013, we received a copy of a complaint from the California Division of Labor Standards and Enforcement filed by an employee claiming that the employee is owed back pay due to an incorrect classification as an exempt employee for overtime purposes. We received similar claims by fourteen other current and former employees and contractors. We entered into settlement agreements with all of the fifteen claimants and we believe the matter has been resolved. However, the addition of new employees may also increase the likelihood of employment and labor claims against us.

To effectively manage our operations and any future growth, we must continue to expend funds to enhance our operational, legal, financial and management controls, reporting systems and procedures, and to attract and retain sufficient numbers of talented employees. If we are unable to implement these enhancements efficiently, effectively and quickly, we will not be able to successfully grow our business in the future. Our future operating results will also depend on our management's ability to:

- improve our sales, marketing and customer support programs;
- improve our R&D efforts;
- enhance our operational and financial control systems;
- expand, train and manage our employee base and promptly replace departing employees with key skills; and
- effectively address new issues related to our growth as they arise.

We may not manage our expansion successfully, which could materially and adversely affect our business, financial condition and results of operations.

***Acquisitions, strategic investments, joint ventures or strategic asset sales may harm our business and operating results, cause us to incur debt or assume contingent liabilities, or dilute our stockholders.***

We have made and may in the future make strategic investments, acquisitions, asset sales, or enter into joint ventures with third parties where there is an opportunity to expand the potential applications and reach of our capabilities, including our HPC platform. Exploring and implementing any investments, acquisitions, asset sales or joint ventures may place strain upon our ability to manage our future growth and may divert management attention from our core businesses. There are also other risks associated with this strategy. We cannot assure you that we will be able to make investments, acquire businesses or sell assets on satisfactory terms, that any business acquired by us or in which we invest will be integrated successfully into our operations or be able to operate profitably, or that we will be able to realize any expected growth, synergies or benefits from such investments, acquisitions, sales or joint ventures. Our relative inexperience in effecting such transactions heightens these risks. In addition, to finance any acquisitions, investments or joint ventures, we may utilize our existing funds, or might need to raise additional funds through public or private equity or debt financings. We may be unable to obtain financing to fund future acquisitions or investments on attractive terms, or at all. Additionally, equity financings may result in dilution to our stockholders. We cannot predict the number, timing or size of investments, acquisitions or joint ventures, or the effect that any such transactions might have on our operating results.

***Our financial obligation to Silicon Valley Bank (SVB) could adversely affect our financial health and our ability to raise additional capital to fund our operations and limit our ability to react to changes in the economy or our industry.***

On May 31, 2013, we entered into a loan and security agreement (Loan Agreement) with SVB pursuant to which SVB made available to us loans under a revolving line to refinance existing indebtedness and for working capital and general business purposes, in a principal amount of up to \$26.5 million. Under the Loan Agreement, SVB funded an initial credit extension in the principal amount of \$25.0 million on May 31, 2013.

On November 29, 2013, we elected to convert the entire \$25.0 million of outstanding advances under the Loan Agreement into a term loan, as provided by the Loan Agreement. We are obligated to pay interest at the applicable rate and \$0.5 million of principal on a quarterly basis. The term loan is scheduled to mature on November 30, 2016, at which time we will be obliged to pay all outstanding principal and accrued and unpaid interest on that date. At our option, we may prepay the outstanding principal balance of the term loan in full or in part. During 2014, we paid SVB \$2.7 million (of which \$0.7 million was interest and \$2.0 million was principal) under the Loan Agreement.

Our obligations to SVB will require us to dedicate a substantial portion of our cash flow from operations to payments on interest and principal, thus reducing the availability of our cash flow to fund working capital, capital expenditures, research and development efforts, execution of our business strategy and other general corporate purposes. Such limitations increase our vulnerability to adverse general economic and industry conditions and limit our flexibility in planning for, or reacting to, changes in the economy, our industry and new opportunities that may arise. In addition, we granted SVB a security interest in substantially all of our assets, excluding all IP. We are also subject to certain affirmative

and negative covenants under the Loan Agreement, including limitations on our ability to: undergo certain change of control events; dispose of our assets; merge or acquire other entities; create, incur, assume, guarantee or be liable with respect to indebtedness; grant liens on any assets; make any dividends in cash; and make or permit any payment on subordinated debt, in each case subject to certain exceptions. In addition, we are subject to a financial covenant under which, if our unrestricted cash, cash equivalents and other short-term investments are less than \$60 million, we must maintain a ratio of our short-term assets (including cash, net accounts receivable and short-term investments) to certain liabilities (including our outstanding and owed obligations to SVB and any other liabilities maturing in less than one year) of 1.5:1.0. Under the Loan Agreement, subject to certain exceptions, we are also required to maintain with SVB our primary operating and other deposit accounts and securities accounts. The Loan Agreement also includes several potential events of default such as payment default, material adverse change conditions and insolvency conditions that could cause interest to be charged at the rate that is otherwise applicable plus 5.0%. Any uncured events of default may result in SVB's right to declare all outstanding obligations immediately due and payable and to exercise any other remedies permitted under the Loan Agreement. These obligations and restrictions may make it more difficult for us to borrow funds in the future to fund working capital, capital expenditures and other purposes, which could materially and adversely affect our business, financial condition and results of operations.

***We may need additional capital in the future to finance our business.***

Our future capital requirements may be substantial as we continue to develop our business and expand our collaborative development efforts. In particular, we may be required to raise additional capital if we choose to expand our business through strategic investments or acquisitions. Our need for additional capital will depend on many factors, including our rate of revenue growth, our expansion of our sales and marketing activities and overhead expenses, the timing and extent of our spending to support our R&D efforts and our ability to expand CDPs in the semiconductor and clean energy industries, whether we are successful in obtaining anticipated levels of payments from customers, the financial stability of our customers, whether we can enter into additional collaborations in our target industries and markets, the progress and scope of collaborative R&D projects performed by us and our customers, the effect of any acquisitions of other businesses or technologies that we may make in the future, the filing, prosecution, maintenance and enforcement of patent claims, how much we need to develop or enhance our solutions or HPC platform, and any necessary responses to competitive pressures.

If our capital resources are insufficient to meet our capital requirements, and our revenue is insufficient to support any of these activities, then we will have to raise additional funds. If future financings involve the issuance of equity securities, our then-existing stockholders may suffer dilution. If we raise additional future debt financing, we may be subject to restrictive covenants similar to or more restrictive than those we are subject to under the Loan Agreement with SVB, which would further limit our ability to conduct our business. We may not be able to raise sufficient funds on terms that are favorable to us, if at all. If we fail to raise sufficient funds and continue to incur losses, our ability to fund our operations, take advantage of strategic opportunities, develop products or technologies or otherwise respond to competitive pressures could be significantly limited. If this happens, we may be forced to delay or terminate R&D programs, curtail or cease operations, obtain funds through collaborative and licensing arrangements that may require us to relinquish commercial rights, or grant licenses on terms that are not favorable to us. If adequate funds are not available, we may not be able to successfully execute our business plan or continue our business.

***If we lose one or more of our key personnel without obtaining adequate replacements in a timely manner, or if we are unable to retain and recruit skilled personnel, our operations could become disrupted and the growth of our business could be delayed or restricted.***

Our success depends, in large part, on the continued contributions of our senior management team. None of our senior management is bound by written employment contracts to remain with us for a specified period. The loss of any of our senior management could harm our ability to implement our business strategy and respond to the rapidly changing market conditions in which we operate. Upon hiring or promotion, new senior management personnel must spend a significant amount of time learning our technology, business model and management systems and their new roles, in addition to performing their regular duties. Accordingly, we may experience disruption to our ongoing operations. Moreover, the loss of a member of our senior management or our professional staff would require the remaining management to divert attention to seeking a replacement.

Our future success and competitiveness depends on our ability to retain and motivate our unique team of highly skilled scientists and engineers, and to recruit and hire similarly qualified replacements for any who leave the company. These scientists and engineers have expertise across various disciplines, fields and technologies, including engineering, materials science, process development and integration, equipment, device process technologies and device integration. In addition, as we grow, we will have to continue to retain, attract and motivate qualified and talented personnel, including our scientists and

engineers, management, sales and marketing and legal and finance personnel. Because our CDPs are customer-specific and project-specific and may last for a significant period of time, the loss of key scientists or engineers or other personnel could have an adverse effect on a particular CDP and on our ability to deliver results to a customer in a timely manner or at all. We do not know whether we will be able to retain all of these employees or hire appropriate replacements for any who leave the company, as we continue to pursue our business strategy. Competition for personnel is intense in the semiconductor and clean energy industries.

We may encounter difficulties in hiring qualified scientists and engineers because there is a limited pool of scientists and engineers with the specialized expertise required to understand and implement our platform in conjunction with our customers. Further, we may have difficulty or delays in obtaining deemed export licenses for some scientists and engineers who we may wish to hire, in obtaining visas permitting entry for some of our employees who are foreign nationals into the United States, and in obtaining visas permitting entry into other key countries for several of our key personnel, which could disrupt our ability to strategically locate our personnel. The loss of the services of key employees or our inability to retain, attract and motivate qualified scientists and engineers could have a material adverse effect on our business, financial condition and results of operations.

***If we cannot compete successfully in our industry, our results of operations and financial condition would be adversely affected.***

Competition in our markets may intensify in the future, which could slow our ability to grow or execute our strategy and could lead to increased pricing pressure, negatively impacting our revenue and ability to attain and maintain profitability. Our current and potential customers may choose to develop their own methods to accelerate R&D activities, including their own combinatorial development methods, particularly if we are slow in developing or deploying our solutions or improving them to meet market needs. We currently face indirect competition from the internal R&D groups of our current and potential customers, particularly those of our customers who work with us to develop knowledge of combinatorial methods and who may then use our methods independently. Several of them also design, develop, manufacture and market semiconductor and clean energy products based on their own solutions or other architectures and develop their own intellectual property internally. They often compete with each other and with us in various applications. Our customers are generally much larger and have significantly greater resources than us. We also face indirect competition from university collaborations, consortia and alliance partnerships. In addition, there may be other providers of high-throughput or combinatorial solutions for the design of and accelerating R&D relating to integrated devices of which we are not aware, and there may be new entrants to the industry in the future, particularly if acceptance of these solutions grows. In addition, we believe that the demand for solutions that address the need for better integration between the design and manufacturing processes may encourage direct competitors to enter into our market. Other potential competitors include fabrication facilities that may decide to offer solutions competitive with ours as part of their value proposition to their customers. If these potential competitors change the pricing environment or are able to attract industry partners or customers faster than we can, we may not be able to grow and execute our strategy as quickly or at all.

***A substantial portion of our revenue is derived from business arrangements with related parties, and such arrangements could create conflicts of interest that could adversely affect our business and results of operations.***

Some of our customers and other business partners hold a significant stake in our capital stock. Related party transactions, which includes transactions with both ATMI and SanDisk, disclosed in our financial statements accounted for \$5.6 million (11.7%) of our revenue in the year ended December 31, 2014, and \$12.8 million (19.0%) and \$21.1 million (31.6%) of our revenue for the years ended December 31, 2013 and 2012, respectively. For more information about these transactions, see Note 10 to our consolidated financial statements in this Form 10-K.

We believe that the transactions and agreements that we have entered into with related parties are on terms that are at least as favorable as could reasonably have been obtained at such time from unrelated third parties. However, these relationships could create, or appear to create, potential conflicts of interest when our board of directors is faced with decisions that could have different implications for us and our related parties or their affiliates. In addition, conflicts of interest may arise between us and our related parties and their affiliates. The appearance of conflicts, even if such conflicts do not materialize, might adversely affect the public's perception of us, as well as our relationship with other companies and our ability to enter into new relationships in the future, including new CDPs with competitors of such related parties, which could have a material adverse effect on our ability to do business.

***We may be subject to warranty claims, product recalls and product liability.***

From time to time, we may be subject to warranty or product liability claims relating to our HPC tools used by our customers, whether use is at our site in San Jose, CA or at the customer's site. These claims could result in unanticipated expenses as we compensate affected customers for product quality issues. Although we maintain product liability insurance, the insurance is subject to significant deductibles and there is no guarantee that coverage will be available or adequate to protect against all such claims. Alternatively, we may elect to self-insure with respect to certain matters. If an HPC tool sold or licensed to our customers is recalled, we may incur repair, return and/or replacement costs, contract damage claims from our customers and reputational harm. Costs or payments made in connection with warranty and product liability claims and product recalls could materially and adversely affect our financial condition and results of operations.

***Our inability to effectively manage our inventory could adversely affect our revenue and profitability.***

Our CDPs generally consist of our provision of services to our customers, our licensing to customers of IP related to the CDP, and the sale of specialized tools. For these specialized tools, we typically plan production and inventory levels based on internal forecasts of customer demand. These forecasts can be highly unpredictable and can fluctuate substantially, which could lead to excess inventory write-downs and resulting negative impacts on revenue and profitability. In addition, innovation in our industry, or the use of R&D methodologies other than our HPC technology, could render significant portions of our inventory obsolete. If we overestimate our customers' requirements, we may have excess inventory, which could lead to obsolete inventory and unexpected costs. Conversely, if we underestimate our customers' requirements, we may have inadequate inventory, which could lead to foregone revenue opportunities, loss of potential market share and damage to customer relationships as product deliveries may not be made on a timely basis, disrupting our customers' CDP activity schedules.

Our estimates of excess and obsolete inventory may prove to be inaccurate, in which case the provision required for excess and obsolete inventory may be understated or overstated. Although we make every effort to ensure the accuracy of our forecasts of future product demand, any significant unanticipated change in demand or technological developments could have a significant impact on the value of our inventory and operating results.

Rapid changes in our customer base as well as entry into new markets may cause substantial revisions in the methodologies used to value our inventory, and therefore increase the amounts related to our obsolete or reserved inventory. We have had write-offs related to obsolete inventory and may continue to have write-offs in the future.

***Compliance with environmental, health and safety laws and regulations could increase costs or cause us to incur substantial liabilities.***

We are subject to various foreign, federal, state and local environmental laws and regulations governing emissions and discharges of hazardous materials into the air and water; the use, generation, storage, handling, transportation and disposal of, and exposure to, hazardous materials and wastes; remediation of contamination; and employee health and safety. In addition, under certain of these environmental laws, liability can be joint and several and without regard to comparative fault. Our operations involve the use of hazardous materials and produce hazardous waste, and we could become liable for any injury or contamination that could arise due to such use or disposal of these materials. Failure to comply with environmental laws and regulations could result in the imposition of substantial civil and criminal fines and sanctions, could require operational changes or limits or the installation of costly equipment or otherwise lead to third party claims. Future environmental laws and regulations, stricter enforcement of existing laws and regulations, or the discovery of previously unknown contamination or violations of such laws and regulations could require us to incur costs or become the basis for new or increased liabilities, which could impair our operations and adversely affect our business and results of operations.

***Global or regional economic, political and social conditions could adversely affect our business, financial condition and results of operations.***

We operate in multiple jurisdictions throughout the world and are subject to foreign business, political and economic risks. In particular, we are subject to risks arising from adverse changes in global economic conditions. Global economic uncertainties in the key markets of many of our customers may cause our customers to delay or reduce R&D and technology purchases and investments. The impact of this on us is difficult to predict, but if businesses defer using our HPC platform or licensing our technology, require fewer CDPs or development tools, or if consumers defer purchases of new products that use or incorporate technology developed under our CDPs, our revenue could decline. A decline in revenue would have an adverse effect on our results of operations and our financial condition.

In addition, some of our largest customers are located outside of the United States, primarily in Asia, which further exposes us to foreign risks. Also, a substantial portion of the consumer products market that serves as the end-market for the products we help our customers to develop is located in Asia. As a result, our operations are subject to substantial influence by political and economic conditions. Reduced end user demand as well as disruptions to the supply chain for our customers resulting from these or other events could lead to a reduction in our revenue and an adverse impact on our financial condition. Our licensing and royalty revenue is derived from sales of products that use or incorporate technology developed under our CDPs. To the extent that sales for these products are denominated in U.S. dollars, the currency conversion and foreign exchange laws and regulations in the foreign countries in which we do business may delay or preclude us from receiving payment from our customers, which would have an adverse impact on our operations and financial condition. Additionally, to the extent that sales for these customer products are denominated in a foreign currency, an increase in the value of the U.S. dollar relative to such foreign currencies could also adversely affect our licensing and royalty revenue irrespective of the volume of such products sold, which could adversely affect our business and operating results.

We expect that a significant portion of our total future revenue will continue to be derived from companies based in foreign countries. If the U.S. dollar increases in value relative to the currencies in any of these countries, the cost of our CDPs, which have historically been billed in U.S. dollars, will be more expensive to existing and potential customers in those countries, which could adversely affect our ability to generate new or expand existing CDPs.

We are also subject to general geopolitical risks in connection with international operations, such as political, social, and economic instability, terrorism, interference with information or communication of networks or systems, potential hostilities, changes in diplomatic and trade relationships, and disease outbreaks, and any disruptive effect these events would have on our business operations. For example, an imposition of economic sanctions by the U.S. government against the Russian Federation may have an adverse impact on our ability to do further business with one of our current customers, Ulyanovsk Center for Technology Transfer of the Russian Federation. Although to date we have not experienced any material adverse effect on our operations as a result of these types of factors, we cannot assure investors that these factors will not have a material adverse effect on our business, financial condition, and operating results or require us to modify our current business practices. Inconsistencies among, and unexpected changes in, a wide variety of foreign laws and regulatory environments with which we are not familiar, including, among other issues, with respect to employees, currency controls, foreign exchange, protection of our intellectual property, and a wide variety of operational regulations and trade and export controls under domestic, foreign, and international law may also have unexpected, adverse impacts on our operations and financial condition.

***Business interruptions could delay or prevent our business activities, which could have a material adverse effect on our business, financial condition and results of operations.***

Our headquarters are located in the San Francisco Bay Area near known earthquake fault zones and are vulnerable to significant damage from earthquakes. We are also vulnerable to other types of natural disasters and other events that could disrupt our operations, such as cybersecurity breaches, terrorist acts and other events that may be beyond our control. We do not carry insurance for earthquakes and we may not carry sufficient business interruption insurance to compensate us for losses that may occur. Our business can also be impacted if our customers experience business interruptions as a result of natural disasters or other disruptive events. Any losses or damages we or our customers incur could have a material adverse effect on our cash flows and success as an overall business.

***Our ability to use our net operating loss carryforwards to offset future taxable income, and our ability to use our tax credit carryforwards, may be subject to certain limitations.***

In general, a corporation that undergoes an "ownership change" under Section 382 of the Internal Revenue Code is subject to limitations on its ability to utilize its pre-change net operating loss carryforwards (NOLs) to offset future taxable income and its ability to utilize tax credit carryforwards. As of December 31, 2014, we reported U.S. federal NOLs in the amount of \$69.7 million. In general, an "ownership change" occurs if the aggregate stock ownership of certain stockholders (generally, 5% shareholders, applying certain aggregation and look-through rules) increases by more than 50 percentage points over such stockholders' lowest percentage ownership during the testing period (generally, three years). We have not determined whether an ownership change has occurred in the past. If we have experienced an ownership change in the past, our ability to utilize NOLs and tax credit carryforwards could be limited. Furthermore, future changes in our stock ownership, such as certain stock issuances and transfers between stockholders, some of which changes are outside of our control, could result in ownership changes under Section 382 of the Internal Revenue Code. For these reasons, we may not be able to utilize a material portion of our NOLs and tax credit carryforwards, even if we attain profitability.

## Specific Risks Relating to Our Intellectual Property

***We may be unable to effectively protect our intellectual property, which would negatively affect our ability to compete.***

We depend on our proprietary HPC platform for our success and ability to compete. If others are able to reproduce our technology, our business will suffer significantly unless we can prevent them from competing with us. As of December 31, 2014, we owned or had exclusive licenses to 1,252 U.S. patents and patent applications (some of which also have foreign counterparts), which we believe protect our rights in our HPC platform and our rights in the technology developed internally and under the CDPs. While we have been filing patent applications to seek protection for the further advancements of our HPC platform, patent laws provide only limited protection. Furthermore, we may not be able to sustain the high rate of patenting we maintained in the previous three years due to the expense and resource-intensiveness of the patenting process. For these and other reasons, we cannot assure you that we have sought or that we will seek patent protection of all our rights in our HPC platform and our rights in the technology developed internally and under our CDPs in all jurisdictions. We also cannot assure you that all maintenance fees have been paid or that all filings have been made with the appropriate regulatory or governmental authorities with respect to any IP rights (including patents) registered or applied for outside of the U.S. In addition, patent protection in foreign countries may be limited or unavailable where we need this type of protection. A more detailed description of how we protect our IP rights (including patents) is set forth in Part I, Item 1: "Business - Intellectual Property" of this Form 10-K.

The patent positions of technology companies, including ours, are often uncertain and involve complex legal and factual questions. We will be able to protect our proprietary rights from unauthorized use by third parties only to the extent that our proprietary technologies are covered by valid and enforceable patents, or are effectively maintained as trade secrets or other forms of legal protection. We apply for patents covering our HPC platform and further advancements of our HPC platform as we deem appropriate. However, we may not obtain patents on all inventions for which we seek patents. Further, any patent claims we file for may be challenged during prosecution or any patent claims we are issued may be challenged after issuance. This may result in the claims being narrowed in scope or extinguished as a result of these challenges. Additional uncertainty may result from the recent and ongoing consideration and passage of patent reform legislation by the United States Congress, legal precedent as handed down by the United States Federal Circuit and Supreme Court as they determine legal issues concerning the scope and construction of patent claims, and inconsistent interpretation of patent laws by the lower courts. For these reasons, among others, our existing patents and any future patents we obtain may not be sufficiently effective in preventing others from practicing our technologies or from developing similar or superior products. In that case, our revenue and operating results could decline.

Our strategy includes obtaining patent protection for technology developed in collaboration with our customers. A portion of our revenue from our customers derives from the licenses granted by us to our customers under these patents. In certain instances our ability to obtain patent protection may require customer approval. If the customer does not provide its approval, we cannot proceed with patent protection and the technology will be subject to trade secret protection only. If we are unable to obtain patent protection, we would not be able to enforce patent rights to the technologies in question.

In most instances, with respect to patents obtained for technology developed in collaboration with our customers, we grant our customers a specific field-of-use license under these patents thus reserving for us the right to grant licenses to third parties outside such field-of-use. We may not be able to grant such third party licenses outside the field-of-use, which would not allow us to realize additional revenue from licensing such patents.

We have developed in the past, and may develop in the future, patented technology with U.S. federal government funding. When new technologies are developed with U.S. government funding, the government obtains certain rights in any resulting patents, including a nonexclusive license authorizing the government to use the invention for non-commercial purposes. These rights may permit the government to disclose our confidential information to third parties and to exercise "march-in" rights to use or allow third parties to use our patented technology. The government can exercise its march-in rights if it determines that action is necessary because we fail to achieve practical application of the U.S. government-funded technology, because action is necessary to alleviate health or safety needs, to meet requirements of federal regulations, or to give preference to U.S. industry. In addition, U.S. government-funded technology may be subject to restrictions on transfer to foreign entities, and some U.S. government-funded data may be subject to public disclosure under the Freedom of Information Act.

Many of our customers and competitors have significant operations outside the United States. However, foreign laws may not afford us sufficient protections for our intellectual property, and we may not always seek patent protection outside the United States. We believe that our success depends, in part, upon our ability to obtain international protection for our IP

rights. However, the laws and judicial systems of some foreign countries may not be as comprehensive as those of the United States and may not be sufficient to protect or enforce our proprietary rights abroad. Accordingly, our international competitors could obtain foreign patent protection for, and market overseas, products and technologies for which we are seeking patent protection in the United States, and may also be able to successfully enforce such patents in such foreign countries against us or against our customers.

***Confidentiality agreements with employees and others may not adequately prevent disclosures of trade secrets and other proprietary information.***

We rely in part on confidentiality and trade secret protection to protect our confidential and proprietary information and processes. However, trade secrets are difficult to protect. We have taken measures to protect our trade secrets and proprietary information, but these measures may not be effective. We require new employees and consultants to execute confidentiality agreements upon the commencement of an employment or consulting arrangement with us. These agreements generally require that all confidential information developed by the individual or made known to the individual by us during the course of the individual's relationship with us be kept confidential and not disclosed to third parties. These agreements also generally provide that all rights in and to the inventions conceived by the individual in the course of rendering services to us shall be assigned to us. Nevertheless, employees, collaborators or consultants may still disclose or misuse our confidential information, and we may not be able to meaningfully protect such information or our trade secrets. In addition, others may independently develop substantially equivalent information or techniques or otherwise lawfully gain access to our trade secrets, and thereafter communicate this information to others without maintaining its confidentiality. Costly and time-consuming litigation could be necessary to enforce and determine the scope of our proprietary rights, and failure to obtain or maintain trade secret protection or enforce our trade secrets could adversely affect our competitive business position.

***Significant litigation over intellectual property in the industry may cause us to become involved in costly and lengthy litigation, which could subject us to liability, require us to stop licensing our developed technology or force us to develop new technology.***

Whether or not patents are granted to us, litigation may be necessary to enforce our IP rights, to defend against a claim of infringement of IP rights of others or to determine the validity and scope of our proprietary rights or the proprietary rights of others. Because infringement is a fact-intensive inquiry, and because patent applications in the United States and many foreign jurisdictions are typically not published until eighteen months after filing (or, in some cases, are not published until they issue as patents), we cannot be certain that we do not now, and will not in the future, infringe a third party's patent rights. We may also become party to claims by our customers to IP rights developed by us in connection with a CDP. If our customers become involved in disputes with third parties over allegations that our customers' practice of our IP rights infringes the IP rights of such third parties, it may also become necessary for us to become involved in such disputes.

Any claim, even if without merit, could be time consuming to defend, result in costly litigation, or require us to enter into licensing agreements, resulting in unexpected operating costs and reduction in our operating profit. Moreover, our opponents in any litigation may have significantly more resources with which to defend against or assert claims in the litigation. A successful claim of infringement against us in connection with the use of our technologies could force us to stop using our technologies that incorporate the infringed IP; pay substantial monetary damages or royalties; grant cross-licenses to third parties relating to our own IP; obtain a license from the owner of the infringed IP, which may not be available to us on acceptable terms or at all; or re-engineer our platform or products to avoid further IP infringement, which may be technically impossible or commercially infeasible. The occurrence of any of these eventualities could adversely affect our business. Even if we are successful in defending such a claim, litigation could also divert our resources, including our managerial and engineering resources. Any infringement claim or other litigation against or by us could have a material negative effect on our business.

***Our intellectual property indemnification policies and obligations may adversely impact our business and operating results.***

A third party asserting ownership or other rights to technology developed under our CDPs could result in our customers becoming the target of litigation, and we may be bound to indemnify our customers under the terms of our license agreements. These obligations could result in substantial expenses to us, which could have a material adverse effect on our business, financial condition and results of operations. In addition to the time and expense required for us to satisfy our support and indemnification obligations to our customers, any litigation could severely disrupt or shut down the business of our customers, which in turn could damage our relations with them and have a material adverse effect on our reputation, business, financial condition and results of operations.

## Risks Related to Ownership of Our Common Stock

***Our stock price may be volatile, which may cause the value of our common stock to decline and subject us to securities class action litigation.***

The market price of our common stock could be subject to significant fluctuations. Market prices for securities of early stage companies have historically been particularly volatile. The stock markets in general have experienced price and volume fluctuations that have affected, and continue to affect, the market prices of equity securities of many companies. A portion of most future fluctuations in our stock price will likely be related to the risk factors described in this section. However, price fluctuations may be disproportionate, or even unrelated, to our operating performance. In the past, many companies that have experienced volatility in the market price of their stock have become subject to securities class action litigation. We may be the target of this type of litigation in the future. Securities litigation against us could result in substantial costs and divert our management's attention from other business concerns, which could seriously harm our business. Factors that could contribute to volatility in our stock price include but are not limited to the following:

- fluctuations in our financial results or outlook, or those of our customers or of companies perceived to be similar to us;
- changes in estimates of our financial results or recommendations by securities analysts;
- changes in market valuations of similar companies;
- changes in our capital structure, such as future issuances of securities or the incurring of debt;
- announcements by us or our competitors of significant contracts, acquisitions or strategic alliances;
- litigation involving us, our general industry or both;
- additions or departures of key personnel;
- regulatory developments in the U.S., countries in Asia, and/or other foreign countries;
- significant fluctuations in daily trading volume of our stock due to selling of large blocks of stock by significant stockholders;
- investors' general perception of us; and
- general economic and political conditions in the U.S. and globally, such as recessions, interest rate changes and international currency fluctuations.

***We have incurred and will continue to incur increased costs and demands upon management as a result of complying with the laws and regulations affecting public companies, which could harm our results of operations.***

As a public company, we have incurred and will continue to incur significant accounting, legal and other expenses that we did not incur as a private company, including costs associated with public company reporting requirements. We have incurred and will continue to incur costs associated with existing and evolving corporate governance requirements, including requirements under Section 404 and other provisions of the Sarbanes-Oxley Act, as well as rules implemented by the Securities Exchange Commission, or SEC, and the exchange on which we list our common stock. These rules and regulations have substantially increased our financial and legal compliance costs and may cause further increases in the future. These rules and regulations also make it more expensive for us to maintain director and officer liability insurance.

***If we experience material weaknesses or otherwise fail to maintain an effective system of internal controls in the future, we may not be able to accurately report our financial condition or results of operations, which may adversely affect investor confidence in our company and, as a result, the value of our common stock.***

As a public company, we are required, under Section 404 of the Sarbanes-Oxley Act, to conduct a comprehensive evaluation of our disclosure controls and procedures over financial reporting. The results of this assessment need to be

included in our annual report and we are required to disclose any material weaknesses identified by our management in our internal control over financial reporting, as well as an opinion from our independent registered public accounting firm on the effectiveness of our internal control over financial reporting. A material weakness is a control deficiency or combination of control deficiencies that results in more than a remote likelihood that a material misstatement of annual or interim financial statements will not be prevented or detected.

We devoted significant resources to hiring personnel and compiling the system and processing documentation necessary to perform the evaluation needed to comply with Section 404 for the year ended December 31, 2014. In future years, we may need to devote more resources to Section 404 compliance, and we may not be able to complete our annual evaluations, testing and any required remediations in a timely fashion. During the evaluation and testing process, if we identify one or more material weaknesses in our internal control over financial reporting, we will be unable to assert that our internal controls are effective. Lack of effective controls could severely inhibit our ability to accurately report our financial condition or results of operations. We cannot assure you that there will not be material weaknesses and/or significant deficiencies in our internal controls in the future. If we are unable to conclude that our internal control over financial reporting is effective, or if our independent registered public accounting firm were to issue an adverse opinion on the effectiveness of our internal control over financial reporting, we could lose investor confidence in the accuracy and completeness of our financial reports, which would cause the price of our common stock to decline.

***The concentration of our capital stock ownership by our executive officers, directors and 5% stockholders will limit your ability to influence corporate matters.***

Our executive officers, directors, current five percent or greater stockholders and entities affiliated with them together beneficially owned approximately 69.6% of our common stock outstanding as of December 31, 2014. Based on public filings and our internal records, entities affiliated with Raging Capital Management LLC, entities affiliated with Redpoint Ventures, entities affiliated with Presidio Partners and entities affiliated with U.S. Venture Partners beneficially owned approximately 20.0%, 16.0%, 9.4% and 9.0%, respectively, of our common stock outstanding as of December 31, 2014. This significant concentration of share ownership may adversely affect the trading price for our common stock because investors often perceive disadvantages in owning stock in companies with concentrated stock ownership. Also, these stockholders, acting together, will be able to influence our management and affairs and determine the outcome of matters requiring stockholder approval, including the election of directors and the approval of significant corporate transactions, such as mergers, consolidations or the sale of substantially all of our assets. Consequently, this concentration of ownership may have the effect of delaying or preventing a change of control, including a merger, consolidation or other business combination involving us, or discouraging a potential acquiror from making a tender offer or otherwise attempting to obtain control, even if that change of control would benefit our other stockholders.

***A significant portion of our total outstanding shares may be sold into the public market at any given time, which could cause the market price of our common stock to drop significantly, even if our business is doing well.***

If our existing stockholders sell, or if the market believes our existing stockholders will sell, substantial amounts of our common stock in the public market, the market price of our common stock could decline significantly. As of December 31, 2014, we had 47,614,150 shares of common stock outstanding. All of these shares can be resold at any time, subject in some cases to the volume limitations and other restrictions of Rule 144 promulgated under the Securities Act of 1933 (Securities Act) and upon the lapse of our right of repurchase with respect to any unvested shares. Certain of our officers and directors sell shares from time to time pursuant to 10b5-1 automated sales plans, and investors may react negatively to any insiders disposing of shares of our stock.

In addition, as of December 31, 2014, the holders of 11,704,171 shares of our common stock are entitled to certain rights with respect to the registration of such shares under the Securities Act. If we register such shares of common stock, these stockholders could sell those shares in the public market without being subject to the volume and other restrictions of Rule 144.

We also registered approximately 13.7 million shares of our common stock reserved for issuance under our equity plans. These shares can be freely sold in the public market upon issuance, subject to vesting restrictions described above.

***If securities or industry analysts do not publish or cease publishing research or reports about us, our business or our market, or if they change their recommendations regarding our stock adversely, our stock price and trading volume could decline.***

The trading market for our common stock will be influenced by the research and reports that industry or securities analysts may publish about us, our business, our market or our competitors. If any of the analysts who cover us change their recommendations regarding our stock adversely, or provide more favorable relative recommendations about our competitors, our stock price would likely decline. If any analyst who covers us were to cease coverage of our company or fail to regularly publish reports on us, we could lose visibility in the financial markets, which in turn could cause our stock price or trading volume to decline.

***Anti-takeover provisions contained in our certificate of incorporation and bylaws, as well as provisions of Delaware law, could impair a takeover attempt.***

Our amended and restated certificate of incorporation and our amended and restated bylaws contain provisions that could delay or prevent a change in control of our company. These provisions could also make it more difficult for stockholders to elect directors and take other corporate actions. These provisions include:

- staggered board of directors;
- authorizing the board to issue, without stockholder approval, preferred stock with rights senior to those of our common stock;
- authorizing the board to amend our bylaws and to fill board vacancies until the next annual meeting of the stockholders;
- prohibiting stockholder action by written consent;
- limiting the liability of, and providing indemnification to, our directors and officers;
- eliminating the ability of our stockholders to call special meetings; and
- requiring advance notification of stockholder nominations and proposals.

Section 203 of the Delaware General Corporation Law prohibits, subject to some exceptions, "business combinations" between a Delaware corporation and an "interested stockholder," which is generally defined as a stockholder who becomes a beneficial owner of 15% or more of a Delaware corporation's voting stock, for a three-year period following the date that the stockholder became an interested stockholder.

These and other provisions in our amended and restated certificate of incorporation and our amended and restated bylaws could discourage potential takeover attempts, reduce the price that investors might be willing to pay in the future for shares of our common stock, and result in the market price of our common stock being lower than it would be without these provisions.

#### **ITEM 1B. UNRESOLVED STAFF COMMENTS**

None.

#### **ITEM 2. PROPERTIES**

##### **Facilities**

Our facilities currently consist of an aggregate of approximately 146,000 square feet of office, research and development clean room space in San Jose, California, pursuant to a lease that expires in 2025. As of December 31, 2014, we were using approximately 64% of the capacity of our clean room space in San Jose. We have historically expanded and invested in our facilities to support the growth of our CDPs and we expect to be able to continue to do so on commercially reasonable terms as we engage in new CDPs in the future. We have no reason to believe that additional space that we may need in the future will not be available on commercially reasonable terms.

**ITEM 3. LEGAL PROCEEDINGS**

From time to time, we may become involved in legal proceedings and claims arising in the ordinary course of our business, including but not limited to legal proceedings and claims brought by employees or former employees relating to working conditions or other issues. We are not currently a party to any legal proceedings the outcome of which, if determined adversely to us, we believe would individually or in the aggregate have a material adverse effect on our business, operating results, financial condition or cash flows.

**ITEM 4. MINE SAFETY DISCLOSURES**

Not applicable.

## PART II

### ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER REPURCHASE OF EQUITY SECURITIES

#### Market Information for Common Stock

Our common stock has been listed on The NASDAQ Global Select Market, or NASDAQ, under the symbol "IMI" since our initial public offering on November 18, 2011. The following table sets forth on a per share basis, for the periods indicated, the low and high sale prices of our common stock as reported by NASDAQ.

	Low	High
<b>Fiscal Year Ended December 31, 2014</b>		
First Quarter	\$ 2.55	\$ 5.03
Second Quarter	\$ 2.10	\$ 3.45
Third Quarter	\$ 2.10	\$ 2.64
Fourth Quarter	\$ 1.82	\$ 2.42
	Low	High
<b>Fiscal Year Ended December 31, 2013</b>		
First Quarter	\$ 8.25	\$ 10.69
Second Quarter	\$ 7.00	\$ 10.20
Third Quarter	\$ 5.46	\$ 7.54
Fourth Quarter	\$ 4.86	\$ 6.41

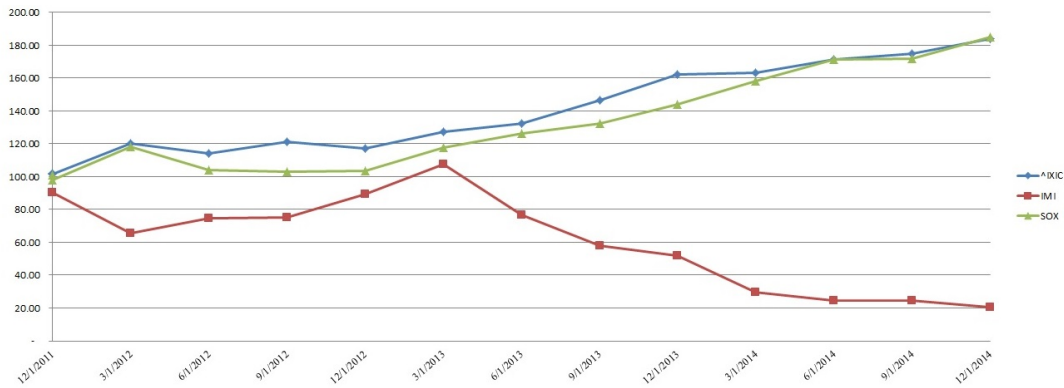
As of February 25, 2015, there were approximately 38 holders of record of our common stock. In addition, a substantially greater number of stockholders may be "street name" or beneficial holders, whose shares are held of record by banks, brokers and other financial institutions.

#### Dividend Policy

We have never declared or paid any cash dividends on our common stock. We currently intend to retain any future earnings for use in the operation and expansion of our business, and do not plan to declare or pay any dividends on shares of our common stock in the foreseeable future. Subject to the foregoing, the payment of cash dividends in the future, if any, will be at the discretion of our board of directors and will depend upon a number of factors, including our earnings, capital requirements, requirements under the Delaware General Corporation Law, restrictions and covenants pursuant to any credit facilities we may enter into, our overall financial condition and any other factors deemed relevant by our board of directors.

## Performance Graph

The following graph compares our total common stock return with the total return for (i) the NASDAQ Composite Index (^IXIC) and (ii) Philadelphia Stock Exchange Semiconductor Index (SOX) for the period from November 18, 2011 (the date our common stock commenced trading on the NASDAQ) through December 31, 2014. The figures represented below assume an investment of \$100 in our common stock at the closing price of \$9.50 on November 18, 2011 and in the NASDAQ Composite Index and Philadelphia Stock Exchange Semiconductor Index on November 18, 2011 and the reinvestment of dividends into shares of common stock. The comparisons in the table are required by the SEC and are not intended to forecast or be indicative of possible future performance of our common stock. This graph shall not be deemed "soliciting material" or to be "filed" for purposes of Section 18 of the Exchange Act or otherwise subject to the liabilities under that Section, and shall not be deemed to be incorporated by reference into any of our filings under the Securities Act or the Exchange Act.



## Recent Sales of Unregistered Securities

None.

## Recent Purchases of Equity Securities by the Issuer and Affiliated Purchasers

None.

## **ITEM 6. SELECTED FINANCIAL DATA**

The following selected consolidated financial data should be read together with our consolidated financial statement and accompanying notes and "Management's Discussion and Analysis of Financial Condition and Results of Operations" appearing elsewhere in this Form 10-K. The selected consolidated financial data in this section is not intended to replace our consolidated financial statements and the accompanying notes. Our historical results are not necessarily indicative of our future results.

We derived the consolidated statements of operations data for 2014, 2013 and 2012 and the consolidated balance sheets data as of December 31, 2014 and 2013 from our audited consolidated financial statements appearing elsewhere in this filing. The consolidated statements of operations data for 2011 and 2010 and the consolidated balance sheets data as of December 31, 2012, 2011 and 2010 have been derived from our audited consolidated financial statements not included in this filing. The data should be read in conjunction with the consolidated financial statements, related notes, and other financial information included herein.

Years Ended December 31,

	2014	2013	2012	2011	2010
(in thousands, except share and per share amounts)					
<b>Consolidated Statement of Operations Data:</b>					
Revenue:					
CDP and services revenue	\$ 30,540	\$ 45,744	\$ 47,468	\$ 36,733	\$ 27,705
Product revenue	84	6,726	3,495	2,717	6,959
Licensing and royalty revenue	17,071	14,936	15,864	14,380	8,010
Total revenue	47,695	67,406	66,827	53,830	42,674
Cost of revenue	24,651	32,485	28,403	25,469	20,926
Gross profit	23,044	34,921	38,424	28,361	21,748
Operating expenses:					
Research and development	24,320	24,502	21,839	19,260	13,917
Sales and marketing	5,770	6,475	5,433	4,285	4,074
General and administrative	12,636	11,973	10,868	8,534	5,761
Restructuring	1,361	—	—	—	—
Total operating expenses	44,087	42,950	38,140	32,079	23,752
(Loss) income from operations	(21,043)	(8,029)	284	(3,718)	(2,004)
Other income (expense):					
Interest (expense) income, net	(682)	(830)	(1,004)	(87)	43
Other (expense) income, net	(29)	57	15	(26,167)	202
Total other income (expense), net	(711)	(773)	(989)	(26,254)	245
Loss before provision for income taxes	(21,754)	(8,802)	(705)	(29,972)	(1,759)
Provision for income taxes	7	17	51	43	19
Net loss	(21,761)	(8,819)	(756)	(30,015)	(1,778)
Accretion on redeemable convertible preferred stock	—	—	—	(8,660)	(14,162)
Net loss attributable to common stockholders	\$ (21,761)	\$ (8,819)	\$ (756)	\$ (38,675)	\$ (15,940)
Net loss per share of common stock, basic and diluted	\$ (0.47)	\$ (0.20)	\$ (0.02)	\$ (3.99)	\$ (2.86)
Weighted-average number of shares used in computing net loss per share of common stock, basic and diluted	46,718,495	44,958,120	42,966,448	9,698,880	5,567,286
Other Data:					
Adjusted EBITDA (unaudited)	\$ (2,782)	\$ 6,907	\$ 12,895	\$ 6,367	\$ 4,589
Adjusted earnings (unaudited)	\$ (14,379)	\$ (3,336)	\$ 2,896	\$ (842)	\$ (358)

Years Ended December 31,

	2014	2013	2012	2011	2010
(in thousands)					
<b>Consolidated Balance Sheet Data:</b>					
Cash, cash equivalents and short-term investments	\$ 65,069	\$ 72,083	\$ 78,283	\$ 81,002	\$ 23,064
Working capital	62,077	67,396	52,207	74,665	4,825
Total assets	105,437	124,482	123,685	127,814	55,571
Long-term debt, including current portion	23,000	25,000	26,514	27,318	—
Preferred stock warrant liability	—	—	—	—	215
Redeemable convertible preferred stock	—	—	—	—	55,633
Accumulated accretion of redeemable convertible preferred stock to redemption values	—	—	—	—	34,426
Total stockholders' equity (deficit)	\$ 70,265	\$ 84,852	\$ 85,517	\$ 80,173	\$ (64,356)

**Non-GAAP Financial Measure**

We believe that the use of adjusted EBITDA and adjusted earnings, both non-GAAP financial measures, are helpful for an investor in determining whether to invest in our common stock. We include both adjusted EBITDA and adjusted earnings in this Annual Report on Form 10-K because (i) we seek to manage our business to consistent levels of adjusted EBITDA and adjusted earnings, (ii) these measures are a key basis upon which our management assesses our operating performance, (iii) they are primary metrics investors use in evaluating companies' performance in our industry and (iv) they are factors in the evaluation of the performance of our management in determining compensation. We define adjusted EBITDA as net income (loss) less interest, provision for income taxes, depreciation and amortization expense, non-cash impairment charges, non-cash revenue adjustments as a result of common stock warrants issued to customers, derivative mark-to-market adjustments, restructuring related charges and stock-based compensation expense. We define adjusted earnings as net income (loss) less non-cash revenue adjustments as a result of common stock warrants issued to customers, derivative mark-to-market adjustments, restructuring related charges and stock-based compensation expense.

We use adjusted EBITDA as a key performance measure because we believe it facilitates operating performance comparisons from period to period by excluding potential differences caused by variations in capital structures, tax positions (such as the impact of changes in effective tax rates or fluctuations in permanent differences or discrete quarterly items), the impact of depreciation and amortization expense, the impact of non-cash impairment charges, the non-cash impact of common stock warrants issued to customers, restructuring related charges and the impact of stock-based compensation expense.

We believe adjusted EBITDA and similar measures are widely used by investors, securities analysts, ratings agencies and other interested parties in our industry as a measure of financial performance and debt-service capabilities. Our use of adjusted EBITDA has limitations as an analytical tool, and you should not consider it in isolation or as a substitute for analysis of our results as reported under GAAP. Some of these limitations are:

- Adjusted EBITDA does not reflect our cash expenditures for capital equipment, restructuring related charges or other contractual commitments;
- Although depreciation and amortization are non-cash charges, the assets being depreciated and amortized may have to be replaced in the future, and adjusted EBITDA does not reflect cash capital expenditure requirements for such replacements;
- Adjusted EBITDA does not reflect changes in, or cash requirements for, our working capital needs;
- Adjusted EBITDA does not reflect the significant interest expense or the cash requirements necessary to service interest or principal payments on our indebtedness;
- Adjusted EBITDA does not reflect certain tax payments that may represent a reduction in cash available to us; and
- Other companies, including companies in our industry, may calculate adjusted EBITDA measures differently, which reduces their usefulness as a comparative measure.

We also believe adjusted earnings and similar measures are also widely used by investors, securities analysts, ratings agencies and other interested parties in our industry as a measure of financial performance and debt-service capabilities. Our use of adjusted earnings has limitations as an analytical tool, and you should not consider it in isolation or as a substitute for analysis of our results as reported under GAAP. Some of these limitations are:

- Adjusted earnings do not reflect our cash expenditures for capital equipment, restructuring related charges or other contractual commitments;
- Adjusted earnings do not reflect changes in, or cash requirements for, our working capital needs; and
- Other companies, including companies in our industry, may calculate adjusted earnings measures differently, which reduces their usefulness as a comparative measure.

Because of these limitations, adjusted EBITDA and adjusted earnings should not be considered as a measure of discretionary cash available to us to invest in the growth of our business. When evaluating our performance, you should consider adjusted EBITDA and our adjusted earnings alongside other financial performance measures, including our net loss and other GAAP results.

The following tables present a reconciliation of adjusted EBITDA and our adjusted earnings to our net loss, the most comparable GAAP measure, for each of the periods indicated:

Adjusted EBITDA:	Years Ended December 31,				
	2014	2013	2012	2011	2010
	(in thousands)				
Net loss	\$ (21,761)	\$ (8,819)	\$ (756)	\$ (30,015)	\$ (1,778)
Non-GAAP adjustments:					
Revenue(1)	—	—	—	312	—
Interest, net	682	830	1,004	641	13
Provision for taxes	7	17	51	43	19
Depreciation, amortization and impairments	10,908	9,396	8,944	7,079	4,971
Mark-to-market derivative liability	—	—	—	25,865	—
Restructuring charges	1,361	—	—	—	—
Stock-based compensation expense(2)	6,021	5,483	3,652	2,442	1,364
Adjusted EBITDA	<u>\$ (2,782)</u>	<u>\$ 6,907</u>	<u>\$ 12,895</u>	<u>\$ 6,367</u>	<u>\$ 4,589</u>

Adjusted Earnings:	Years Ended December 31,				
	2014	2013	2012	2011	2010
	(in thousands)				
Net loss	\$ (21,761)	\$ (8,819)	\$ (756)	\$ (30,015)	\$ (1,778)
Non-GAAP adjustments:					
Revenue(1)	—	—	—	312	—
Interest expense (preferred stock warrant mark-to-market)	—	—	—	554	56
Mark-to-market derivative liability	—	—	—	25,865	—
Restructuring charges	1,361	—	—	—	—
Stock-based compensation expense(2)	6,021	5,483	3,652	2,442	1,364
Adjusted earnings	<u>\$ (14,379)</u>	<u>\$ (3,336)</u>	<u>\$ 2,896</u>	<u>\$ (842)</u>	<u>\$ (358)</u>

(1) Reduction in revenue as a result of common stock warrants issued in connection with a customer agreement

(2) Includes stock-based compensation as follows:

Years Ended December 31,

	2014	2013	2012	2011	2010
	(in thousands)				
Cost of revenues	\$ 1,315	\$ 1,453	\$ 1,011	\$ 622	\$ 285
Research and development	1,234	1,301	872	462	204
Sales and marketing	1,470	1,175	774	770	422
General and administrative	2,002	1,554	995	588	453
Total stock-based compensation	\$ 6,021	\$ 5,483	\$ 3,652	\$ 2,442	\$ 1,364

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

Our Management's Discussion and Analysis of Financial Condition and Results of Operations (MD&A) is provided in addition to the accompanying consolidated financial statements and notes to assist readers in understanding our results of operations, financial condition, and cash flows. Our MD&A is organized as follows:

- *Overview.* Discussion of our business and overall analysis of financial and other highlights affecting the Company in order to provide context for the remainder of MD&A.
- *Strategy.* Our overall strategy.
- *Basis of Presentation.* A summary of the primary elements of our financial results.
- *Critical Accounting Estimates.* Accounting estimates that we believe are most important to understanding the assumptions and judgments incorporated in our reported financial results and forecasts.
- *Results of Operations.* An analysis of our financial results comparing the year ended December 31, 2014 to the year ended December 31, 2013.
- *Liquidity and Capital Resources.* An analysis of changes in our balance sheets and cash flows, and discussion of our financial condition and potential sources of liquidity.

*The following discussion and analysis should be read in conjunction with our audited consolidated financial statements and the related notes that appear elsewhere in this Annual Report on Form 10-K. This Annual Report on Form 10-K contains "forward-looking statements" within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. These statements are often identified by the use of words such as "may," "will," "expect," "believe," "anticipate," "intend," "could," "should," "estimate," or "continue," and similar expressions or variations. Such forward-looking statements are subject to risks, uncertainties and other factors that could cause actual results and the timing of certain events to differ materially from future results expressed or implied by such forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those discussed in the section titled "Risk Factors," set forth in Part I, Item 1A of this Annual Report on Form 10-K and elsewhere in this report. The forward-looking statements in this Annual Report on Form 10-K represent our views as of the date of this Annual Report on Form 10-K. We anticipate that subsequent events and developments will cause our views to change. However, while we may elect to update these forward-looking statements at some point in the future, we have no current intention of doing so except to the extent required by applicable law. You should, therefore, not rely on these forward-looking statements as representing our views as of any date subsequent to the date of this Annual Report on Form 10-K.*

### Overview

We provide thin film solutions to advanced technological problems facing multiple industries, including, for example, the semiconductor and clean energy industries. These industries manufacture products by depositing thin films of advanced materials using customized processes to create structures that must meet increasingly rigorous optical, mechanical or electrical specifications. Developing advanced thin film structures capable of addressing the specifications of particular applications increasingly requires the evaluation of a wider range of materials, as well as the development of a broader range of processes. Due to our flexibility, speed and materials focus, we are able to assist our customers by more quickly evaluating candidate materials and combining them into thin film solutions that meet their specific needs.

We were founded in 2004 and are headquartered in San Jose, California. Our total revenue decreased to \$47.7 million for the year ended December 31, 2014 from \$67.4 million for the year ended December 31, 2013. Our net loss increased to \$21.8 million for the year ended December 31, 2014 from a net loss of \$8.8 million for the year ended December 31, 2013. Our backlog as of December 31, 2014 was \$39.5 million, of which \$25.5 million is scheduled to be recognized as revenue during 2015, and \$14.0 million is scheduled to be recognized as revenue in future periods beyond 2015. As of December 31, 2013, we had backlog of approximately \$56.4 million. Since inception, we have incurred net losses leading to an accumulated deficit of \$131.9 million as of December 31, 2014.

### Strategy

Our mission is to drive our customers' success by transforming R&D and accelerating innovation in markets that derive competitive advantage from the interaction of materials science, processes, integration and device architecture. We currently target high-volume semiconductor and high-growth emerging clean energy markets, including DRAM, stand-alone non-volatile memory, embedded memory, complex logic, flat glass coatings and glass-based devices, LEDs, displays and other applications and markets that rely on thin films for differentiation. Within these broad markets, we target customers that have track records of technological innovation, deploy significant resources and are pursuing technical advancements that are critical to their success and strategy, including ATMI, Inc. (ATMI; a wholly owned subsidiary of Entegris, Inc.), Elpida

Memory, Inc. (Elpida; a wholly owned subsidiary of Micron Technology, Inc.), First Solar, Inc. (First Solar), Guardian Industries, Corp. (Guardian), Micron Technology, Inc. (Micron), SanDisk Corporation (SanDisk), Toshiba Corporation (Toshiba) and Ulyanovsk Center for Technology Transfer of the Russian Federation (UCTT). ATMI and Elpida have commenced shipping products incorporating technology developed through our CDPs and pay us licensing and royalty fees. To date, we have received the majority of our revenue from customers in DRAM, stand-alone non-volatile memory, complex logic, solar cells, and energy-efficiency applications in flat glass coatings and glass-based devices, and we have not yet received a material amount of revenue from customers in embedded memory, LEDs, displays and other energy-efficiency technologies.

## Basis of Presentation

### How We Generate Revenue

Our customer engagement process generates revenue in three ways: CDP and services revenue; product revenue; and licensing and royalty revenue. CDPs are our primary engagement model with customers and are structured to result in licensing and/or royalty revenue. When we initially engage with a customer, we generate revenue from micro-CDPs, CDPs and licensing of our high productivity combinatorial (HPC) platform. Our micro-CDPs are smaller, customer-paid programs that require significantly less investment from our customers but allow us to demonstrate the capabilities of our HPC platform to a customer without requiring them to commit to a multi-year agreement. We use these micro-CDPs to demonstrate the capabilities and value of our HPC platform to these new customers, with the objective of engaging with these customers in a full CDP. When technology developed through CDPs is incorporated in our customers' commercialized products, we generate licensing and/or royalty revenue. In certain cases, we sell HPC processing tools to our customers, who pay us a recurring license fee for the right to operate those tools using our combinatorial processing methodology.

	Years Ended December 31,		
	2014	2013	2012
	(in thousands)		
Revenue:			
CDP and services revenue	\$ 30,540	\$ 45,744	\$ 47,468
Product revenue	84	6,726	3,495
Licensing and royalty revenue	17,071	14,936	15,864
Total revenue	<u>\$ 47,695</u>	<u>\$ 67,406</u>	<u>\$ 66,827</u>

- CDP and services revenue.* CDP revenue may include payments for full time equivalent employees, milestone payments, subscription payments for dedicated and shared workflow tools used in the CDP and reimbursed payments for consumables and outside services from third parties. Individual CDPs typically range from one to three years. Services revenue outside of CDPs is substantially comprised of support and maintenance fees and extended warranty agreements. CDP and services revenue is recognized in a manner consistent with activities performed. As we engage new customers and negotiate extensions for existing customer agreements that are nearing completion, we expect CDP and services revenue to continue to fluctuate.
- Product revenue.* Product revenue consists of sales of our workflow hardware and embedded software. In support of our business strategy, we selectively sell our proprietary tools to increase opportunities for CDPs and licensing fees and royalties. As our other revenue streams increase we expect our product revenue to decrease as a percentage of our overall revenue. Product revenue is recognized upon shipment (when title and risk of loss have passed to the customer), and customer acceptance, if required, is achieved.
- Licensing and royalty revenue.* Licensing and royalty revenue consists of licensing fees and royalties for granting our customers rights to our proprietary technology and IP. Specifically, this includes licensing the HPC capabilities of our workflows, licensing our informatics and analysis software, and licensing fees and royalties on products commercialized by our customers that incorporate technology developed through our CDPs. In certain instances, minimum license fees and royalties may be guaranteed by customer contracts and are recognized as revenue ratably over the related periods. During 2012, in connection with a CDP, we recognized revenue on the sale of intellectual property that was developed during the term of the CDP. Included in licensing and royalty revenue, during the year ended December 31, 2014, is an accelerated payment in the amount of \$4.2 million from a customer in connection with the suspension of CDP activities with them. We anticipate our licensing and royalty

revenue to continue to fluctuate based on the timing and amount of minimum license fees guaranteed by certain customer contracts and the timing of customer reported volume-based royalties.

Prior to entering into a new CDP, we negotiate licensing fees and royalty rates for technology to be developed in CDPs. The fees and rates are negotiated with each customer on the basis of multiple factors including the size of the servable market of the technology to be developed, the value contribution of the technology to the customer's product, and the anticipated overall margin structure of the customer's product. Licensing fees and royalty rates are set for each CDP-developed technology. While royalty rates vary, when working with device manufacturers, we typically target 1-2% of their projected end-product revenue for each CDP-developed technology. When working with suppliers to device manufacturers, we typically target higher royalty rates depending on the anticipated value contribution of the technology to their product. Licensing fees and royalty rates are structured in a variety of ways including fixed quarterly fees, percentage of revenue and fee per product.

Our proprietary platform was initially created to address critical development challenges in the semiconductor industry and we began generating revenue in 2006. The applicability of our platform to address similar challenges in adjacent vertical markets such as clean energy markets has created, and we believe will continue to create, new market opportunities for us. We began generating revenue from customers in the clean energy industry during the year ended December 31, 2010, and continued to generate revenue from customers in the clean energy industry through 2014. We believe collaborating with companies in the clean energy industry will accelerate the long-term growth of our business. The following table sets forth our revenue by customer end market:

	Years Ended December 31,		
	2014	2013	2012
	(in thousands)		
Semiconductor	\$ 31,719	\$ 46,905	\$ 55,181
Clean energy	15,976	20,501	11,646
Total	<u>\$ 47,695</u>	<u>\$ 67,406</u>	<u>\$ 66,827</u>

### Key Financial Metrics

We monitor the key financial metrics set forth below to help us evaluate growth trends, establish budgets, measure the effectiveness of our sales and marketing efforts, manage our human resources and assess operational efficiencies.

**Revenue growth and mix.** We monitor revenue from CDPs for existing and new customers, applications and the resulting licensing fees and royalties. To increase our ability to serve and accelerate innovation more broadly across certain market segments, we expect to engage in an increasing number of pre-competitive programs that allow us to accumulate, reuse and more broadly license information and innovation that we discover and develop. Such engagements include but are not limited to "micro-CDPs," which are shorter and narrower in scope than full CDPs and intended to give new customers an opportunity to become more familiar with our approach before making a long-term commitment.

**Backlog.** We monitor our backlog as it represents the aggregate value of contracted business not yet recognized. Our backlog consists of future revenue that our customers are contractually committed to pay in our CDPs and guaranteed licensing and royalty revenue for our developed technology and intellectual property. Our backlog as of December 31, 2014 was \$39.5 million, of which \$25.5 million is scheduled to be recognized as revenue during 2015, and \$14.0 million is scheduled to be recognized as revenue in future periods beyond 2015.

**Adjusted EBITDA.** We monitor our adjusted EBITDA to measure the profitability of our business. We use adjusted EBITDA as a key performance measure because we believe it facilitates operating performance comparisons from period to period by excluding potential differences caused by variations in capital structures, tax positions (such as the impact of changes in effective tax rates or fluctuations in permanent differences or discrete quarterly items), interest expense or the cash requirements necessary to service interest or principal payments on our indebtedness, the impact of depreciation and amortization expense, the non-cash impact of the mark-to-market of our derivative liability as a result of the Symyx asset purchase transaction and common stock warrants issued to customers, restructuring related charges, and the impact of stock-based compensation expense. See "Selected Consolidated Financial Data—Non-GAAP Financial Measure" for a reconciliation of adjusted EBITDA to our net loss, the most comparable GAAP measure.

**Adjusted earnings.** We monitor our adjusted earnings to measure the profitability of our business. We use adjusted earnings as a performance measure because we believe it facilitates operating performance comparisons from period to period by excluding potential differences caused by variations in capital structures, the non-cash impact of the mark-to-market of our derivative liability as a result of the Symyx asset purchase transaction and common stock warrants issued to customers, restructuring related charges, and the impact of stock-based compensation expense. See "Selected Consolidated Financial Data

—Non-GAAP Financial Measure" for a reconciliation of our adjusted earnings to our net loss, the most comparable GAAP measure.

## Factors Affecting our Performance

**Reliance on our customers' success.** Our success is tied to our customers' ability to successfully commercialize the products that incorporate technology developed through CDPs. We believe that we significantly improve our customers' ability to succeed in their end markets, but if they are unable to do so, the longer-term licensing and royalty revenue that we expect may be delayed or may not materialize. We attempt to manage this risk by carefully selecting projects and only participating in opportunities that we deem to have significant potential for long-term success.

**Exposure to semiconductor memory and clean energy end markets.** Our performance is linked to the end markets in which our customers operate. Certain of these markets, such as the semiconductor memory markets and the clean energy market, have historically shown significant price volatility as a result of imbalances in supply and demand. As such, these markets have been traditionally challenging for participants. We attempt to manage this end market risk by participating in multiple end markets and by selecting customers that we believe will be successful in those markets.

**Revenue mix and royalty rates.** Our revenue from CDPs and product sales vary from contract to contract depending on the customer's requirements and the scope of the collaboration. The gross profit from CDPs and product sales may vary based on the size and scope of the contract. Our royalty rates vary from contract to contract depending on multiple factors, including the industry, the scope of our collaboration, and the degree to which our IP is central to the development of a given product. Individual royalty opportunities vary depending on the end market size and the duration of the specific end product life cycle. The gross profit from licensing and royalty revenue may vary based on the size and scope of the contract. We target an average gross margin contribution that is consistent across the industries and end markets we serve.

**Long sales cycles.** Our sales cycles are long, and we commit significant resources to and incur significant expenses for a project before a potential customer commits to use our HPC platform or commits to a CDP. To be successful, we must establish contact with potential customers, often with senior management or executive officers, and educate them about the benefits of our HPC platform. Our sales cycles to date have typically ranged from 9 to 24 months and may be even longer in the future. Investment of time and resources in a particular customer engagement that does not ultimately result in material revenue will adversely affect our revenue and results of operations.

**Customer concentration.** Due to the concentrated nature of manufacturers in the DRAM, flash memory and complex logic markets, our revenue is and may continue to be concentrated to key high-volume customers. For example, our three largest customers in the year ended December 31, 2014, one of which completed their CDP with us during 2014, accounted for 62% of our revenue. However, we believe there is an opportunity to expand our engagements with our customers into new applications over time. In addition, because our platform is broadly applicable to industries whose products rely on thin films for differentiation, including semiconductors, flat glass coatings and glass-based devices, solar cells, LEDs, flat-panel displays and other energy-efficient technologies, we believe we have significant opportunities to engage with a broad range of customers.

**Related Party Transactions.** Some of our customers and other business partners hold a significant stake in our capital stock. Related party transactions disclosed in our financial statements accounted for \$5.6 million and \$12.8 million, or 11.7% and 19.0%, respectively, of our revenue for the years ended December 31, 2014 and 2013. ATMI, which beneficially owns approximately 5.4% of our capital stock as of December 31, 2014, accounted for \$3.7 million and \$8.4 million, or 7.8% and 13.0%, respectively, of our revenue for the years ended December 31, 2014 and 2013. We believe that the transactions and agreements that we have entered into with related parties are on terms that are at least as favorable as could reasonably have been obtained at such time from third parties. However, these relationships could create, or appear to create, potential conflicts of interest when our board of directors is faced with decisions that could have different implications for us and our related parties or their affiliates. In addition, conflicts of interest may arise between us and our related parties and their affiliates. The appearance of conflicts, even if such conflicts do not materialize, might adversely affect the public's perception of us, as well as our relationship with other companies and our ability to enter into new relationships in the future, including new CDPs with competitors of such related parties, which could have a material adverse effect on our ability to do business.

## Cost of Revenue and Operating Expenses

### Cost of Revenue

The following table sets forth our cost of revenue by revenue category:

	Years Ended December 31,		
	2014	2013	2012
	(in thousands)		
Cost of revenues:			
Cost of CDP and services revenue	\$ 24,342	\$ 29,063	\$ 26,492
Cost of product revenue	16	3,175	1,635
Cost of licensing and royalty revenue	293	247	276
Total cost of revenues	<u>\$ 24,651</u>	<u>\$ 32,485</u>	<u>\$ 28,403</u>

Our cost of revenue is variable and depends on the product mix and type of revenue earned in each period relating to our customer programs.

- *Cost of CDP and services revenue.* Our cost of CDP and services revenue is primarily comprised of salaries and other personnel-related expenses (including stock-based compensation) for our collaborative research and development scientists, engineers and development fab process operations employees. Additionally, our cost of revenue includes costs of wafers, targets, materials, program-related supplies, third-party professional fees and depreciation of equipment used in CDPs. Inventory obsolescence and customer related asset impairments are included in cost of CDP and services revenue.
- *Cost of product revenue.* Our cost of product revenue primarily includes our cost of products sold and will fluctuate based on the type of product and configuration sold. Cost of product revenue is recognized upon product shipment (when title and risk of loss transfer) and customer acceptance, if required. The variability in cost of product revenue as a percentage of revenue is related to the quantity and configuration of products sold during the period.
- *Cost of licensing and royalty revenue.* Our cost of licensing and royalty revenue has been, and we expect will continue to be, primarily comprised of the amortization of acquired patents, which were acquired as part of our completion of the Symyx asset purchase transaction in November 2011, and licensing obligations.

### Research and Development

Our R&D expenses consist of costs incurred for development and continuous improvement of our HPC platform, expansion of software capabilities and application research and development that are not associated with customer programs. R&D costs include personnel-related expenses (including stock-based compensation expenses) for our technical staff as well as consultant costs, parts and prototypes, wafers, chemicals, supply costs, facilities costs, utilities costs related to laboratories and offices occupied by technical staff, depreciation on equipment used by technical staff, and outside services, such as machining and third-party R&D costs. R&D overhead costs that are not allocated to a customer program are recognized as expenses within R&D. We expect our R&D expense to increase modestly in absolute dollars in the near-term periods as resources are reallocated from customer CDPs to R&D and as we continue to develop and improve our HPC platform and extend the applicability of our platform to a broader set of applications within the industries we serve.

### Sales and Marketing

Our sales and marketing expenses consist primarily of personnel-related costs (including stock-based compensation) for our sales and marketing employees, as well as payments of commissions to our sales employees, facility costs and professional expenses. Professional expenses consist of external website and marketing communication consulting costs and market research. We expect sales and marketing expense to remain relatively flat in absolute dollars in the near-term periods.

### General and Administrative

General and administrative expenses consist primarily of personnel-related costs (including stock-based compensation) as well as professional services and facilities costs related to our executive, finance, legal, human resources, management information systems and information technology functions. Professional services consist of outside accounting,

information technology, consulting and legal costs. We also incur significant accounting and legal costs related to compliance with rules and regulations enacted by the Securities and Exchange Commission, including the additional costs of achieving and maintaining compliance with Section 404 of the Sarbanes-Oxley Act, as well as additional insurance, investor relations and other costs associated with being a public company. We expect that general and administrative expense will increase modestly in absolute dollars in the near-term periods. In October 2014, we entered into separation agreements with our former Chief Executive Officer and General Counsel and recognized increased compensation expense in connection with those agreements during the three months ending December 31, 2014.

#### ***Restructuring Expense***

After experiencing a reduced level of CDP activity, we initiated reductions in force in February 2014 and May 2014 with respect to approximately 18% and 10% of our workforce at such times, respectively. These reductions in force were part of an overall plan to reduce our costs structure and were completed during the year ended December 31, 2014. Restructuring expenses consisted of personnel related costs.

#### ***Interest Expense, net***

Interest expense historically consisted of interest accrued on our note payable to Symyx in connection with the Symyx asset purchase transaction that closed in November 2011, which was paid in full in May 2013 with a credit facility from Silicon Valley Bank. Interest expense after May 2013 consists primarily of interest accrued on our credit facility, which was converted in November 2013 to a three year note payable with Silicon Valley Bank. Interest income represents interest earned on our cash, cash equivalents and short-term investments. We expect interest income will vary each reporting period depending on our average investment balances during the period and market interest rates.

#### ***Other (Expense) Income, net***

Other income consists of municipal economic development grant proceeds and foreign exchange gains and losses that have not been significant.

#### ***Provision for Income Taxes***

We are subject to taxes in the United States as well as other tax jurisdictions or countries in which we conduct business. Earnings from our non-U.S. activities are subject to local country income tax and may be subject to current U.S. income tax. To date, we have incurred net losses and have not recorded any U.S. federal income tax benefits as these losses have been offset by valuation allowances. As of December 31, 2014, we had net operating loss carryforwards for federal and state income tax purposes of approximately \$69.7 million and \$64.0 million, respectively. Of these amounts, \$13.9 million and \$13.1 million, respectively, represent federal and state tax deductions from stock-based compensation which will be recorded as an adjustment to additional paid-in capital when they reduce taxes payable. In addition, we had \$7.8 million in U.S. federal R&D credit and \$8.5 million in California R&D credit carryforwards to offset future income tax liabilities. Our ability to use our net operating loss carryforwards to offset future taxable income and our ability to use our tax credit carryforwards to offset future income tax liabilities may be subject to certain limitations arising from "ownership changes" within the meaning of Section 382 of the Internal Revenue Code.

#### ***Critical Accounting Policies and Estimates***

Our consolidated financial statements have been prepared in conformity with generally accepted accounting principles in the United States and include our accounts and the accounts of our wholly-owned subsidiaries. The preparation of our consolidated financial statements requires our management to make estimates, assumptions and judgments that affect the reported amounts of assets and liabilities and disclosures for contingent assets and liabilities as of the date of the financial statements, and the reported amounts of revenue and expenses during the applicable periods. Management bases its estimates, assumptions and judgments on historical experience and on various other factors that are believed to be reasonable under the circumstances. Different assumptions and judgments would change the estimates used in the preparation of our consolidated financial statements which, in turn, could change the results from those reported. Our management evaluates its estimates, assumptions and judgments on an ongoing basis.

The critical accounting policies requiring estimates, assumptions and judgments that we believe have the most significant impact on our consolidated financial statements are described below.

#### ***Revenue Recognition***

We generate revenue from three principal sources: CDPs and other services, which also includes other R&D services and product maintenance and support; product sales; and technology licensing and/or sales and royalty fees. It is possible for our customers to work with us across multiple areas of our business, and certain of our customer arrangements involve the

delivery or performance of multiple products, services or licenses. For example, product sale arrangements include product maintenance and support, and CDPs and other R&D services include licensing of technology and may also include sales of products or developed technology.

For multiple-element transactions entered into on or after January 1, 2011, we recognize revenue using estimated selling prices of the delivered goods and services. We have not established VSOE for the determination of estimated selling price of elements, and since third-party evidence is not available for those elements where vendor-specific objective evidence of selling price cannot be determined, we evaluate factors to determine estimated selling prices (ESP) for all other elements. In multiple-element arrangements where hardware and software are sold as part of the solution, revenue is allocated to recognize hardware and software using the relative selling prices of each of the deliverables in the arrangement.

*CDP and services revenue* - We enter into CDPs with customers under which we conduct R&D activities jointly with the customer. These agreements specify minimum levels of research effort required to be performed by us. Payments received under the agreements are not refundable if the research effort is not successful. Historically, we have not provided any refunds under these arrangements.

We retain rights to certain elements of technology developed during the course of performance, which the customer has an option to license in the future under the terms defined in the agreement. We typically recognize revenue from these arrangements on a time and materials basis. Most arrangements with customers have fixed monthly fees and requirements to provide regular reporting of R&D activities performed. Payments received prior to performance are deferred and recognized as revenue when earned over future performance periods.

Product maintenance and support services revenue is included in CDP and services revenue. These services entitle customers to receive product updates and enhancements or technical support and maintenance, depending on the offering. The related revenue is recognized ratably over the period the services are delivered. We do not have vendor-specific objective evidence of selling price for our product maintenance and support services.

*Product revenue* - We recognize revenue from the sale of products generally once delivery has occurred (title and risk of loss have passed to the customer), and customer acceptance, if required, has been achieved.

*Licensing and royalty revenue* - We recognize revenue for licenses to IP when earned pursuant to the terms of the agreements. Time-based license revenue is recognized ratably over the license term. Sales of intellectual property or developed technology are recognized upon the transfer of ownership. License and royalty revenue that becomes triggered by specific customer actions, such as exercise of a license option or by sales volume, is recognized when they occur based on royalty reports or other information received from the licensee, generally one quarter in arrears. Minimum and prepaid royalties and license fees are recognized ratably over the related periods. Our product sales include software that is considered essential to the product's functionality. We also sell software with advanced features that can be used independent of products sold or in conjunction with products sold, which is considered non-essential to the product's functionality. Software related revenue is included in licensing and royalty revenue and is recognized ratably over the license period once delivered.

### **Stock-Based Compensation**

We recognize compensation costs related to stock options and shares of restricted stock granted to employees based on the estimated fair value of the awards on the date of grant, net of estimated forfeitures. We estimate the grant date fair value for stock options, and the resulting stock-based compensation expense, using the Black-Scholes option-pricing model. The grant date fair value of the stock-based awards is generally recognized on a straight-line basis over the requisite service period, which is generally the vesting period of the respective awards.

The fair value of the awards granted are calculated using the Black-Scholes option valuation model, which requires the use of highly subjective and complex assumptions which determine the fair value of share-based awards, including the expected term and the price volatility of the underlying stock. These assumptions include:

*Expected Term* - The expected term represents the period that the stock-based awards are expected to be outstanding. For option grants that are considered to be "plain vanilla," we used the simplified method to determine the expected term as provided by the SEC. The simplified method calculates the expected term as the average of the time-to-vesting and the contractual life of the options.

*Expected Volatility* - The expected volatility is derived primarily from historical volatilities of several unrelated, publicly listed peer companies over a period approximately equal to the expected term of the award and to a lesser extent, our weighted historical volatility following our IPO in November 2011. When making the selections of our industry peer companies to be used in the volatility calculation, we considered the size, operational and economic similarities to our principal business operations.

*Expected Dividend Rate* - The expected dividend rate was assumed to be zero as we have never paid dividends and have no current plans to do so.

*Risk-Free Interest Rate* - The risk-free interest rate is based on the U.S. Treasury yield in effect at the time of grant for zero coupon U.S. Treasury notes with maturities approximately equal to the expected term of the awards.

In addition to the assumptions used in the Black-Scholes option-pricing model, we must also estimate a forfeiture rate to calculate the stock-based compensation for our awards. Our forfeiture rate is based on an analysis of our actual forfeitures. We will continue to evaluate the appropriateness of the forfeiture rate based on actual forfeiture experience, analysis of employee turnover and other factors. Quarterly changes in the estimated forfeiture rate can have a significant impact on our stock-based compensation expense as the cumulative effect of adjusting the rate is recognized in the period the forfeiture estimate is changed. If a revised forfeiture rate is higher than the previously estimated forfeiture rate, an adjustment is made that will result in a decrease to the stock-based compensation expense recognized in the financial statements. If a revised forfeiture rate is lower than the previously estimated forfeiture rate, an adjustment is made that will result in an increase to the stock-based compensation expense recognized in the financial statements.

We will continue to use judgment in evaluating the expected volatility, expected terms and forfeiture rates utilized for our stock-based compensation calculations on a prospective basis. As we continue to accumulate additional data related to our common stock and stock option exercises, we may have refinements to the estimates of our expected volatility, expected terms and forfeiture rates, which could materially impact our future stock-based compensation expense.

In valuing our common stock equity grants prior to our initial public offering in November 2011, we determined a business enterprise value of our company by taking a weighted combination of the enterprise values calculated under two valuation approaches, an income approach and a market approach. The income approach estimates the present value of future estimated cash flows, based upon forecasted revenue and costs. These future cash flows are discounted to their present values using a discount rate which is derived from an analysis of the cost of capital of comparable publicly traded companies in the same industry or similar lines of business as of each valuation date and is adjusted to reflect the risks inherent in the projected cash flows. The market approach estimates the fair value of a company by applying market multiples of comparable publicly traded companies in the same industry or similar lines of business which are based on key metrics implied by the enterprise values or acquisition values of the comparable publicly traded companies. The results of the income approach and the market approach were then weighted evenly to determine the fair value of our business. This fair value was then allocated to each of our classes of stock according to assumptions made by our board of directors regarding the likelihood of various liquidity events and an analysis of the rights and preferences of our various securities.

As of December 31, 2014 we had \$10.4 million of unrecognized stock-based compensation expense, net of estimated forfeitures, that is expected to be recognized over a weighted average period of 2.6 years. In future periods, our stock-based compensation expense is expected to increase as a result of our existing unrecognized stock-based compensation to be recognized as these awards vest and as we issue additional stock-based awards to attract and retain employees.

The intrinsic value of all outstanding awards as of December 31, 2014 was \$4.0 million based on the \$1.93 per share closing sale price for our common stock on December 31, 2014.

## Results of Operations

### Comparison of the Years Ended December 31, 2014 and 2013

	Years Ended December 31,		\$ Change	% Change
	2014	2013		
	(in thousands)			
<b>Revenue:</b>				
CDP and services revenue	\$ 30,540	\$ 45,744	\$ (15,204)	(33)%
Product revenue	84	6,726	(6,642)	(99)%
Licensing and royalty revenue	17,071	14,936	2,135	14 %
Total revenue	47,695	67,406	(19,711)	(29)%
Cost of revenue	24,651	32,485	(7,834)	(24)%
Gross profit	23,044	34,921	(11,877)	(34)%
<b>Operating expenses:</b>				
Research and development	24,320	24,502	(182)	(1)%
Sales and marketing	5,770	6,475	(705)	(11)%
General and administrative	12,636	11,973	663	6 %
Restructuring	1,361	—	1,361	100 %
Total operating expenses	44,087	42,950	1,137	3 %
Loss from operations	(21,043)	(8,029)	(13,014)	
<b>Other income (expense):</b>				
Interest expense, net	(682)	(830)	148	
Other (expense) income, net	(29)	57	(86)	
Total other income (expense), net	(711)	(773)	62	
Loss before provision for income taxes	(21,754)	(8,802)	(12,952)	
Provision for income taxes	7	17	(10)	
Net loss	\$ (21,761)	\$ (8,819)	\$ (12,942)	

#### Revenue

Our revenue decreased by \$19.7 million, or 29%, to \$47.7 million during the year ended December 31, 2014 from \$67.4 million during the year ended December 31, 2013 due to decreases in CDP and services and product revenue that was partially offset by an increase in licensing and royalty revenue.

CDP and services revenue decreased by \$15.2 million, or 33%, to \$30.5 million during the year ended December 31, 2014 from \$45.7 million during the year ended December 31, 2013. This decrease was primarily attributable to a \$21.4 million decrease in revenue from the scheduled completion and reduction of CDP and service agreements. This is partially offset by \$5.3 million in revenue derived from the extension and expansion of existing customer engagements, combined with \$0.9 million in revenue derived from new customer engagements.

Product revenue decreased by \$6.6 million, or 99%, to \$0.1 million during the year ended December 31, 2014 from \$6.7 million during the year ended December 31, 2013. This decrease was attributable to the configuration and number of workflow sales that were completed during the year ended December 31, 2013 compared to one workflow upgrade sold during the year ended December 31, 2014.

Licensing and royalty revenue increased by \$2.1 million, or 14%, to \$17.1 million during the year ended December 31, 2014 from \$14.9 million during the year ended December 31, 2013. This increase was primarily attributable to a \$3.1 million increase in minimum license and royalty fees from new and existing customer contracts, which was partially offset by a reduction in scheduled minimum license fees guaranteed by customer contracts of \$1.0 million. Included in licensing and royalty revenue, during the year ended December 31, 2014, is an accelerated payment in the amount of \$4.2 million from a customer in connection with the suspension of CDP activities with them.

The following table presents revenue by geographic region (based on invoiced locations) during the years ended December 31, 2014 and 2013 in dollars (in thousands) and as a percentage of revenue for the periods presented:

	Years Ended December 31,			
	2014		2013	
	Revenues	% of Revenues	Revenues	% of Revenues
United States	\$ 42,350	88%	\$ 47,752	71%
Japan	2,726	6%	12,691	19%
APAC other	1,781	4%	2,958	4%
Europe and Middle East	838	2%	4,005	6%
<b>Total</b>	<b>\$ 47,695</b>	<b>100%</b>	<b>\$ 67,406</b>	<b>100%</b>

#### *Cost of Revenue*

Cost of revenue decreased by \$7.8 million, or 24%, to \$24.7 million during the year ended December 31, 2014 from \$32.5 million during the year ended December 31, 2013. This change was a result of a \$5.8 million decrease in direct labor, materials and other costs associated with the scheduled completion and reduction of certain CDP and service agreements and \$3.0 million decrease in direct product costs consistent with decreased product revenue. The decrease in cost of revenue is partially offset by a \$0.9 million increase in provisions for obsolete inventory.

#### *Gross Margin*

Our gross profit as a percentage of net revenues, or gross margin, has been and will continue to be affected by a variety of factors, including the mix of CDP and services revenue, product revenue and licensing and royalty revenue recognized during the period. We achieve a higher gross margin on licensing and royalty revenue as compared to CDP and services and product revenue.

Gross margin was 48.3% during the year ended December 31, 2014 compared to 51.8% for the year ended December 31, 2013. This decrease was primarily attributable to increased investments in customer CDPs and provisions for obsolete inventory for the year ended December 31, 2014.

#### *Research and Development*

R&D expenses decreased by \$0.2 million, or 1%, to \$24.3 million during the year ended December 31, 2014 from \$24.5 million during the year ended December 31, 2013. The change was primarily attributable to a decrease in employee and professional services related costs of \$3.4 million, offset by an increase of \$2.6 million in depreciation expense due to assets reassigned to development previously used by customer CDPs and increased costs for internal development, and, to a lesser extent, increased rent expense of \$0.8 million. Research and development expense included stock-based compensation of \$1.2 million and \$1.3 million during the years ended December 31, 2014 and 2013, respectively.

#### *Sales and Marketing*

Sales and marketing expenses decreased by \$0.7 million, or 11%, to \$5.8 million during the year ended December 31, 2014 from \$6.5 million during the year ended December 31, 2013. The change is primarily due to lower personnel costs related to decreased wage expense, stock-based compensation and other related benefits. Sales and marketing expense included stock-based compensation of \$1.5 million and \$1.2 million during the years ended December 31, 2014 and 2013, respectively.

#### *General and Administrative*

General and administrative expenses increased by \$0.7 million, or 6%, to \$12.6 million during the year ended December 31, 2014 from \$12.0 million during the year ended December 31, 2013. This increase is primarily attributable to \$0.7 million in higher personnel costs related to increased wages, stock-based compensation and other related benefits, including severance expense of \$0.5 million related to severance agreements with our former Chief Executive Officer and General Counsel, and to a lesser extent, increased rent expense of \$0.3 million. These costs are partially offset by a \$0.2 million decrease in professional fees and other administrative expenses. General and administrative expense included stock-based compensation of \$2.0 million and \$1.6 million during the years ended December 31, 2014 and 2013, respectively.

### *Restructuring Charges*

Restructuring expenses were \$1.4 million during the year ended December 31, 2014, compared to zero for the year ended December 31, 2013. In January and May 2014, our Board of Directors authorized restructuring plans to reduce our workforce by 18% and 10%, respectively, pursuant to which charges of \$1.1 million and \$0.3 million were incurred for severance and other personnel related costs.

### *Loss from Operations*

Our operating loss increased by \$13.0 million, to an operating loss of \$21.0 million during the year ended December 31, 2014 from an operating loss of \$8.0 million during year ended December 31, 2013. The increase in operating loss is consistent with the decline in revenues during those periods. Our operating expenses increased by \$1.1 million to \$44.1 million, which included \$1.4 million in restructuring related expenses, during the year ended December 31, 2014 from \$43.0 million during the year ended December 31, 2013.

### *Interest Expense, net*

On May 31, 2013, we entered into a loan and security agreement with Silicon Valley Bank (SVB) and repaid the remaining principal and accrued interest under the secured promissory note that we issued to Symyx in November 2011.

Interest expense, net decreased by \$0.1 million to \$0.7 million during the year ended December 31, 2014 from \$0.8 million during the year ended December 31, 2013 and is primarily comprised of interest expense associated with the Loan Agreement with SVB during the year ended December 31, 2014 and interest on our note payable to Symyx and credit facility with SVB during the year ended December 31, 2013.

### *Other (Expense) Income, net*

Other (expense) income, net, for the years ended December 31, 2014 and 2013 consisted of municipal development grant proceeds and foreign exchange gains and losses that were not significant during either period.

### *Provision for Income Taxes*

Provision for income taxes during the years ended December 31, 2014 and 2013 consisted of income taxes on our foreign entities and were not significant during either period.

### *Net Loss*

Our net loss increased by \$12.9 million, to a net loss of \$21.8 million during the year ended December 31, 2014 from a net loss of \$8.8 million during the year ended December 31, 2013. The difference between operating loss and net loss during the year ended December 31, 2014 was primarily related to interest expense associated with the Loan Agreement with SVB.

**Comparison of the Years Ended December 31, 2013 and 2012**

	Years Ended December 31,		\$ Change	% Change
	2013	2012		
	(in thousands)			
Revenue:				
CDP and services revenue	\$ 45,744	\$ 47,468	\$ (1,724)	(4)%
Product revenue	6,726	3,495	3,231	92 %
Licensing and royalty revenue	14,936	15,864	(928)	(6)%
Total revenue	67,406	66,827	579	1 %
Cost of revenue	32,485	28,403	4,082	14 %
Gross profit	34,921	38,424	(3,503)	(9)%
Operating expenses:				
Research and development	24,502	21,839	2,663	12 %
Sales and marketing	6,475	5,433	1,042	19 %
General and administrative	11,973	10,868	1,105	10 %
Total operating expenses	42,950	38,140	4,810	13 %
(Loss) income from operations	(8,029)	284	(8,313)	
Other income (expense):				
Interest expense, net	(830)	(1,004)	174	
Other income, net	57	15	42	
Total other income (expense), net	(773)	(989)	216	
Loss before provision for income taxes	(8,802)	(705)	(8,097)	
Provision for income taxes	17	51	(34)	
Net loss	\$ (8,819)	\$ (756)	\$ (8,063)	

*Revenue*

Our revenue increased by \$0.6 million, or 1%, to \$67.4 million during the year ended December 31, 2013 from \$66.8 million during the year ended December 31, 2012 due to increases in product revenue that were partially offset by decreases in both CDP and services and licensing and royalty revenue.

CDP and services revenue decreased by \$1.7 million, or 4%, to \$45.7 million during the year ended December 31, 2013 from \$47.5 million during the year ended December 31, 2012. This decrease was primarily attributable to a \$14.2 million decrease in revenue from the scheduled completion and reduction of CDP and service agreements. This is partially offset by \$4.2 million in revenue derived from the extension and expansion of existing customer engagements, combined with \$8.3 million in revenue derived from new customer engagements. Of the growth from the new customer engagements \$7.5 million in revenue was derived from two CDPs.

Product revenue increased by \$3.2 million, or 92%, to \$6.7 million during the year ended December 31, 2013 from \$3.5 million during the year ended December 31, 2012. This increase was attributable to the configuration and number of workflow sales that were completed during the year ended December 31, 2013.

Licensing and royalty revenue decreased by \$0.9 million, or 6%, to \$14.9 million during the year ended December 31, 2013 from \$15.9 million during the year ended December 31, 2012. This decrease was primarily attributable to a \$4.4 million reduction in scheduled minimum license fees guaranteed by customer contracts, which was partially offset by a \$3.4 million increase in minimum license fees from new and existing customer contracts.

The following table presents revenue by geographic region (based on invoiced locations) during the years ended December 31, 2013 and 2012 in dollars (in thousands) and as a percentage of revenue for the periods presented:

**Years Ended December 31,**

	2013		2012	
	Revenues	% of Revenues	Revenues	% of Revenues
United States	\$ 47,752	71%	\$ 51,045	76%
Japan	12,691	19%	13,594	20%
APAC other	2,958	4%	2,066	4%
Europe and Middle East	4,005	6%	122	—%
<b>Total</b>	<b>\$ 67,406</b>	<b>100%</b>	<b>\$ 66,827</b>	<b>100%</b>

*Cost of Revenue*

Cost of revenue increased by \$4.1 million, or 14%, to \$32.5 million during the year ended December 31, 2013 from \$28.4 million during the year ended December 31, 2012. This change is a result of a \$2.3 million increase in direct labor, materials and other costs associated with CDP programs, including a \$1.0 million inventory reserve for parts not associated with a bill of material and having no alternative use and a \$1.5 million increase in direct product costs consistent with increased product revenue.

*Gross Margin*

Our gross profit as a percentage of net revenues, or gross margin, has been and will continue to be affected by a variety of factors, including the mix of CDP and services revenue, product revenue and licensing and royalty revenue recognized during the period. We achieve a higher gross margin on licensing and royalty revenue as compared to CDP and services and product revenue.

Gross margin was 51.8% during the year ended December 31, 2013 compared to 57.5% for the year ended December 31, 2012. This decrease is primarily attributable to the decreased CDP and services revenue relative to the cost of sales to support these customer engagements.

*Research and Development*

R&D expense increased by \$2.7 million, or 12%, to \$24.5 million during the year ended December 31, 2013 from \$21.8 million during the year ended December 31, 2012. The change is primarily attributable to \$2.4 million in higher personnel costs as a result of increased headcount, costs incurred and accrued related to the employee classification matter, as discussed in Note 5 to our consolidated financial statements in our 2013 Form 10-K, higher stock-based compensation expense, and \$0.8 million in engineering parts and other expenses associated with new application development. These costs were partially offset by a \$0.5 million decrease in depreciation expense due to an asset impairment expense related to the retirement of assets previously supporting new application development during the year ended December 31, 2012. R&D expense included stock-based compensation of \$1.3 million and \$0.9 million during the years ended December 31, 2013 and 2012, respectively.

*Sales and Marketing*

Sales and marketing expenses increased by \$1.0 million, or 19%, to \$6.5 million during the year ended December 31, 2013 from \$5.4 million during the year ended December 31, 2012. The change is primarily due to higher personnel costs related to increased wages, stock-based compensation and other related benefits. Sales and marketing expense included stock-based compensation of \$1.2 million and \$0.8 million during the years ended December 31, 2013 and 2012, respectively.

*General and Administrative*

General and administrative expenses increased by \$1.1 million, or 10%, to \$12.0 million during the year ended December 31, 2013 from \$10.9 million during the year ended December 31, 2012. This increase is primarily attributable to \$1.2 million in higher personnel costs related to increased headcount, wages, stock-based compensation and other related benefits. These costs are partially offset by a \$0.1 million decrease in professional fees and other administrative expenses.

General and administrative expense included stock-based compensation of \$1.6 million and \$1.0 million during the years ended December 31, 2013 and 2012, respectively.

*(Loss) Income from Operations*

Our operating loss increased by \$8.3 million, to an operating loss of \$8.0 million during the year ended December 31, 2013 from an operating income of \$0.3 million during year ended December 31, 2012. Our operating expenses increased by \$4.8 million to \$43.0 million during the year ended December 31, 2013 from \$38.1 million during the year ended December 31, 2012.

*Interest Expense, net*

On May 31, 2013, we entered into a loan and security agreement with SVB and repaid the remaining principal and accrued interest under the secured promissory note that we issued to Symyx in November 2011.

Interest expense, net decreased by \$0.2 million to \$0.8 million during the year ended December 31, 2013 from \$1.0 million during the year ended December 31, 2012 and is primarily comprised of interest expense associated with our note payable to Symyx and to a lesser extent interest on our credit facility with SVB. On November 29, 2013, we converted our credit facility with SVB into a term loan with a fixed interest rate of 3.25%.

*Other Income, net*

Other income, net for the years ended December 31, 2013 and 2012 consisted of municipal development grant proceeds and foreign exchange gains and losses that were not significant during either period.

*Provision for Income Taxes*

Provision for income taxes during the years ended December 31, 2013 and 2012 consisted of income taxes on our foreign entities and were not significant during either period.

*Net Loss*

Our net loss increased by \$8.1 million, to a net loss of \$8.8 million during the year ended December 31, 2013 from a net loss of \$0.8 million during the year ended December 31, 2012. The difference between operating income and net loss during the year ended December 31, 2013 is primarily comprised of interest expense associated with our note payable to Symyx and interest on our credit facility and subsequent term loan with SVB.

## Quarterly Results of Operations

You should read the following tables presenting our quarterly results of operations in conjunction with the consolidated financial statements and related notes contained elsewhere in this Form 10-K. We have prepared the unaudited information on the same basis as our audited consolidated financial statements. Please note that our operating results for any quarter are not necessarily indicative of results for any future quarters or for a full year. Our unaudited quarterly results of operations for the eight quarters ended December 31, 2014 were as follows (in thousands, except share and per share amounts):

	Three Months Ended							
	December 31, 2014	September 30, 2014	June 30, 2014	March 31, 2014	December 31, 2013	September 30, 2013	June 30, 2013	March 31, 2013
(unaudited)								
Revenue:								
CDP and services revenue	\$ 7,090	\$ 7,699	\$ 6,865	\$ 8,886	\$ 10,886	\$ 11,156	\$ 12,799	\$ 10,903
Product revenue	84	—	—	—	874	2,748	—	3,104
Licensing and royalty revenue	3,827	3,156	3,069	7,019	3,857	3,844	3,809	3,426
Total revenue	11,001	10,855	9,934	15,905	15,617	17,748	16,608	17,433
Cost of revenue	6,280	6,167	5,636	6,568	8,438	9,064	7,140	7,843
Gross profit	4,721	4,688	4,298	9,337	7,179	8,684	9,468	9,590
Operating expenses:								
Research and development	6,129	5,023	6,212	6,956	6,775	6,107	5,448	6,172
Sales and marketing	1,422	1,321	1,379	1,648	1,716	1,544	1,578	1,637
General and administrative	3,092	3,134	3,097	3,313	2,931	3,008	3,042	2,992
Restructuring charges	—	—	293	1,068	—	—	—	—
Total operating expenses	10,643	9,478	10,981	12,985	11,422	10,659	10,068	10,801
Loss from operations	(5,922)	(4,790)	(6,683)	(3,648)	(4,243)	(1,975)	(600)	(1,211)
Other income (expense):								
Interest expense, net	(150)	(159)	(179)	(194)	(181)	(168)	(231)	(250)
Other (expense) income, net	(16)	(13)	5	(5)	(9)	(2)	87	(19)
Total other (expense) income, net	(166)	(172)	(174)	(199)	(190)	(170)	(144)	(269)
Loss before provision for income taxes	(6,088)	(4,962)	(6,857)	(3,847)	(4,433)	(2,145)	(744)	(1,480)
Provision (benefit) for income taxes	—	1	2	4	(15)	26	—	6
Net loss	(6,088)	(4,963)	(6,859)	(3,851)	(4,418)	(2,171)	(744)	(1,486)
Net loss per share of common stock, basic	\$ (0.13)	\$ (0.11)	\$ (0.15)	\$ (0.08)	\$ (0.10)	\$ (0.05)	\$ (0.02)	\$ (0.03)
Net loss per share of common stock, diluted	\$ (0.13)	\$ (0.11)	\$ (0.15)	\$ (0.08)	\$ (0.10)	\$ (0.05)	\$ (0.02)	\$ (0.03)
Shares used in computing net loss per share of common stock, basic	46,906,330	46,842,055	46,780,186	46,337,810	45,850,075	45,191,514	44,630,442	44,138,813
Shares used in computing net loss per share of common stock, diluted	46,906,330	46,842,055	46,780,186	46,337,810	45,850,075	45,191,514	44,630,442	44,138,813

## Liquidity and Capital Resources

As of December 31, 2014, we had \$65.1 million of cash, cash equivalents and short-term investments and \$62.1 million of net working capital.

As of December 31, 2014, we had debt outstanding of \$23.0 million related to a term loan with SVB. We are obligated to pay interest at a fixed rate of 3.25% and \$0.5 million of principal on a quarterly basis. The term loan matures on November 30, 2016 and we are obligated to pay all outstanding principal and accrued and unpaid interest on that date. Our obligations under the term loan require us to dedicate a substantial portion of our cash flow from operations to payments on interest and principal at or prior to maturity, thus reducing the availability of our cash flow to fund working capital, capital expenditures, research and development efforts, execution of our business strategy and other general corporate purposes. Such limitations increase our vulnerability to adverse general economic and industry conditions and limit our flexibility in planning for, or reacting to, changes in the economy, our industry and new opportunities that may arise. In addition, our obligations under the term loan and the security interests granted in favor of SVB may make it more difficult for us to borrow funds in the future to fund working capital, capital expenditures and other purposes, which could materially and adversely affect our business, financial condition and results of operations. In addition, we are subject to a financial covenant under which, if our unrestricted cash, cash equivalents and other short-term investments are less than \$60 million, we must maintain a ratio of our short-term assets (including cash, net accounts receivable and short-term investments) to certain liabilities (including our outstanding and owed obligations to SVB and any other liabilities maturing in less than one year) of 1.5:1.0. Although this ratio is not currently applicable, we believe that we will be in compliance with this ratio for the next 12 months.

To date, we have incurred significant losses. During the years ended December 31, 2014, 2013 and 2012, we incurred net losses of \$21.8 million, \$8.8 million, and \$0.8 million. As of December 31, 2014, our accumulated deficit was \$131.9 million.

We believe that we have the financial resources needed to meet business requirements for the next 12 months. However, our forecast of the period of time through which our financial resources will be adequate to meet business requirements are forward-looking statements and involve risks and uncertainties. Our future capital requirements will depend on many factors, many of which are set forth in greater detail under the caption "Risk Factors," but generally include without limitation our rate of revenue growth, our expansion of our sales and marketing activities and overhead expenses, the timing and extent of our spending to support our R&D efforts and our ability to expand CDPs in the semiconductor and clean energy industries, whether we are successful in obtaining payments from customers, the financial stability of our customers, whether we can enter into additional collaborations in our target industries, the progress and scope of collaborative R&D projects performed by us and our customers, the effect of any acquisitions of other businesses or technologies that we may make in the future, the filing, prosecution and enforcement of patent claims, how much we need to develop or enhance our solutions or HPC platform and any necessary responses to competitive pressures. To the extent that existing cash, cash equivalents, short-term investments and cash from operations are insufficient to fund our operations, we may need to raise additional funds through public or private equity or debt financing. We may also seek to invest in or acquire complementary businesses, applications or technologies, any of which could also require us to seek additional equity or debt financing. Additional funds may not be available on terms favorable to us or at all. We maintain almost all of our cash in the United States and therefore are not subject to restrictions or tax obligations as we access the cash.

## Cash Flows

The following summary of our cash flows for the periods indicated has been derived from our consolidated financial statements included elsewhere in this filing:

	Years Ended December 31,		
	2014	2013	2012
	(in thousands)		
Net cash (used in) provided by operating activities	\$ (1,850)	\$ 7,779	\$ 3,486
Net cash used in investing activities	\$ (47,658)	\$ (15,119)	\$ (7,834)
Net cash (used in) provided by financing activities	\$ (810)	\$ 1,140	\$ 1,629

### ***Cash Flows from Operating Activities***

We experienced a negative cash flow from operating activities during the year ended December 31, 2014 and experienced positive cash flows from operating activities during the year ended December 31, 2013 and 2012.

Net cash used in operating activities during the year ended December 31, 2014 of \$1.9 million was primarily attributable to our net loss of \$21.8 million offset by non-cash charges of \$10.9 million in depreciation, amortization and accretion, \$6.0 million in stock-based compensation and \$0.6 million in impairments related to retired assets previously supporting customer collaborative development programs. Cash flow from our operating assets and liabilities increased \$2.3 million primarily as a result of decrease in accounts receivable of \$1.7 million and inventory usage and obsolescence of \$1.6 million, offset by a decrease in accrued liabilities of \$1.8 million.

Net cash provided by operating activities during the year ended December 31, 2013 of \$7.8 million was primarily attributable to our net loss of \$8.8 million offset by non-cash charges of \$9.4 million of depreciation and amortization and \$5.5 million in stock-based compensation. Cash flow from operating assets and liabilities increased \$1.7 million primarily as a result of an increase in accrued liabilities of \$1.8 million and decrease in accounts receivable of \$1.3 million, offset by an increase in inventory of \$1.3 million.

Net cash provided by operating activities during the year ended December 31, 2012 of \$3.5 million was primarily attributable to our net loss of \$0.8 million offset by non-cash charges of \$8.0 million of depreciation and amortization, \$3.7 million in stock-based compensation, and \$0.9 million related to retired assets previously supporting a customer collaborative development program and platform prototypes for new application development. Cash flow from our operating assets and liabilities decreased \$8.4 million primarily as a result of a \$9.5 million reduction in deferred revenue related to timing of customer prepayments and \$1.5 million in inventory, offset by an increase related to accounts receivable of \$2.8 million due to collections and \$0.4 million in prepaid and other assets. The decline in deferred revenue is primarily related to the earn out of customer prepayments for licensing and royalty related revenues. During 2008, we received a customer prepayment for minimum royalties to be earned during the years 2009 through 2012 in the amount of \$10 million. As of December 31, 2012, the full amount of that prepayment had been recognized.

### ***Cash Flows from Investing Activities***

Our investing activities consist primarily of purchases and maturities of short-term investments, capital expenditures to purchase property and equipment and our investments in intangible assets relating to our patents and trademarks. In the future, we expect we will continue to make modest capital expenditures to support our operations and incur costs to protect our investment in our developed technology and IP.

During the year ended December 31, 2014, cash used in investing activities was \$47.7 million as a result of \$43.6 million in purchases, net of maturities, of short-term investments, \$2.8 million in capital expenditures and \$1.2 million in capitalized patent and trademark costs.

During the year ended December 31, 2013 cash used in investing activities was \$15.1 million as a result of \$13.5 million in capital expenditures and \$1.6 million in capitalized patent and trademark costs.

During the year ended December 31, 2012, cash used in investing activities was \$7.8 million as a result of \$6.6 million in capital expenditures and \$1.3 million in capitalized patent and trademark costs.

### ***Cash Flows from Financing Activities***

To date, we have financed our operations primarily with proceeds from the sale of our redeemable convertible preferred stock and proceeds received from our initial public offering. In 2013 we entered into a term loan with SVB and have a remaining principal balance of \$23.0 million as of December 31, 2014.

During the year ended December 31, 2014, cash used in financing activities was \$0.8 million, primarily as a result of principal payments on our term loan to SVB of \$2.0 million offset by proceeds from the exercise of common stock options of \$1.2 million.

During the year ended December 31, 2013, cash provided by financing activities was \$1.1 million, primarily as a result of receipt of \$25.0 million from a credit line with SVB that was subsequently converted to a term loan during the year and to a lesser extent proceeds from the exercise of common stock options for \$2.7 million. This was offset by payment of our promissory note payable to Symyx for \$26.5 million, to which the \$25.0 million received from SVB was applied.

During the year ended December 31, 2012, cash provided by financing activities was \$1.6 million, primarily as a result of the receipt of \$2.4 million from the exercise of common stock options, offset by payment of \$0.8 million related to our promissory note payable to Symyx.

### Contractual Obligations and Commitments

The following summarizes our contractual obligations as of December 31, 2014 (in thousands):

	Payments Due by Period				
	Total	Less Than One Year	1 - 3 Years	3 - 5 Years	More Than 5 Years
Operating lease obligations	\$ 26,425	\$ 1,757	\$ 4,652	\$ 4,980	\$ 15,036
Term loan	23,000	2,000	21,000	—	—
Contractual interest payments on term loan	1,505	733	772	—	—
Purchase obligations(1)	421	421	—	—	—
<b>Total</b>	<b>\$ 51,351</b>	<b>\$ 4,911</b>	<b>\$ 26,424</b>	<b>\$ 4,980</b>	<b>\$ 15,036</b>

(1) Purchase obligations consist of firm, non-cancelable agreements to purchase property and equipment and inventory related items.

Operating lease agreements represent our obligations to make payments under our non-cancelable lease agreement for our facility in San Jose, California. During the year ended December 31, 2014, we made regular lease payments of \$1.3 million under this operating lease agreement and our lease obligation under the agreement as of December 31, 2014 was \$26.4 million.

We have a term loan with SVB that bears interest at a fixed rate equal to 3.25%. We are obligated to pay interest at the applicable rate and \$0.5 million of principal on a quarterly basis. The term loan matures on November 30, 2016 and we are obligated to pay all outstanding principal and accrued and unpaid interest on that date.

### Off-Balance Sheet Arrangements

As of December 31, 2014, we did not have any relationships with unconsolidated entities or financial partnerships, such as entities often referred to as structured finance or special purpose entities, which would have been established for the purpose of facilitating off-balance sheet arrangements or other contractually narrow or limited purposes.

### Recent Accounting Pronouncements

See Note 1 of the Notes to Consolidated Financial Statements included in this Form 10-K for recent accounting pronouncements that could have an effect on us.

## ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We are exposed to market risks in the ordinary course of our business. Market risk represents the risk of loss that may impact our financial position due to adverse changes in financial market prices and rates. Our market risk exposure is primarily a result of fluctuations in interest rates and foreign currency exchange rates. We do not hold or issue financial instruments for trading purposes.

### Interest Rate Sensitivity

Our exposure to market risk for changes in interest rates relates primarily to our investment portfolio and our outstanding debt obligations. Our cash, cash equivalents and investment accounts as of December 31, 2014 totaled \$65.1 million consisting of cash equivalents and short-term investments in a variety of securities, including commercial paper, corporate debt securities and money market funds. If overall interest rates fell 10% for the year ended December 31, 2014, our interest income would have decreased by an immaterial amount, assuming consistent investment levels.

Our primary exposure to market risk is interest income sensitivity, which is affected by changes in the general level of the interest rates in the United States. However, because of the short-term nature of the instruments in our portfolio, a sudden change in market interest rates would not be expected to have a material impact on our consolidated financial condition or our results of operation.

On November 29, 2013 we converted our credit facility with SVB into a term loan with a principal amount of \$25 million with SVB that bears interest at a fixed rate equal to 3.25%. We are obligated to pay interest at the applicable rate and \$0.5 million of principal on a quarterly basis. The term loan matures on November 30, 2016 and we are obligated to pay all outstanding principal and accrued and unpaid interest on that date. As the rates on the loan are fixed we do not have any further exposure to changes in our interest expense as a result of changes in rates. However, in the event we enter into other long-term debt arrangements, we could be subject to fluctuations in interest rates which could have a material impact on our future financial condition and results of operation. In addition, the loan agreement also includes several potential events of default such as payment default, material adverse change conditions and insolvency conditions that could cause interest to be charged at the rate that is otherwise applicable plus 5.0%. As of December 31, 2014, we were in compliance with the covenants in the loan agreement. If we are ever unable to meet the covenants in the loan agreement, we could also be required to renegotiate the terms of credit under the loan agreement, including the interest rate, and there can be no assurance that any renegotiated terms of credit would not materially impact our earnings.

### Foreign Currency Exchange Risk

As we expand internationally, our consolidated results of operations and cash flows will become increasingly subject to fluctuations due to changes in foreign currency exchange rates. Our revenue is denominated in U.S. dollars. Our expenses are generally denominated in the currencies in which our operations are located, which is primarily in the United States, with an insignificant portion of expenses incurred in our wholly-owned subsidiaries in Hong Kong and Japan and our wholly-owned branch in Taiwan in their local currencies. The effect of a hypothetical 10% change in foreign currency exchange rates applicable to our business would not have a material impact on our consolidated financial statements. To date, we have not entered into any material foreign currency hedging contracts although we may do so in the future.

**ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA**

**INDEX TO CONSOLIDATED FINANCIAL STATEMENTS**

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## Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders  
Intermolecular, Inc.:

We have audited the accompanying consolidated balance sheets of Intermolecular, Inc. and subsidiaries as of December 31, 2014, and 2013 and the related consolidated statements of operations, comprehensive loss, stockholder's equity, and cash flows for each of the years in the three-year period ended December 31, 2014. We also have audited Intermolecular, Inc.'s internal control over financial reporting as of December 31, 2014, based on criteria established in *Internal Control - Integrated Framework (1992)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Intermolecular, Inc.'s management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assertion of the effectiveness of internal control over financial reporting, included in Item 9A. Our responsibility is to express an opinion on these financial statements and an opinion on Intermolecular, Inc.'s internal control over financial reporting based on our audits.

We conducted our audit of the consolidated financial statements in accordance with standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement and whether effective internal control over financial reporting was maintained in all material respects. Our audit of the financial statements included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

An entity's internal control over financial reporting is a process effected by those charged with governance, management, and other personnel, designed to provide reasonable assurance regarding the preparation of reliable financial statements in accordance with U.S. generally accepted accounting principles. An entity's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the entity; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with the U.S. generally accepted accounting principles, and that receipts and expenditures of the entity are being made only in accordance with authorizations of management and those charged with governance; and (3) provide reasonable assurance regarding prevention, or timely detection and correction of unauthorized acquisition, use, or disposition of the entity's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent, or detect and correct misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Intermolecular, Inc. and subsidiaries as of December 31, 2014, and 2013, and the results of their operations and their cash flows for each of the years in the three-year period ended December 31, 2014, in conformity with U.S. generally accepted accounting principles. Also in our opinion, Intermolecular, Inc. maintained, in all material respects, effective internal control over financial reporting as of December 31, 2014, based on criteria established in *Internal Control - Integrated Framework (1992)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

/s/ KPMG LLP

Santa Clara, California  
February 27, 2015

INTERMOLECULAR, INC. AND SUBSIDIARIES  
Consolidated Balance Sheets  
(In thousands, except share and per share data)

	December 31, 2014	December 31, 2013
<b>ASSETS</b>		
Current assets:		
Cash and cash equivalents	\$ 21,765	\$ 72,083
Short-term investments	43,304	—
Accounts receivable, net of allowance for doubtful accounts of \$0 as of December 31, 2014 and December 31, 2013	5,321	6,791
Accounts receivable, due from related parties	—	231
Inventory, current portion	34	—
Prepaid expenses and other current assets	1,784	2,247
<b>Total current assets</b>	<b>72,208</b>	<b>81,352</b>
Inventory, net of current portion	5,894	6,510
Property and equipment, net	19,106	28,485
Intangible assets, net	7,941	7,855
Other assets	288	280
<b>Total assets</b>	<b>\$ 105,437</b>	<b>\$ 124,482</b>
<b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>		
Current liabilities:		
Accounts payable	\$ 862	\$ 2,157
Accrued liabilities	2,101	3,672
Accrued compensation and employee benefits	1,628	3,655
Deferred revenue	2,709	2,087
Related party deferred revenue	831	385
Note payable	2,000	2,000
<b>Total current liabilities</b>	<b>10,131</b>	<b>13,956</b>
Deferred revenue, net of current portion	1,103	830
Deferred rent, net of current portion	2,810	1,844
Note payable, net of current portion	21,000	23,000
Other long-term liabilities	128	—
<b>Total liabilities</b>	<b>35,172</b>	<b>39,630</b>
Commitments and contingencies (note 5)		
Stockholders' equity:		
Preferred stock, \$0.001 par value, 5,000,000 shares authorized, no shares issued and outstanding as of December 31, 2014 and December 31, 2013	—	—
Common stock, par value \$0.001 per share—200,000,000 shares authorized; 47,614,150 and 46,486,372 shares issued and outstanding as of December 31, 2014 and December 31, 2013, respectively	48	46
Additional paid-in capital	202,139	194,930
Accumulated other comprehensive loss	(37)	—
Accumulated deficit	(131,885)	(110,124)
<b>Total stockholders' equity</b>	<b>70,265</b>	<b>84,852</b>
<b>Total liabilities and stockholders' equity</b>	<b>\$ 105,437</b>	<b>\$ 124,482</b>

See accompanying notes to consolidated financial statements

INTERMOLECULAR, INC. AND SUBSIDIARIES  
Consolidated Statements of Operations  
(In thousands, except share and per share data)

	Years Ended December 31,		
	2014	2013	2012
<b>Revenue:</b>			
Collaborative development program and services revenue	\$ 30,540	\$ 45,744	\$ 47,468
Product revenue	84	6,726	3,495
Licensing and royalty revenue	17,071	14,936	15,864
Total revenue	47,695	67,406	66,827
<b>Cost of revenue:</b>			
Cost of collaborative development program and services revenue	24,342	29,063	26,492
Cost of product revenue	16	3,175	1,635
Cost of licensing and royalty revenue	293	247	276
Total cost of revenue	24,651	32,485	28,403
Gross profit	23,044	34,921	38,424
<b>Operating expenses:</b>			
Research and development	24,320	24,502	21,839
Sales and marketing	5,770	6,475	5,433
General and administrative	12,636	11,973	10,868
Restructuring charges	1,361	—	—
Total operating expenses	44,087	42,950	38,140
(Loss) income from operations	(21,043)	(8,029)	284
<b>Other income (expense):</b>			
Interest expense, net	(682)	(830)	(1,004)
Other (expense) income, net	(29)	57	15
Total other income (expense), net	(711)	(773)	(989)
Loss before provision for income taxes	(21,754)	(8,802)	(705)
Provision for income taxes	7	17	51
Net loss	\$ (21,761)	\$ (8,819)	\$ (756)
Net loss per share of common stock, basic and diluted	\$ (0.47)	\$ (0.20)	\$ (0.02)
Weighted-average number of shares used in computing net loss per share of common stock, basic and diluted	46,718,495	44,958,120	42,966,448

**Related Party Transactions**

The Consolidated Statements of Operations shown above include the following related party transactions:

	Years Ended December 31,		
	2014	2013	2012
<b>Revenue:</b>			
Collaborative development program and services revenue	\$ 1,114	\$ 7,374	\$ 11,838
Product revenue	—	—	2,139
Licensing and royalty revenue	4,480	5,440	7,091
Total revenue	\$ 5,594	\$ 12,814	\$ 21,068
<b>Cost of Revenue:</b>			
Cost of collaborative development program and services revenue	\$ —	\$ 4	\$ 55
Total cost of revenue	\$ —	\$ 4	\$ 55

See accompanying notes to consolidated financial statements

INTERMOLECULAR, INC. AND SUBSIDIARIES  
Consolidated Statements of Comprehensive Loss  
(In thousands)

	Years Ended December 31,		
	2014	2013	2012
Net loss	\$ (21,761)	\$ (8,819)	\$ (756)
Unrealized losses on available-for-sale-securities	(37)	—	—
Other comprehensive loss	(37)	—	—
Comprehensive loss, net of income tax	<u>\$ (21,798)</u>	<u>\$ (8,819)</u>	<u>\$ (756)</u>

See accompanying notes to consolidated financial statements

INTERMOLECULAR, INC. AND SUBSIDIARIES  
Consolidated Statements of Stockholders' Equity  
(In thousands, except share data)

	Stockholders' Equity					
	Common stock			Accumulated deficit	Accumulated other comprehensive loss	Total stockholders' equity
	Shares	Amount	Additional paid-in capital			
Balances as of December 31, 2011	42,218,906	\$ 42	\$ 180,680	\$ (100,549)	\$ —	\$ 80,173
Issuance of common stock from option exercises	1,747,214	2	2,446	—	—	2,448
Issuance of restricted stock awards	80,850	—	—	—	—	—
Stock-based compensation	—	—	3,652	—	—	3,652
Net loss	—	—	—	(756)	—	(756)
Balances as of December 31, 2012	44,046,970	44	186,778	(101,305)	—	85,517
Issuance of common stock from option exercises	2,032,571	2	2,669	—	—	2,671
Issuance of restricted stock awards	353,555	—	—	—	—	—
Vesting of restricted stock units	53,276	—	—	—	—	—
Stock-based compensation	—	—	5,483	—	—	5,483
Net loss	—	—	—	(8,819)	—	(8,819)
Balances as of December 31, 2013	46,486,372	46	194,930	(110,124)	—	84,852
Issuance of common stock from option exercises	593,173	2	1,188	—	—	1,190
Issuance of restricted stock awards, net	404,749	—	—	—	—	—
Vesting of restricted stock units	129,856	—	—	—	—	—
Stock-based compensation	—	—	6,021	—	—	6,021
Other comprehensive loss	—	—	—	—	(37)	(37)
Net loss	—	—	—	(21,761)	—	(21,761)
Balances as of December 31, 2014	47,614,150	\$ 48	\$ 202,139	\$ (131,885)	\$ (37)	\$ 70,265

See accompanying notes to consolidated financial statements

INTERMOLECULAR, INC. AND SUBSIDIARIES  
Consolidated Statements of Cash Flows  
(In thousands)

	Years Ended December 31,		
	2014	2013	2012
<b>Cash flows from operating activities:</b>			
Net loss	\$ (21,761)	\$ (8,819)	\$ (756)
<b>Adjustments to reconcile net loss to net cash (used in) provided by operating activities:</b>			
Depreciation, amortization and accretion	10,948	9,396	7,995
Stock-based compensation	6,021	5,483	3,652
Impairment of long-lived assets	629	—	949
Loss on disposal of property and equipment	—	9	2
<b>Changes in operating assets and liabilities:</b>			
Prepaid expenses and other assets	94	(958)	371
Inventory	1,581	(1,326)	(1,459)
Accounts receivable	1,701	1,308	2,788
Accounts payable	(635)	747	(177)
Accrued and other liabilities	(1,769)	1,767	(369)
Deferred revenue	895	616	726
Related party deferred revenue	446	(444)	(10,236)
Net cash (used in) provided by operating activities	(1,850)	7,779	3,486
<b>Cash flows from investing activities:</b>			
Purchase of short-term investments	(48,451)	(1,001)	(2,201)
Redemption of short-term investments	4,802	1,001	2,201
Purchase of property and equipment	(2,815)	(13,534)	(6,560)
Purchased and capitalized intangible assets	(1,194)	(1,585)	(1,274)
Net cash used in investing activities	(47,658)	(15,119)	(7,834)
<b>Cash flows from financing activities:</b>			
Proceeds from debt	—	25,000	—
Payment of debt	(2,000)	(26,514)	(804)
Proceeds from exercise of common stock options	1,190	2,654	2,433
Net cash (used in) provided by financing activities	(810)	1,140	1,629
Net decrease in cash and cash equivalents	(50,318)	(6,200)	(2,719)
Cash and cash equivalents at beginning of period	72,083	78,283	81,002
Cash and cash equivalents at end of period	\$ 21,765	\$ 72,083	\$ 78,283
<b>Supplemental disclosure of cash flow information:</b>			
Cash paid for interest	\$ 666	\$ 790	\$ 1,196
Cash paid for income taxes, net of refunds received	\$ 21	\$ 8	\$ 45
<b>Noncash investing/operating activities:</b>			
Transfer of property and equipment to inventory	\$ 999	\$ 393	\$ —

See accompanying notes to consolidated financial statements

## INTERMOLECULAR, INC. AND SUBSIDIARIES

### Notes to Consolidated Financial Statements

#### 1. Summary of Significant Accounting Policies

##### Business

Intermolecular, Inc. and subsidiaries (the Company) is headquartered in San Jose, California and has wholly-owned subsidiaries in Hong Kong and Japan and a wholly-owned branch in Taiwan.

The Company develops and applies high productivity combinatorial research and development technologies to accelerate research and development, innovation and time to market for the semiconductor and clean energy industries. The Company creates high productivity combinatorial systems and methods, which allow the Company to perform collaborative research and development services, sell high productivity combinatorial systems, and license and sell intellectual property to customers.

The Company's consolidated financial statements have been prepared on a going-concern basis, which contemplates the realization of assets and the settlement of liabilities and commitments in the normal course of business. Since inception, the Company has incurred net losses and has accumulated a deficit of \$131.9 million and \$110.1 million as of December 31, 2014 and 2013, respectively.

##### Basis of Presentation

The Company's consolidated financial statements have been prepared in conformity with accounting principles generally accepted in the United States of America (GAAP) and include the accounts of the Company and its consolidated subsidiaries. All intercompany transactions and balances have been eliminated during consolidation.

##### Use of Estimates

The preparation of the accompanying consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions about future events. These estimates and the underlying assumptions affect the amounts of assets and liabilities reported, disclosures about contingent assets and liabilities, and reported amounts of revenue and expenses. Management uses estimates and judgments in determining recognition of revenues, valuations of accounts receivable, inventories, intangible assets, warrants and assumptions used in the calculation of income taxes and stock-based compensation, among others. These estimates and assumptions are based on management's best estimates and judgment. Management evaluates its estimates and assumptions on an ongoing basis using historical experience and other factors and adjusts such estimates and assumptions when facts and circumstances dictate. As future events and their effects cannot be determined with precision, actual results could differ significantly from these estimates.

##### Concentration of Credit Risk

Financial instruments that potentially subject the Company to concentration of credit risk consist of cash, cash equivalents and accounts receivable. The Company's cash and cash equivalents consist of demand deposits and money market accounts maintained with high quality financial institutions. The Company's accounts receivable consist of non-interest bearing balances due from credit-worthy customers.

##### Cash, Cash Equivalents and Short-Term Investments

The Company holds its cash and cash equivalents in checking, money market and investment accounts with high credit quality financial institutions. The Company considers all highly liquid investments with original maturities of three months or less when purchased to be cash equivalents.

Short-term investments consist principally of corporate debt securities and commercial paper. If applicable, the Company considers marketable securities with remaining time to maturity greater than one year and that have been in a consistent loss position for at least nine months to be classified as long-term, as it expects to hold them to maturity. As of December 31, 2014, the Company did not have any such securities. The Company considers all other marketable securities to be short-term marketable securities. The short-term marketable securities are classified as current assets because they can be readily converted into securities with a shorter remaining time to maturity or into cash. The Company determines the appropriate classification of its marketable securities at the time of purchase and re-evaluates such designations as of each balance sheet date. All marketable securities and cash equivalents in the portfolio are classified as available-for-sale and are stated at fair value, with all the associated unrealized gains and losses reported as a component of accumulated other comprehensive income (loss). Fair value is based on quoted market rates or direct and indirect observable markets for these

investments. The amortized cost of debt securities is adjusted for amortization of premiums and accretion of discounts to maturity. Such amortization and accretion are included in interest income. The cost of securities sold and any gains and losses on sales are based on the specific identification method.

The Company reviews its investment portfolio periodically to assess for other-than-temporary impairment in order to determine the classification of the impairment as temporary or other-than-temporary, which involves considerable judgment regarding factors such as the length of the time and the extent to which the market value has been lower than the amortized cost, the nature of underlying assets, and the financial condition, credit rating, market liquidity conditions and near-term prospects of the issuer. If the fair value of a debt security is less than its amortized cost basis at the balance sheet date, an assessment would have to be made as to whether the impairment is other-than-temporary. If the Company considers it more likely than not that it will sell the security before it will recover its amortized cost basis, an other-than-temporary impairment will be considered to have occurred. An other-than-temporary impairment will also be considered to have occurred if the Company does not expect to recover the entire amortized cost basis of the security, even if it does not intend to sell the security. The Company has recognized no other-than-temporary impairments for its marketable securities.

### **Inventory**

Inventories are stated at the lower of cost or market value, with cost determined on an average cost basis. Current inventories consist of work-in-process for products that are expected to be sold in the next twelve months. Noncurrent inventories consist of raw materials in the amount of \$5.9 million and \$6.5 million as of December 31, 2014 and December 31, 2013. Inventories in excess of salable amounts and spare parts inventories that are considered obsolete are recorded as a cost of revenue in the period in which they occur. The Company expensed \$1.9 million and \$1.0 million related to inventory write-offs during the years ended December 31, 2014 and December 31, 2013, respectively. The Company did not have material write-offs during the year ended December 31, 2012.

### **Property and Equipment**

Property and equipment are stated at cost less accumulated depreciation and amortization. Depreciation of equipment is recognized on a straight-line basis over the estimated useful lives of the equipment, generally ranging from three to five years. Leasehold improvements are amortized over the shorter of the lease term or the estimated useful life of the assets. Maintenance and repairs that do not extend the life of or improve an asset are expensed in the period incurred.

### **Intangible Assets**

Intangible assets consist of issued and pending patents and trademarks as a result of third-party legal fees incurred in the patent and trademark application processes and patents acquired. Intangible assets with finite lives are amortized on a straight-line basis over their useful lives, while intangible assets without finite lives are not amortized. Upon the issuance of pending patent and trademark applications, the period of benefit will be determined. Patents, upon issuance, have a maximum life of 20 years from their application filing date. Trademarks, upon issuance, have an indefinite life and will not be amortized.

### **Impairment of Long-Lived Assets**

The Company evaluates its long-lived assets, which consist of property and equipment and intangible assets, for indicators of possible impairment when events or changes in circumstances indicate the carrying amount of an asset may not be recoverable. Impairment exists if the carrying amounts of such assets exceed the estimates of future net undiscounted cash flows expected to be generated by such assets. Should impairment exist, the impairment loss would be measured based on the excess carrying value of the asset over the estimated fair value of the asset. During the years ended December 31, 2014, December 31, 2013, and December 31, 2012, the Company recorded impairment expenses in the amount of \$0.6 million, zero, and \$0.9 million, respectively, related to retired assets previously supporting customer collaborative development programs and platform prototypes for new application development.

### **Revenue Recognition**

The Company derives its revenue from three principal sources: collaborative development programs and other services; product sales; and technology licensing and royalty fees. Revenue is recognized when all of the following criteria are met:

- Persuasive evidence of an arrangement exists;
- Delivery has occurred;
- The fee is fixed or determinable; and
- Collectability of the fee is probable.

Persuasive evidence of the arrangement represents a written contract signed by both the Company and the customer, or a customer purchase order. The Company assesses whether a price is fixed or determinable by, among other things, reviewing contractual terms and conditions related to payment terms. The Company assesses collectability based on factors such as the customer's creditworthiness and past collection history, if applicable. If collection is not probable, revenue recognition is deferred until receipt of payment.

*Collaborative development programs and other services*—The Company enters into collaborative development programs (CDPs) and other research and development service agreements with customers under which the Company conducts research and development activities jointly with the customer. The agreements specify minimum levels of research effort required to be performed by the Company. Payments received under the agreements are not refundable if the research effort is not successful. The Company retains rights to certain elements of technology developed in the course of its performance, which the customer has an option to license in the future under the terms defined in the agreement. Most arrangements with customers have fixed monthly fees and requirements to provide regular reporting of research and development activities performed and revenue is recognized in a manner consistent with the fixed monthly fee or upon customer acceptance of work performed, if applicable. Payments received prior to performance are deferred and recognized as revenue when earned over future performance periods.

The Company considers arrangements that include specifically identified, dedicated equipment to contain a lease provision, as these arrangements convey the right to the customer to use specific equipment and provide the ability to the customer to direct the use of the equipment as well as control more than a minor amount of the output of the equipment. To date the Company has determined these arrangements to contain operating leases, with a lease term that corresponds to the term of the CDP arrangement. The amount of revenue allocated for the lease element is based on its relative fair value, but the impact of the allocation does not change the amount of revenue recognized for the total arrangement as the lease term is generally consistent with the CDP term. Operating lease income recorded in CDP and services revenue during the three years ended December 31, 2014, 2013, and 2012 was \$0.8 million, \$6.9 million, and \$9.7 million, respectively.

Future minimum operating lease payments associated with CDP arrangements that contain operating leases were zero and \$0.8 million as of December 31, 2014 and December 31, 2013, respectively.

*Product maintenance and support services* - Included in collaborative development programs and other services revenue, these services entitle customers to receive product updates and enhancements or technical support and maintenance, depending on the offering. The related revenue is recognized ratably over the period the services are delivered.

*Product revenue* - The Company recognizes revenue from the sale of products once delivery has occurred (title and risk of loss have passed to the customer), and customer acceptance, if required, has been achieved.

*Licensing and royalty revenue* - The Company recognizes revenue for licenses to intellectual property when earned pursuant to the terms of the agreements. Time-based license revenue is recognized ratably over the license term. Licensing and royalty revenue that becomes triggered by specific customer actions, such as exercise of a license option or by sales volume, is recognized when it occurs based on royalty reports or other information received from the licensee. Minimum and prepaid royalties and license fees are recognized ratably over the related periods. Revenue on the sale of intellectual property is recognized in full when title transfers if there are no remaining deliverables related to the intellectual property purchase.

*Software* - The Company includes software with product sales that is considered essential to the product's functionality. The Company also sells software with advanced features that can be used independent of products sold or in conjunction with products sold, which is considered non-essential to the product's functionality. Software related revenue is included in licensing and royalty revenue and is recognized ratably over the license period once delivered.

*Multiple-element arrangements* - Certain of the Company's customer arrangements involve the delivery or performance of multiple products, services or licenses. Product sale arrangements include product maintenance and support. Collaborative development programs and other research and development services include licenses of technology and may also include sales of products. For multiple-element arrangements that include hardware products containing software essential to the hardware product's functionality, undelivered software elements that relate to the hardware product's essential software, and undelivered non-software services, the Company allocates revenue to all deliverables based on their relative selling prices.

The Company evaluates whether a delivered element has value to the customer without the remaining undelivered elements by determining whether the delivered element could be sold by the Company, or resold by the customer, on a stand-alone basis. The Company concluded that all of its products and services deliverables have value to the customers on a stand-alone basis, as all these deliverables have been or could be sold and used by customers on a stand-alone basis. Intellectual property license arrangements have value on a stand-alone basis if the customer could purchase and use them without the remaining elements of the arrangement. Essential and non-essential software deliverables used in conjunction with products are evaluated as to whether industry specific software accounting guidance applies to the product as well as the related software. In instances where software is considered non-essential to the functionality of the product, only the software portion and post

contract support is evaluated under industry specific software accounting guidance. For purposes of classification in the consolidated statements of operations, revenue is allocated between collaborative development programs and services revenue, product revenue and licensing and royalty revenue based on objective and reliable evidence of fair value for any elements for which it exists or based on the relative stated invoice amount for elements for which objective and reliable evidence of fair value does not exist.

The Company recognizes revenue using estimated selling prices of the delivered goods and services based on a hierarchy of methods as required by GAAP. The Company has not established vendor-specific objective evidence (VSOE) for the determination of estimated selling price of elements, and since third-party evidence (TPE) is not available for those elements where vendor-specific objective evidence of selling price cannot be determined, the Company evaluates factors to determine its estimated selling prices (ESP) for all other elements. In multiple-element arrangements where hardware and software are sold as part of the solution, revenue is allocated to the hardware and software as a group using the relative selling prices of each of the deliverables in the arrangement based upon the aforementioned selling price hierarchy.

#### *Deferred Revenue*

Deferred revenue represents amounts collected from customers for which the related revenue has not been recognized, because one or more of the revenue recognition criteria have not been met. The current portion of deferred revenue represents the amount that is expected to be recognized as revenue within one year from the balance sheet date. When deferred revenues are recognized as revenues, the associated deferred costs are also recognized as cost of revenues.

#### **Accounts Receivable and Allowance for Doubtful Accounts**

Trade accounts receivable are recorded at invoiced amounts and unbilled accounts receivable. Trade accounts receivable are presented net of allowances for doubtful accounts, if applicable, and do not bear interest. The allowance for doubtful accounts is based on the Company's assessment of the collectability of its customer accounts. The Company reviews the allowance by considering certain factors such as historical experience, industry data, credit quality, age of balances and current economic conditions that may affect customers' ability to pay. The Company did not have any allowances for doubtful accounts as of December 31, 2014 and December 31, 2013. As of December 31, 2012 the Company had an allowance related to outstanding accounts receivable from Elpida that were subject to proceedings under the Corporate Reorganization Act in Japan. During 2013 Elpida was acquired by Micron and the outstanding accounts receivable from Elpida were settled as a result of the acquisition.

Allowance for doubtful accounts are as follows (in thousands):

	<b>Balance at Beginning of Period</b>	<b>Additions Charged to Revenues</b>	<b>Deductions (1)</b>	<b>Balance at End of Period</b>
Allowance for doubtful accounts:				
2014 \$	—	\$ —	\$ —	\$ —
2013 \$	170	\$ —	\$ (170)	\$ —
2012 \$	—	\$ 170	\$ —	\$ 170

(1) Deductions related to the allowance for doubtful accounts written off against the allowance and recoveries.

## Concentration of Revenue and Accounts Receivable

Significant customers are those that represent more than 10% of the Company's total revenue or accounts receivable. For each significant customer, including related parties, revenue as a percentage of total revenue and accounts receivable as a percentage of total accounts receivable are as follows:

	Revenue			Accounts Receivable	
	Years Ended			As of	As of
	December 31,			December 31,	December 31,
	2014	2013	2012	2014	2013
Customer A (1)	35%	13%	—%	54%	41%
Customer B	16%	*	*	14%	15%
Customer C	*	13%	25%	—%	*
Customer D	*	12%	*	11%	14%
Customer E	11%	17%	28%	—%	13%
Customer F (1)	—%	*	14%	—%	—%

\* less than 10%

(1) Customer F was acquired by Customer A as of July 31, 2013. Revenue and accounts receivable attributed to Customers F and A are combined under Customer A for periods after July 31, 2013.

## Cost of Revenue

Cost of revenue is primarily comprised of salaries and other personnel-related expenses for collaborative research and development scientists, engineers and development process operations employees. Additionally, cost of revenue includes wafers, targets, materials, program-related supplies, depreciation on equipment used in CDPs and allocated facility-related costs. Inventory obsolescence and customer related asset impairments are included in cost of CDP and services revenue. Product cost of revenue consists of cost of products sold. Cost of licensing and royalty includes amortization of acquired patents and licensing obligations.

## Research and Development

Research and development expenses, including direct and allocated expenses, are expensed as incurred. Research and development costs include salaries of technical staff, consultant costs, research and development parts and prototypes, wafers, chemicals, research and development supply costs, facilities rental, utilities costs related to laboratories and offices occupied by technical staff, depreciation on equipment used by technical staff, and outside services, such as machining and third-party research and development costs.

## Software Development Costs

The costs to develop software have not been capitalized as the technological feasibility of the related software is not established until substantially all product development is complete and the related product is available for general release.

## Income Taxes

Income taxes have been accounted for under the asset and liability method. Deferred tax assets and liabilities are determined based on the difference between the financial statement and tax basis of assets and liabilities as measured by the enacted tax rates that will be in effect when these differences reverse. Accordingly, realization of any deferred tax assets is dependent on future taxable income against which these deductions, losses and credits can be utilized.

The Company assesses the likelihood that the deferred tax assets will be recovered and establishes a valuation allowance to the extent the Company believes that it is more likely than not that all or some portion of the asset will not be realized due to the inability to generate sufficient taxable income in the period and/or of the character necessary to utilize the benefit of the deferred tax asset. The Company recorded a full valuation allowance against its deferred tax assets as of December 31, 2014 and 2013. Based on the available evidence, the Company believed it was more likely than not that it would not be able to utilize its deferred tax assets in the future. The Company intends to maintain a full valuation allowance until and if sufficient evidence exists to support all or a portion of its reversal.

The Company regularly reviews its tax positions for benefits to be realized. A tax position must be more likely than not to be sustained upon examination to justify recognition of a benefit for that position. The amount recognized is measured as the largest amount of benefit that is more likely than not to be realized upon settlement. The Company's policy is to recognize interest and penalties related to income tax matters as income tax expense. As of December 31, 2014, the Company has not recognized any interest or penalties associated with unrecognized tax benefits.

### **Stock-Based Compensation**

The Company applies the fair value recognition and measurement provisions of ASC 718 Compensation — Stock Compensation. Stock-based compensation is recorded at fair value as of the grant date, determined using the Black-Scholes option-pricing model, and recognized as an expense over the employee's requisite service period (generally the vesting period), which the Company has elected to amortize on a straight-line basis.

The Company accounts for stock options issued to nonemployees based on the fair value of the options determined using the Black-Scholes option-pricing model. The fair value of stock options granted to nonemployees is remeasured each reporting period as the stock options vest and the resulting change in value, if any, is recognized in the Company's consolidated statements of operations during the period the related services are rendered.

### **Employee Savings Plan**

The Company has a savings plan in the United States that qualifies under Section 401(k) of the Internal Revenue Code. Participating employees may contribute up to the statutory limits. The Company is not committed to make and has not made employer contributions to the plan to date.

### **Segment Information**

The Company operates in one reportable segment. The Company's chief operating decision-maker, its chief executive officer, reviews its operating results on an aggregate basis and manages its operations as a single operating segment.

### **Fair Value of Financial Instruments**

The Company measures and reports its cash equivalents and short-term investments at fair value. Fair value is defined as the exchange price that would be received for an asset or an exit price paid to transfer a liability in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. Valuation techniques used to measure fair value must maximize the use of observable inputs and minimize the use of unobservable inputs. The fair value hierarchy defines a three-level valuation hierarchy for disclosure of fair value measurements as follows:

Level I - Unadjusted quoted prices in active markets for identical assets or liabilities;

Level II - Inputs other than quoted prices included within Level I that are observable, unadjusted quoted prices in markets that are not active, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the related assets or liabilities; and

Level III - Unobservable inputs that are supported by little or no market activity for the related assets or liabilities.

The categorization of a financial instrument within the valuation hierarchy is based upon the lowest level of input that is significant to the fair value measurement.

The Company's financial instruments consist of Level I and Level II assets. Level I securities include highly liquid money market funds and certificates of deposit and Level II securities include corporate debt securities and commercial paper. There were no Level III assets or liabilities during the three year period ended December 31, 2014.

### **Foreign Currency**

The functional currency of foreign subsidiaries is the U.S. dollar and foreign currency transaction gains and losses are recorded in other income (expense), net.

### **Net Loss per Share of Common Stock**

The Company's basic net loss per share of common stock is calculated by dividing the net loss by the weighted average number of shares of common stock outstanding for the period. The diluted net loss per share of common stock is computed by giving effect to all potential common stock equivalents outstanding for the period determined using the treasury stock method for common stock equivalents. For purposes of this calculation, options to purchase common stock, common

stock subject to repurchase and warrants to purchase common stock are considered to be common stock equivalents but have been excluded from the calculation of diluted net loss per share of common stock as their effect is antidilutive.

### Recent Accounting Pronouncements

In May 2014, the FASB issued Accounting Standards Update No. 2014-09 (ASU 2014-09) "Revenue from Contracts with Customers." ASU 2014-09 supersedes the revenue recognition requirements in "Revenue Recognition (Topic 605)", and requires entities to recognize revenue when it transfers promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled to in exchange for those goods or services. ASU 2014-09 is effective for annual reporting periods beginning after December 15, 2016, including interim periods within that reporting period. Early adoption is not permitted. The Company is currently in the process of evaluating the impact of the adoption of ASU 2014-09 on the consolidated financial statements.

### 2. Fair Value of Financial Instruments

The Company measures and reports its cash equivalents and short-term investments at fair value on a recurring basis. The following tables set forth the fair value of the Company's cash equivalents and short-term investments by level within the fair value hierarchy (in thousands):

	As of December 31, 2014			
	Fair Value	Level I	Level II	Level III
<b>Assets:</b>				
Money market funds	\$ 16,376	\$ 16,376	\$ —	\$ —
Corporate bonds and commercial paper	43,304	—	43,304	—
Total assets measured at fair value	<u>\$ 59,680</u>	<u>\$ 16,376</u>	<u>\$ 43,304</u>	<u>\$ —</u>

	As of December 31, 2013			
	Fair Value	Level I	Level II	Level III
<b>Assets:</b>				
Money market funds	\$ 49,117	\$ 49,117	\$ —	\$ —
Total assets measured at fair value	<u>\$ 49,117</u>	<u>\$ 49,117</u>	<u>\$ —</u>	<u>\$ —</u>

Cash equivalents and short-term investments are classified as "available-for-sale" and are carried at fair value based on quoted markets or other readily available market information. The Company's investment policy requires investments less than twenty four months and a minimum credit rating of A-. Unrealized gains and losses, net of taxes, are included in accumulated other comprehensive loss. Gains and losses are determined using the specific identification method. Cash, cash equivalents, and short-term investments consisted of the following as of December 31, 2014 (in thousands):

	As of December 31, 2014			
	Amortized Cost	Unrealized Gains	Unrealized Losses	Estimated Fair Value
<b>Assets:</b>				
Cash	\$ 5,389	\$ —	\$ —	\$ 5,389
Money market funds	16,376	—	—	16,376
Corporate debt securities and commercial paper	43,341	—	(37)	43,304
Total cash, cash equivalents and short-term investments	<u>\$ 65,106</u>	<u>\$ —</u>	<u>\$ (37)</u>	<u>\$ 65,069</u>

As of December 31, 2013 the Company did not have any unrealized gains or losses.

### 3. Property and Equipment

Property and equipment consist of the following (in thousands):

	As of December 31, 2014	As of December 31, 2013
Lab equipment and machinery	\$ 53,412	\$ 49,264
Leasehold improvements	5,892	4,413
Computer equipment and software	3,774	3,563
Furniture and fixtures	197	182
Construction in progress	847	6,544
Total property and equipment	64,122	63,966
Less accumulated depreciation	(45,016)	(35,481)
Property and equipment, net	<u>\$ 19,106</u>	<u>\$ 28,485</u>

In 2013, the Company entered into a loan and security agreement (Loan Agreement) with Silicon Valley Bank (SVB) pursuant to which SVB made available to the Company a loan to refinance existing indebtedness to Symyx Technologies, Inc. (Symyx) and for working capital and general business purposes, in a principal amount of up to \$26.5 million. Upon repayment, the Symyx note was terminated and Symyx released all security interests and other liens held as security in connection with the Symyx note. Under the Loan Agreement, and as of December 31, 2014 and 2013, SVB held a security interest in substantially all of the Company's assets, excluding all intellectual property.

As discussed in Note 1, Impairment of Long-Lived Assets, during the years ended December 31, 2014 and 2012, the Company recorded impairment-related expenses in the amount of \$0.6 million and \$0.9 million related to retired assets previously supporting customer collaborative development programs and platform prototypes for new application development. These impairment expenses are included in accumulated depreciation.

The following table presents depreciation expense included in the Consolidated Statement of Operations and includes amortization of leasehold improvements (in thousands):

	Years Ended December 31,		
	2014	2013	2012
Depreciation expense	\$ 10,220	\$ 8,781	\$ 7,411

The Company maintained dedicated equipment to support contractual customer capacity requirements as part of certain collaborative development programs that are classified as lab equipment and machinery and had a net book value of zero and \$1.8 million as of December 31, 2014 and December 31, 2013, respectively.

#### 4. Intangible Assets

Intangible assets consist of the following (in thousands):

	As of December 31, 2014	As of December 31, 2013
Patents issued	\$ 6,518	\$ 4,893
Patents pending	3,373	4,224
Trademarks	40	40
Total intangible assets	9,931	9,157
Less patent amortization	(1,990)	(1,302)
Intangible assets, net	<u>\$ 7,941</u>	<u>\$ 7,855</u>

Amortization commences upon patent issuance. The useful life of the patents, once approved, will not exceed 20 years, and will depend on the nature of the patent. The average estimated amortization period of the Company's current portfolio is approximately 17 years from the date of patent issuance. The average estimated remaining amortization period of patents acquired from Symyx is approximately 3 years.

The following table presents patent amortization expense included in the Consolidated Statement of Operations (in thousands):

	Years Ended December 31,		
	2014	2013	2012
Amortization expense	\$ 688	\$ 615	\$ 588

Estimated future aggregate annual amortization expense for both issued and pending intangible assets is as follows (in thousands):

As of December 31:		
2015	\$	725
2016		664
2017		618
2018		539
2019		489
Thereafter		4,866
Total	<u>\$</u>	<u>7,901</u>

#### 5. Commitments and Contingencies

##### Leases

The Company entered into an operating lease agreement in May 2010 for its San Jose headquarters that was subsequently modified in November 2013, which extended the term of the lease for a period of approximately one hundred thirty-nine (139) months from the date of the modified agreement and provided the Company with four months of free rent. In addition, the Company received a tenant improvement allowance of \$1.0 million in the aggregate that was paid to the Company in equal installments over the course of the ten months after the date of the modified agreement to be used for the modification, refurbishment, construction or installation of improvements to the facility.

The following table presents rent expense included in the Consolidated Statement of Operations (in thousands):

	Years Ended December 31,		
	2014	2013	2012
Rent expense	\$ 2,268	\$ 1,377	\$ 1,297

Future commitments and obligations under this operating lease to be satisfied as they become due over the term are as follows (in thousands):

**As of December 31:**

The years ending December 31,		
2015	\$	1,757
2016		2,253
2017		2,399
2018		2,459
2019		2,521
Thereafter		15,036
<b>Total</b>	<b>\$</b>	<b>26,425</b>

During 2014, the Company made payments in the amount of \$1.3 million related to this operating lease. The first month of free rent was December 2013 and the last month was March 2014.

**Symyx Asset Purchase and Note Payable**

In connection with the consummation of the Symyx asset purchase transaction in November 2011, the Company issued Symyx a secured promissory note in a principal amount equal to \$27.3 million with a term of 24 months and an interest rate equal to 4%. On May 31, 2013, the Company used \$25.0 million of the net proceeds from a revolving line with SVB and \$1.5 million of cash to retire and repay all remaining principal and accrued interest due on the note. Over the life of the Symyx note the Company paid a total of \$29.0 million, of which approximately \$1.6 million related to interest.

The following table presents payments made during the years ended December 31, 2013 and 2012 in connection with the note payable to Symyx (in thousands):

	Year Ended December 31, 2013		
	Principal	Interest	Total
Symyx payments	\$ 26,516	\$ 437	\$ 26,953

	Year Ended December 31, 2012		
	Principal	Interest	Total
Symyx payments	\$ 804	\$ 1,196	\$ 2,000

**Silicon Valley Bank Loan Agreement**

During 2013, the Company entered into a loan agreement (Loan Agreement) with SVB in the amount of \$25.0 million that bears interest at a fixed rate equal to 3.25%. The Company is obligated to pay interest at the applicable rate and \$0.5 million of principal on a quarterly basis. The Loan Agreement has a financial covenant that requires the Company to maintain a certain level of liquidity, and, as of December 31, 2014, the Company was compliant with the terms of that loan covenant. The term loan matures on November 30, 2016 and the Company is obligated to pay all outstanding principal and accrued and unpaid interest on that date.

The following table presents payments made during the years ended December 31, 2014 and 2013 for interest owed under the terms of the Loan Agreement (in thousands):

	Year Ended December 31, 2014		
	Principal	Interest	Total
SVB payments	\$ 2,000	\$ 664	\$ 2,664

	Year Ended December 31, 2013		
	Principal	Interest	Total
SVB payments	\$ —	\$ 350	\$ 350

Estimated principal payments related to the SVB term loan are as follows (in thousands):

As of December 31:	
2015	\$ 2,000
2016	21,000
Total	\$ 23,000

### Litigation

The Company is subject to various claims arising in the ordinary course of business. Although no assurance may be given, the Company believes that it is not presently a party to any litigation of which the outcome, if determined adversely, would individually or in the aggregate be reasonably expected to have a material adverse effect on the business, operating results, cash flows or financial position of the Company.

Third parties and others may claim in the future that the Company has infringed their past, current or future intellectual property rights. These claims, whether meritorious or not, could be time-consuming, result in costly litigation, require expensive changes in the Company's methods of doing business or require the Company to enter into costly royalty or licensing agreements, if available. As a result, these claims could harm the Company's business, operating results, cash flows and financial position.

## 6. Warrants

### Common Stock Warrants

During the year ended December 31, 2008, the Company issued warrants to purchase 90,000 shares of common stock for consulting services with an exercise price of \$2.04 per share and a ten year term. These warrants vested over four years. During the years ended December 31, 2014, 2013 and 2012, the expense related to the issuances and vesting of these warrants were insignificant. As of December 31, 2014 and 2013, these warrants to purchase shares of common stock remained outstanding.

During the year ended December 31, 2010, the Company issued warrants to purchase 822,368 shares of common stock in connection with certain collaboration agreements with an exercise price of \$6.08 per share, of which 411,184 were granted to a related party. These warrants expired without exercise during the year ended December 31, 2014.

In total, the Company had 90,000 and 912,368 outstanding warrants to purchase shares of common stock as of December 31, 2014 and 2013, respectively. Of these outstanding warrants, 90,000 were exercisable as of December 31, 2014 and 2013. During the years ended December 31, 2014, 2013 and 2012, the Company recognized an insignificant amount of expense related to the issuances and vesting of these warrants.

## 7. Stock-Based Compensation

During the year ended December 31, 2011, the board of directors approved the 2011 Equity Incentive Plan (2011 Plan). A total of 4,225,648 shares of common stock were reserved for future issuance under the 2011 Plan, which became effective on

November 17, 2011. The Company has a 2004 Equity Incentive Plan (2004 Plan), but no longer grants stock options under this plan. Canceled or forfeited stock option grants under the 2004 Plan will be added to the total amount of shares available for grant under the 2011 Plan. In addition, shares authorized but unissued as of November 17, 2011 under the 2004 Plan were added to shares available for grant under the 2011 Plan. The 2011 Plan contains an "evergreen" provision, pursuant to which the number of shares available for issuance under the 2011 Plan may be increased on the first day of the fiscal year, in an amount equal to the least of (a) 2,535,389 shares, (b) 4.5% of the outstanding Shares on the last day of the immediately preceding fiscal year or (c) such number of shares determined by the board of directors. During 2014 the Company registered an additional 2,091,886 shares under its 2011 Plan.

The 2011 Plan allows the Company to award stock options (incentive and non-qualified), restricted stock, restricted stock units, stock appreciation rights, deferred stock awards, dividend equivalents, performance awards, stock payments, performance shares and other incentive awards, or any combination thereof to employees, officers, directors and consultants of the Company. The exercise price of incentive stock options, which may only be granted to employees, granted under the 2011 Plan to participants with less than 10% voting power of all classes of stock of the Company or any parent or subsidiary company may not be less than 100% of the fair market value of the Company's common stock on the date of the grant. The exercise price of incentive stock options granted under the 2011 Plan to participants with 10% or more voting power of all classes of stock of the Company or any parent or subsidiary company may not be less than 110% of the fair market value of the Company's common stock on the date of the grant. Options granted under the 2011 Plan generally expire ten years from the date of grant and are generally exercisable at any time after the date of grant when the shares are vested. Incentive and nonstatutory stock options granted generally vest at a rate of 25% on the first anniversary of the commencement or grant date and 1/48th each month thereafter. Incentive stock options granted to participants with 10% or more of the voting power of all classes of the Company's common stock on the date of grant have a maximum term of five years from the date of grant. During 2014, the Company granted \$1.3 million of options with two year vesting, with 50% vesting on the first anniversary of the vesting commencement date and the remaining shares vesting monthly such that all shares are vested on the second anniversary of the vesting commencement date.

Option activity for the periods presented is as follows:

	Options Outstanding			
	Number of Stock Options Outstanding	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Life (Years)	Aggregate Intrinsic Value (in thousands)
Balance as of December 31, 2011	8,229,597	\$ 2.52	6.6	\$ 50,541
Granted	1,339,129	8.12		
Exercised	(1,747,213)	1.39		9,558
Cancelled	(395,096)	6.63		
Balance as of December 31, 2012	7,426,417	3.57	6.4	40,040
Granted	1,720,242	7.53		
Exercised	(2,031,903)	1.31		11,816
Cancelled	(646,013)	7.40		
Balance as of December 31, 2013	6,468,743	4.96	6.7	8,991
Granted	6,086,984	2.43		
Exercised	(593,173)	2.00		701
Cancelled	(1,629,847)	6.71		
Balance as of December 31, 2014	10,332,707	\$ 3.36	7.78	\$ 949
Exercisable as of December 31, 2014	4,084,201	\$ 4.08	5.11	\$ 949
Vested and expected to vest as of December 31, 2014	9,277,823	\$ 3.43	7.57	\$ 949

Restricted stock award and restricted stock unit (RSUs) activity for the periods presented is as follows:

	Number of Stock RSUs Outstanding	Weighted-Average Grant Date Fair Value
Balance as of December 31, 2011	—	\$ —
Granted	274,070	6.48
Vested	—	—
Forfeited	(19,207)	6.49
Balance as of December 31, 2012	254,863	6.48
Granted	814,000	8.47
Vested	(74,985)	—
Forfeited	(143,527)	8.56
Balance as of December 31, 2013	850,351	7.99
Granted	1,485,488	2.75
Vested	(260,732)	—
Forfeited	(491,306)	5.87
Balance as of December 31, 2014	1,583,801	\$ 3.84
Vested and expected to vest as of December 31, 2014	1,322,027	

Typically, vesting of RSUs occurs over four years and is subject to the employee's continuing service to the Company. During 2014, the Company granted \$1.0 million of RSUs with a one year vesting period and subject to the employee's continuing service to the Company. The aggregate intrinsic value of RSUs outstanding at December 31, 2014 and 2013 was \$3.1 million and \$4.2 million, respectively.

RSUs that vested during 2014 and 2013 had fair values of \$1.9 million and \$0.5 million as of the vesting date, respectively.

The following table presents details on grants made by the Company for the following periods:

	Year Ended December 31, 2014		Year Ended December 31, 2013	
	Shares Granted	Weighted- Average Grant Date Fair Value	Shares Granted	Weighted- Average Grant Date Fair Value
Stock options	6,086,984	\$ 1.28	1,720,242	\$ 4.16
RSUs	1,485,488	\$ 2.75	814,000	\$ 8.47

As of December 31, 2014 and December 31, 2013, the Company had reserved shares of common stock for issuance as follows:

	December 31, 2014	December 31, 2013
Number of stock options outstanding	10,332,707	6,468,743
Number of RSUs outstanding	1,583,801	850,351
Shares available for future grant	1,770,411	5,238,699
Number of warrants outstanding	90,000	912,368
Total shares reserved	13,776,919	13,470,161

The Company recognized stock-based compensation expense for awards granted to its employees and nonemployees as follows (in thousands):

	Years Ended		
	December 31,		
	2014	2013	2012
Cost of revenue	\$ 1,315	\$ 1,453	\$ 1,011
Research and development	1,234	1,301	872
Sales and marketing	1,470	1,175	774
General and administrative	2,002	1,554	995
<b>Total stock-based compensation</b>	<b>\$ 6,021</b>	<b>\$ 5,483</b>	<b>\$ 3,652</b>

The following table presents stock-based compensation expense, net of estimated forfeitures, by grant type (in thousands):

	Years Ended		
	December 31,		
	2014	2013	2012
Stock options	\$ 3,631	\$ 3,906	\$ 3,369
RSUs	2,390	1,577	283
<b>Total stock-based compensation</b>	<b>\$ 6,021</b>	<b>\$ 5,483</b>	<b>\$ 3,652</b>

The following table presents unrecognized compensation expense, net of estimated forfeitures, related to the Company's equity compensation plans as of December 31, 2014, which is expected to be recognized over the following weighted-average periods, (in thousands, except for weighted-average period):

	Unrecognized Compensation Expense	Weighted- Average Period (in years)
Stock options	\$ 7,468	3.1
RSUs	\$ 2,981	1.4

There were no capitalized stock-based compensation costs or recognized stock-based compensation tax benefits during the years ended December 31, 2014 and 2013.

Additional information regarding options outstanding as of December 31, 2014, is as follows:

Range of Exercise Prices	Options Outstanding			Options Exercisable	
	Options Outstanding	Weighted-Average Remaining Contractual Life (Years)	Weighted-Average Exercise Price per Share	Exercisable	Weighted-Average Exercise Price per Share
\$0.00 - \$1.50	609,141	0.92	\$ 0.57	609,141	\$ 0.57
\$1.51 - \$3.00	6,996,638	8.44	2.25	1,760,138	2.22
\$3.01 - \$4.50	402,688	8.12	3.79	88,629	3.52
\$4.51 - \$6.00	451,899	8.78	5.55	220,568	5.55
\$6.01 - \$7.50	856,420	6.91	6.29	694,816	6.28
\$7.51 - \$9.00	679,424	7.52	8.74	469,393	8.73
\$9.01 - \$10.50	303,997	7.55	9.55	220,989	9.60
\$10.51 - \$12.00	32,500	6.65	11.96	27,082	11.96
	<b>10,332,707</b>	<b>7.78</b>	<b>\$ 3.36</b>	<b>4,090,756</b>	<b>\$ 4.08</b>

## Determining Fair Value of Stock Options

The fair value of each grant of stock options was determined by the Company and its board of directors using the methods and assumptions discussed below. Each of these inputs is subjective and generally requires significant judgment to determine.

*Valuation Method*—The Company estimates the fair value of its stock options using the Black-Scholes option-pricing model.

*Expected Term*—The expected term represents the period that the stock-based awards are expected to be outstanding. For option grants that are considered to be "plain vanilla," the Company used the simplified method to determine the expected term as provided by the Securities and Exchange Commission. The simplified method calculates the expected term as the average of the time-to-vesting and the contractual life of the options.

*Expected Volatility*—The expected volatility is derived primarily from historical volatilities of several unrelated, publicly listed peer companies over a period approximately equal to the expected term of the award and to a lesser extent, the Company's weighted historical volatility following its IPO in November 2011.

*Fair Value of Common Stock*—The fair value of the common stock underlying the stock options, prior to the Company's initial public offering in November 2011, had been determined by the Company's board of directors. Because there was no public market for the Company's common stock prior to November 2011, the board of directors determined the fair value of the common stock at the time of the option grant by considering a number of objective and subjective factors including valuations of comparable companies, sales of redeemable convertible preferred stock to unrelated third parties, operating and financial performance, lack of liquidity of capital stock and general and industry-specific economic outlook, amongst other factors.

*Risk-Free Interest Rate*—The risk-free interest rate is based on the U.S. Treasury yield curve in effect at the time of grant for zero coupon U.S. Treasury notes with maturities approximately equal to the expected term of the options.

*Expected Dividend*—The expected dividend has been zero as the Company has never paid dividends and does not expect to pay dividends.

*Summary of Assumptions*—The fair value of the employee stock options were estimated on the grant dates using a Black-Scholes option-pricing model with the following weighted average assumptions:

	Years Ended December 31,		
	2014	2013	2012
Expected term (in years)	5.9	6.0	6.0
Risk-free interest rate	1.8%	1.4%	1.1%
Expected volatility	56%	59%	60%
Expected dividend rate	—%	—%	—%

## 8. Net Loss per Share of Common Stock

The following table sets forth the computation of the Company's basic and diluted net loss per share of common stock during the years ended December 31, 2014, 2013 and 2012 (in thousands, except for share and per share amounts):

	Years Ended December 31,		
	2014	2013	2012
Net loss attributable to common stockholders	\$ (21,761)	\$ (8,819)	\$ (756)
Shares used in computing net loss per share of common stock, basic and diluted	46,718,495	44,958,120	42,966,448
Net loss per share of common stock, basic and diluted	\$ (0.47)	\$ (0.20)	\$ (0.02)

The following outstanding shares of common stock equivalents were excluded from the computation of diluted net loss per share of common stock for the periods presented because including them would have been antidilutive:

	Years Ended December 31,		
	2014	2013	2012
Stock options to purchase common stock	10,332,707	6,468,743	7,426,417
RSUs	1,583,801	850,351	254,863
Common stock subject to repurchase	—	—	7,500
Common stock warrants	90,000	912,368	912,368

## 9. Income Taxes

The Company follows FASB ASC 740, *Income Taxes*, for the computation and presentation of its tax provision. For the year ended December 31, 2014, the income tax provision of \$7,000 represents a provision for income taxes of \$6,000 related to foreign income taxes and state minimum income taxes of \$1,000.

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

	As of December 31,		
	2014	2013	2012
<b>Current:</b>			
U.S. Federal	\$ —	\$ —	\$ —
State	1	1	1
Foreign	6	16	50
Total current	\$ 7	\$ 17	\$ 51
<b>Deferred:</b>			
U.S. Federal	\$ —	\$ —	\$ —
State	—	—	—
Foreign	—	—	—
Total deferred	\$ —	\$ —	\$ —
<b>Total provision for income taxes</b>	<b>\$ 7</b>	<b>\$ 17</b>	<b>\$ 51</b>

The reconciliation of federal statutory income tax to the Company's provision for income taxes is as follows (in thousands):

	As of December 31,		
	2014	2013	2012
Expected provision at statutory federal rate	\$ (7,741)	\$ (3,080)	\$ (247)
State tax—net of federal benefit	1	1	1
U.S. federal research credit	(1,125)	(2,272)	—
Non deductible expenses	104	28	131
Others	8	(9)	31
Change in valuation allowance	8,760	5,349	135
<b>Provision for income taxes</b>	<b>\$ 7</b>	<b>\$ 17</b>	<b>\$ 51</b>

As of December 31, 2014, the Company's foreign subsidiaries had accumulated approximately \$0.3 million of earnings that have been reinvested in their operations. The Company has not provided U.S. tax on these earnings as the reinvestment is considered permanent in duration.

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. Significant components of the Company's deferred tax assets and liabilities are as follows (in thousands):

	As of December 31,	
	2014	2013
<b>Deferred tax assets:</b>		
Net operating loss federal and state	\$ 22,442	\$ 15,411
Research and foreign tax credits	10,694	8,727
Accrued compensation and vacation	390	595
Deferred revenue, other accruals and reserves	3,077	2,188
Stock-based compensation	4,028	3,262
Patents	4,472	5,929
Gross deferred tax assets	\$ 45,103	\$ 36,112
Valuation allowance	\$ (45,036)	\$ (35,496)
Total deferred tax asset	\$ 67	\$ 616
<b>Deferred tax liabilities:</b>		
Property and equipment	\$ 67	\$ 616
Total deferred tax liabilities	\$ 67	\$ 616
Net deferred tax assets	\$ —	\$ —

The Company established valuation allowances for U.S. federal and state deferred tax assets. The valuation allowances require an assessment of both positive and negative evidence when determining whether it is more likely than not that deferred tax assets are recoverable. Such assessment is required on a jurisdiction by jurisdiction basis. During the year ended December 31, 2014, the Company continued to maintain the valuation allowances for U.S. federal and state deferred tax assets. The Company intends to maintain a full valuation allowance until sufficient positive evidence exists to support reversal. The valuation allowance for deferred tax assets was \$45.0 million and \$35.5 million as of December 31, 2014 and 2013, respectively. The increase in the valuation allowance during the years ended December 31, 2014 and 2013 was \$9.5 million and \$6.3 million, respectively.

As of December 31, 2014, the Company has net operating loss carryforwards for U.S. federal and state income tax purposes of approximately \$69.7 million and \$64.0 million, respectively. Of these amounts, \$13.9 million and \$13.1 million, respectively, represent federal and state tax deductions from stock-based compensation which will be recorded as an adjustment to additional paid-in capital when they reduce taxes payable. The U.S. federal net operating loss carryforwards will start to expire in 2026 while for state purposes, the net operating losses will begin to expire in 2018. Utilization of the Company's net operating loss carryforwards and tax credits may be subject to substantial annual limitation due to the ownership change limitations provided by the Internal Revenue Code and similar state provisions. Such an annual limitation could result in the expiration of the net operating loss before utilization. The Company has not determined whether an ownership change has occurred.

In addition, the Company has \$7.8 million U.S. federal R&D credit and \$8.5 million California R&D credit carryforwards to offset future income tax liabilities. U.S. federal R&D tax credits can be carried forward for 20 years and will start to expire in 2025. California R&D credits can be carried forward indefinitely.

On December 19, 2014 the President signed into law The Tax Increase Prevention Act of 2014, which retroactively extends more than 50 expired tax provisions through 2014. Among the extended provisions is the Sec. 41 research credit for qualified research expenditures incurred through the end of 2014. The benefit of the reinstated credit did not impact the income statement in the period of enactment, which was the fourth quarter of 2014, as the research and development credit carryforwards are offset by a full valuation allowance.

#### Uncertain Tax Positions

For the year ended December 31, 2014, the total amount of unrecognized tax benefits excluding interest thereon was \$3.3 million, none of which would impact the effective tax rate if realized during the year. The Company has not accrued interest and penalties related to the unrecognized tax benefits reflected in the financial statements for the years ended

December 31, 2014, 2013 and 2012. Although the timing and outcome of income tax audits is highly uncertain, unrecognized tax benefits are not expected to decrease in the next twelve months.

The following table summarizes the activity related to unrecognized tax benefits (in thousands):

	As of December 31,		
	2014	2013	2012
Unrecognized benefit—beginning of period	\$ 2,656	\$ 1,840	\$ 1,401
Gross increase—prior period tax positions	—	274	38
Gross decreases—prior period tax positions	—	(90)	—
Gross increases—current period tax positions	605	632	401
Unrecognized benefit—end of period	<u>\$ 3,261</u>	<u>\$ 2,656</u>	<u>\$ 1,840</u>

The Company's U.S. federal, state and local and foreign income tax returns are subject to audit by relevant tax authorities. The Company's income tax reporting periods beginning with tax year ended December 31, 2011 for the U.S., and tax year ended December 31, 2010 for the Company's major state and local jurisdictions remain generally open to audit by relevant tax authorities.

#### 10. Related Party Transactions

In March 2013, the Company amended the CDP agreement that it had entered into in March 2010 with a related party and that it and the related party had amended in March 2012. Under the amended agreement, the two companies agreed to work together to conduct research and development and other activities. The CDP development program between the parties ended during the year ended December 31, 2014, although certain licensing and royalty elements continue. The other party and the Company each have an independent board member that serves on both companies' boards of directors and the independent board member is also a managing member of a significant shareholder of the Company. As of December 31, 2014, this shareholder was a beneficial owner of approximately 9.3% of the Company's common stock. As of December 31, 2014 and December 31, 2013 the Company had accounts receivable in the amount of zero and \$0.1 million, respectively. The following table presents related party revenue included in the Consolidated Statement of Operations from this amended agreement (in thousands):

	Years Ended December 31,		
	2014	2013	2012
Related party revenue	\$ 1,882	\$ 4,365	\$ 4,543

In November 2006, the Company entered into an Alliance Agreement with a related party that was a beneficial owner of approximately 5.4% of the Company's common stock as of December 31, 2014. The other party and the Company each have an independent board member that serves on both companies' boards of directors. Since November 2006, the agreement has been amended numerous times with the last amendment signed in December 2013. As of December 31, 2014 and December 31, 2013 the Company had accounts receivable in the amount of zero and \$0.1 million, respectively, and had a deferred revenue balance in the amount of \$0.8 million and \$0.4 million, respectively, related to the amended agreement. The following table presents related party revenue and cost of revenue included in the Consolidated Statement of Operations from the amended agreement (in thousands):

	Years Ended December 31,		
	2014	2013	2012
Related party revenue	\$ 3,712	\$ 8,449	\$ 16,525
Related cost of revenue	\$ —	\$ 4	\$ 55

## 11. Information about Geographic Areas

### Revenue

Revenue by geography is based on the billing address of the customer. The following table sets forth revenue by geographic area (in thousands):

	Years Ended December 31,		
	2014	2013	2012
United States	\$ 42,350	\$ 47,752	\$ 51,045
Japan	2,726	12,691	13,594
APAC other	1,781	2,958	2,066
Europe and Middle East	838	4,005	122
Total	\$ 47,695	\$ 67,406	\$ 66,827

### Long-Lived Assets

Substantially all of the Company's long-lived assets are located in the U.S. An insignificant amount of long-lived assets reside in the Company's foreign subsidiaries and branches in Hong Kong, Japan and Taiwan.

## 12. Restructuring Charges

During each of February and May 2014, the Company initiated reductions in force as part of an overall plan to reduce the Company's cost structure. The reductions in force constituted approximately 18% of the Company's workforce in February 2014 and 10% in May 2014. As a result of the reductions in force, the Company recorded expenses related to employee severance and termination benefits of approximately \$1.4 million, which was recognized during the year ended December 31, 2014. The following table presents severance and related expenses, payments and accrual adjustments (in thousands) as of December 31, 2014:

	As of December 31, 2013	Charges	Cash Payments	Adjustments	As of December 31, 2014
Severance and related expenses	\$ —	\$ 1,423	\$ (1,362)	\$ (61)	\$ —

## 13. Subsequent Event

In February 2015, the Company's Board of Directors approved a repricing of certain employee stock options issued under the Company's 2011 Equity Incentive Plan. The repriced options will have an exercise price of \$1.73 per share, the closing price of the Company's common stock as reported by The NASDAQ Global Select Market on February 26, 2015. The impact of the repricing will result in additional stock-based compensation expense of approximately \$0.9 million, of which \$0.6 million is expected to be recognized in 2015 and \$0.3 million in periods beyond 2015.

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

None.

## ITEM 9A. CONTROLS AND PROCEDURES

### Evaluation of Disclosure Controls and Procedures

Our management, including our Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures as of December 31, 2014. The term "disclosure controls and procedures," as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure. In designing and evaluating the disclosure controls and procedures, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable, and not absolute, assurance of achieving the desired objectives. In reaching a reasonable level of assurance, management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on this evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective as of December 31, 2014 at the reasonable assurance level.

### Changes in Internal Control Over Financial Reporting

There was no change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) that occurred during the quarterly period ended December 31, 2014 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

### Management's Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rule 13a-15(f) or 15d-15(f) of the Securities Exchange Act of 1934. Our internal control over financial reporting is a process designed by, or under the supervision of, our Chief Executive Officer and Chief Financial Officer, and effected by our board of directors, management and other personnel, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles and includes those policies and procedures that:

- pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of the assets of the Company;
- provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the Company are being made only in accordance with authorizations of management and directors of the Company; and
- provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the Company's assets that could have a material effect on the financial statements.

Our management, including our Chief Executive Officer and Chief Financial Officer, does not expect that our disclosure controls and procedures or internal control over financial reporting will prevent all errors and all fraud. A control system, no matter how well designed and implemented, can provide only reasonable, not absolute, assurance that the control system's objectives will be met. Further, the design of a control system must reflect the fact that there are resource constraints and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues within a company are detected. The inherent limitations include the realities that judgments in decision-making can be faulty and that breakdowns can occur because of simple errors or mistakes. Controls can also be circumvented by the individual acts of some persons, by collusion of two or more people or by management override of the controls. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and may not be detected. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Our management assessed the effectiveness of the Company's internal control over financial reporting as of December 31, 2014, utilizing the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission in Internal Control—Integrated Framework (1992 framework). Based on our management's assessment, we believe that, as of December 31, 2014, our internal control over financial reporting was effective based on those criteria. The effectiveness of our internal control over financial reporting as of December 31, 2014 has been audited by KPMG LLP, an independent registered public accounting firm, as stated in their report which is included in Item 8 of this Annual Report on Form 10-K.

**ITEM 9B. OTHER INFORMATION**

None.

## PART III

### ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required by this item concerning our directors, executive officers, compliance with Section 16 of the Exchange Act, our code of ethics and Nominating and Corporate Governance Committee and Audit Committee is incorporated by reference to the information set forth in the sections under the headings "*Election of Directors*," "*Executive Officers*," "*Section 16(a) Beneficial Ownership Reporting Compliance*" and "*Board of Directors, Corporate Governance and Related Matters*" in our Definitive Proxy Statement to be filed with the Securities and Exchange Commission in connection with our 2015 Annual Meeting of Stockholders (the 2015 Proxy Statement).

### ITEM 11. EXECUTIVE COMPENSATION

The information required by this item concerning executive compensation is incorporated by reference to the information in the 2015 Proxy Statement under the headings "*Executive Compensation*," "*Board of Directors, Corporate Governance and Related Matters*" and "*Executive Compensation—Compensation Committee Report*."

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

The information required by this item concerning securities authorized for issuance under equity compensation plans and security ownership of certain beneficial owners and management is incorporated by reference to the information in the 2015 Proxy Statement under the headings "*Executive Compensation—Equity Compensation Plan Information*" and "*Security Ownership of Directors and Executive Officers and Certain Beneficial Owners*."

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

The information required by this item concerning transactions with related persons and director independence is incorporated by reference to the information in the 2015 Proxy Statement under the subheadings "*Director Independence*," "*Transactions with Related Persons*" and "*Related Person Transaction Policy*" under the heading "*Board of Directors, Corporate Governance and Related Matters*."

### ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information required by this item is incorporated by reference from the information in the 2015 Proxy Statement under the headings "*Audit-related Matters*" and "*Ratification of the Appointment of the Independent Registered Public Accounting Firm*."

**PART IV**

**ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES**

- (a) The following documents are filed as part of this report:
- (b) Financial Statements: See "Index to Consolidated Financial Statements" in Part II, Item 8 of this Form 10-K
- (c) All schedules are omitted because either they are not required information, or the required information is in the financial statements or notes thereto.
- (d) Exhibits: The exhibits listed in the accompanying index to exhibits are filed or incorporated by reference as part of this Form 10-K.

## SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

INTERMOLECULAR, INC.

Date: February 27, 2015

By: /s/ BRUCE M. McWILLIAMS  
Bruce M. McWilliams  
*President and Chief Executive Officer*

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

Signature	Title	Date
/s/ BRUCE M. McWILLIAMS Bruce M. McWilliams	Chairman of the Board of Directors, President and Chief Executive Officer (Principal Executive Officer)	February 27, 2015
/s/ C. RICHARD NEELY, JR. C. Richard Neely, Jr.	Chief Financial Officer (Principal Financial and Accounting Officer)	February 27, 2015
/s/ THOMAS R. BARUCH Thomas R. Baruch	Director	February 27, 2015
/s/ MARVIN D. BURKETT Marvin D. Burkett	Director	February 27, 2015
/s/ IRWIN FEDERMAN Irwin Federman	Director	February 27, 2015
/s/ GEORGE M. SCALISE George M. Scalise	Director	February 27, 2015
/s/ JOHN L. WALECKA John L. Walecka	Director	February 27, 2015

## EXHIBITS

Exhibit Number	Exhibit Description	Incorporated By Reference			Filed Herewith
		Form	Date	Number	
2.1	Asset Purchase Agreement by and between Intermolecular, Inc. and Symyx Technologies, Inc. dated as of July 28, 2011. (1)	S-1/A	9/9/2011	2.1	
3.1	Amended and Restated Certificate of Incorporation of Intermolecular, Inc.	10-K	03/16/2012	3.1	
3.2	Amended and Restated Bylaws of Intermolecular, Inc.	10-K	03/16/2012	3.2	
4.1	Specimen Common Stock Certificate.	S-1/A	11/7/2011	4.1	
4.2	Warrant to purchase shares of common stock issued to Timane S.a.r.l. dated June 20, 2008.	S-1	7/29/2011	4.2	
4.3	Fourth Amended and Restated Investor Rights Agreement dated as of March 4, 2011, by and among Intermolecular, Inc. and certain stockholders named therein, as amended by Amendment No. 1 to Fourth Amended and Restated Investor Rights Agreement dated as of June 14, 2011.	S-1	7/29/2011	10.1	
10.1	Lease Agreement by and between Intermolecular, Inc. and Novellus Systems, Inc. dated as of May 11, 2010, as amended by the Confirmation of Commencement Date of the Lease Agreement dated as of June 10, 2010.	S-1	7/29/2011	10.2	
10.2 †	Collaborative Development Program Agreement by and among SanDisk Corporation, Toshiba Corporation and Intermolecular, Inc. dated March 15, 2010.	S-1/A	11/7/2011	10.3	
10.3 †	Alliance Agreement by and between Intermolecular, Inc. and Advanced Technology Materials, Inc. dated as of November 17, 2006.	S-1/A	10/26/2011	10.4	

Exhibit Number	Exhibit Description	Incorporated By Reference			Filed Herewith
		Form	Date	Number	
10.4 †	Wets Workflow Purchase Agreement by and between Intermolecular, Inc. and Advanced Technology Materials, Inc. dated as of July 13, 2007, as amended by the Addendum to Wets Workflow Purchase Agreement dated as of December 21, 2007, the Amendment to Addendum to Wets Workflow Purchase Agreement dated as of December 16, 2008 and the Supplemental Agreement to the Amendment to the Addendum to Wets Workflow Purchase Agreement dated as of March 16, 2009.	S-1/A	11/7/2011	10.5	
10.5 †	Dry Workflow Purchase Agreement by and between Intermolecular, Inc. and Advanced Technology Materials, Inc. dated as of December 16, 2008.	S-1/A	10/26/2011	10.6	
10.6 †	Modification to the Wets Workflow Purchase Agreement and Dry Workflow Purchase Agreement by and between Intermolecular, Inc. and Advanced Technology Materials, Inc. dated as of August 27, 2010.	S-1/A	9/30/2011	10.7	
10.7 †	Amendment Number 5 to the Wets Workflow Purchase Agreement and Dry Workflow Purchase Agreement by and between Intermolecular, Inc. and Advanced Technology Materials, Inc. dated as of March 3, 2011.	S-1/A	9/30/2011	10.8	
10.8 †	CDP Services Addendum to Dry Workflow Purchase Agreement by and between Intermolecular, Inc. and Advanced Technology Materials, Inc. dated as of October 1, 2011, Amendment Number 6 to the Wets Workflow Purchase Agreement and Dry Workflow Purchase Agreement by and between Intermolecular, Inc. and Advanced Technology Materials, Inc. dated as of October 27, 2011, and Amendment Number 7 to the Wets Workflow Purchase Agreement and Dry Workflow Purchase Agreement by and between Intermolecular, Inc. and Advanced Technology Materials, Inc. dated as of October 27, 2011.	10-K	03/16/2012	10.8	
10.9 †	Advanced Memory Development Program Agreement by and between Intermolecular, Inc. and Elpida Memory, Inc. dated as of May 22, 2008, as amended by Exhibit C—Royalty Terms dated as of August 18, 2008, the Supplemental Joint Development Agreement dated as of January 27, 2009, the Amendment to the Supplemental Joint Development Agreement dated as of May 25, 2009 and the Amendment to the Advanced Memory Agreement dated July 29, 2010.	S-1/A	11/7/2011	10.9	

Exhibit Number	Exhibit Description	Incorporated by Reference			Filed Herewith
		Form	Date	Number	
10.10 †	Collaborative Development Program Agreement by and between Intermolecular, Inc. and GLOBALFOUNDRIES Inc. dated as of June 1, 2011.	S-1/A	9/30/2011	10.10	
10.11	Form of Indemnification Agreement between Intermolecular, Inc. and each of its directors, officers and certain employees.	S-1/A	11/7/2011	10.12	
10.12a +	Intermolecular, Inc. 2004 Equity Incentive Plan, as amended.	S-1	7/29/2011	10.13a	
10.12b +	Form of Early Exercise Stock Option Agreement under the 2004 Equity Incentive Plan.	S-1	7/29/2011	10.13b	
10.12c +	Form of Stock Option Agreement under the 2004 Equity Incentive Plan.	S-1	7/29/2011	10.13c	
10.13a +	Intermolecular, Inc. 2011 Incentive Award Plan.	S-1/A	11/7/2011	10.14a	
10.13b +	Form of Stock Option Grant Notice and Stock Option Agreement under the 2011 Incentive Award Plan.	S-1/A	11/7/2011	10.14b	
10.13c +	Form of Restricted Stock Award Grant Notice and Restricted Stock Award Agreement under the 2011 Incentive Award Plan.	S-1/A	11/7/2011	10.14c	
10.13d +	Form of Restricted Stock Unit Award Grant Notice and Restricted Stock Unit Award Agreement under the 2011 Incentive Award Plan.	S-1/A	11/7/2011	10.14d	
10.14a +	Form of Change in Control Severance Agreement between the Company and certain of its executive officers.	S-1/A	11/7/2011	10.15a	
10.14b +	Change in Control Severance Agreement between the Company and David E. Lazovsky.	S-1/A	11/7/2011	10.15b	
10.15 †	Amendment dated March 28, 2012 to the Collaborative Development Agreement by and among SanDisk Corporation, Toshiba Corporation and Intermolecular, Inc. dated March 15, 2010.	10-Q	05/08/2012	10.1	

Exhibit Number	Exhibit Description	Incorporated by Reference			Filed Herewith
		Form	Date	Number	
10.16 †	Research Agreement by and among Guardian Industries Corp. and Intermolecular, Inc. dated as of February 8, 2010 (the "Sol-Gel Agreement"), incorporating Task Order #1 effective as of February 8, 2010, Task Order #1.1 effective as of July 22, 2010, Task Order #2 effective as of October 22, 2010 and Task Order #3 effective as of May 1, 2011, as amended on November 1, 2011. Research Agreement by and among Guardian Industries Corp. and Intermolecular, Inc. dated as of July 15, 2010 (the "Master Agreement"), incorporating Task Order #1 effective as of July 22, 2010 and Task Order #2 effective as of November 30, 2010. Amendment Number One to Sol-Gel Agreement and Master Agreement effective as of January 1, 2012.	10-Q	05/08/2012	10.2	
10.17 †	First Fee Triggering Technology Agreement by and between Elpida Memory, Inc. and Intermolecular, Inc. dated December 29, 2012.	10-K	03/04/2012	10.17	
10.18 †	Amendment No. 8 to the Wets Workflow Purchase Agreement and Dry Workflow Purchase Agreement by and between Advanced Technology Materials, Inc. and Intermolecular, Inc. dated as of December 31, 2012.	10-K	03/04/2012	10.18	
10.19 †	Collaborative Development Program Agreement by and between First Solar, Inc. and Intermolecular, Inc. dated as of December 31, 2012.	10-K	03/04/2012	10.19	
10.20 †	Second Addendum to Collaborative Development Program Agreement, dated March 27, 2013, by and among Toshiba Corporation, SanDisk Corporation and Intermolecular, Inc.	10-Q	05/02/2013	10.20	
10.21 †	Tool Purchase and Informatics License Agreement by and between First Solar, Inc. and Intermolecular, Inc., dated February 6, 2013.	10-Q	05/02/2013	10.21	
10.22 +	Separation Agreement and General Release Agreement, effective March 28, 2013, by and between John R. Behnke and Intermolecular, Inc.	10-Q	05/02/2013	10.22	
10.23 +	Employment Agreement dated March 25, 2013 by and between Raj Jammy and Intermolecular, Inc.	10-Q	05/02/2013	10.23	
10.24 †	Amendment No. 2 to the Collaborative Development Program Agreement, effective July 1, 2013, by and between GLOBALFOUNDRIES Inc. and Intermolecular, Inc.	10-Q	08/07/2013	10.24	
10.25 †	Second Extension to the Advanced Memory Agreements, effective as of April 1, 2013, by and between Elpida Memory, Inc. and Intermolecular, Inc.	10-Q	08/07/2013	10.25	

Exhibit Number	Exhibit Description	Incorporated by Reference			Filed Herewith
		Form	Date	Number	
10.26	Loan and Security Agreement between Intermolecular, Inc. and Silicon Valley Bank, dated as of May 31, 2013.	10-Q	08/07/2013	10.26	
10.27 †	Collaborative Development Agreement, effective April 1, 2013, by and between Micron Technology, Inc. and Intermolecular, Inc.	10-Q	08/07/2013	10.27	
10.28 †	Equipment Supply and Technology Licensing Agreement for the Dry Equipment effective September 29, 2013, by and between Ulyanovsk Center for Technology Transfer of the Russian Federation and Intermolecular Inc.	10-Q	11/07/2013	10.28	
10.29 †	Equipment Supply and Technology Licensing Agreement for the Wet Equipment effective September 29, 2013, by and between Ulyanovsk Center for Technology Transfer of the Russian Federation and Intermolecular Inc.	10-Q	11/07/2013	10.29	
10.30 †	Joint Development Program Agreement effective September 29, 2013, by and between Ulyanovsk Center for Technology Transfer of the Russian Federation and Intermolecular Inc.	10-Q	11/07/2013	10.30	
10.31	First amendment to the Lease Agreement between SBC&D Co. and Intermolecular, Inc., dated as of October 16, 2013.	10-Q	11/07/2013	10.31	
10.32 †	Amendment Number 10 to the Wets Workflow Purchase Agreement and Dry Workflow Agreement between Advanced Technology Materials, Inc., and Intermolecular, Inc., dated December 30, 2013.	10-K	03/10/2014	10.32	
10.33 †	Amendment No. 4 to the Collaborative Development Program Agreement between First Solar and Intermolecular dated December 31, 2013.	10-K	03/10/2014	10.33	

Exhibit Number	Exhibit Description	Incorporated by Reference			Filed Herewith
		Form	Date	Number	
10.34 †	Amendment No. 2 to the Research Agreements between Guardian Industries and Intermolecular dated December 30, 2013.				
		10-K	03/10/2014	10.34	
10.35 †	Amendment No. 3 to the Collaborative Development Program Agreement, effective February 3, 2014, by and between GLOBALFOUNDRIES Inc. and Intermolecular, Inc.	10-Q	05/06/2014	10.35	
10.36 †	Amendment No. 3 to the Research Agreements between Guardian Industries and Intermolecular dated February 6, 2014.	10-Q/A	10/03/2014	10.36	
10.37 †	Amendment No. 4 to the Research Agreements between Guardian Industries and Intermolecular dated October 30, 2014				X
10.38 +	Employment Agreement, effective October 12, 2014, by and between Bruce McWilliams and Intermolecular, Inc.				X
10.39 +	Employment Agreement dated October 10, 2014, by and between Scot Griffin and Intermolecular, Inc.				X
10.40 +	Separation Agreement, effective October 12, 2014, by and between David E. Lazovsky and Intermolecular, Inc.				X
10.41 +	Separation Agreement, effective October 12, 2014, by and between Sandeep Jaggi and Intermolecular, Inc.				X
10.42 +	Separation Agreement, effective December 29, 2014, by and between Raj Jammy and Intermolecular, Inc.				X
23.1	Consent of Independent Registered Public Accounting Firm.				X
31.1	Certification of Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.				X
31.2	Certification of Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.				X
32.1	Certification of Chief Executive Officer pursuant to 18 U.S.C. §1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.				X
32.2	Certification of Chief Financial Officer pursuant to 18 U.S.C. §1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.				X

+ Indicates a management contract or compensatory plan.

† Certain portions have been omitted pursuant to a confidential treatment request. Omitted information has been filed separately with the SEC.

(1) All exhibits, schedules and similar attachments to this exhibit have been omitted. Copies of such exhibits, schedules and similar attachments will be furnished supplementally to the SEC upon request.