INTERMOLECULAR®

FAST FORWARD THINKING >>

2012 ANNUAL REPORT

Intermolecular's mission is to redefine R&D for the semiconductor and clean energy sectors as they develop new generations of technology for the communications, consumer electronics, medical device, automotive, and entertainment industries. We help our partners accomplish practical, market-oriented goals faster, with higher ROI, so that unique new devices, processes and materials can quickly move into volume production.

Computers

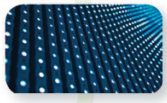
ICs

PV Panels

Tablets and Mobile Phones

PV Cells

R&D Innovation



LEDs

Energy Efficiency

Glass Coatings

LED Lighting

Flat Panel Displays

Dear Stockholders,

Intermolecular achieved several important milestones in the 2012 fiscal year. We made significant progress in our mission to deliver differentiated technology to customers in core semiconductor and clean energy markets through our Collaborative Development Programs (CDPs). This resulted in sustained revenue growth and improved profit margins in line with our targets, driven by an increase in higher-margin IP licensing and royalty revenue. We not only delivered our strongest fiscal results yet to our stockholders, but we believe we finished the year poised to continue these trends in the years ahead.

Financial Highlights

In 2012 our revenue grew 24 percent on a year-over-year basis, from $53.8 million to $66.8 million. We derive revenue from three sources: CDP and services revenue; product revenue; and licensing and royalty revenue, which includes fees for granting rights to our IP, as well as revenue from customer purchases of IP. CDP revenue grew significantly from 2011 to 2012 as we entered into new CDPs and extended and/or expanded existing CDPs.

In addition to solid revenue growth, we also increased gross margin from 52.7 percent to 57.5 percent of revenue. Driving gross margin higher were the elimination of royalty payments to Symyx in late 2011, and most notably growth in licensing and royalty revenue.

As we executed on our business model to generate sustained growth we realized positive operating cash flow of $3.5 million and substantially improved our operating profitability from a $3.7 million loss in 2011 to $0.3 million in income for 2012. Ending 2012 on a strong note, we reported earnings of $0.01 per share for our fourth quarter.

Market Highlights

Among our most notable achievements in 2012 was further diversification of our business, evidenced by 180 percent revenue growth in clean energy, where we added multiple new customer engagements. Our most significant new engagement was with First Solar, a leading provider of fully-integrated solar solutions. In less than five months we developed IP for First Solar that directly led to additional licensing and royalty revenue in our fourth quarter, and a multi-year extension and expansion of our CDP and IP agreement. Although semiconductors still account for a sizable majority of our revenue, we believe our progress in clean energy represented an inflection point in becoming a diversified, high-growth company, deriving significant revenues from distinct markets.

Our semiconductor highlights included passing a technical milestone in ReRAM with our customers SanDisk and Toshiba, as well as progress with GLOBALFOUNDRIES in its move to the 20- and 14-nanometer technology nodes and with Elpida in next-generation mobile DRAM. In the first half of 2013, we expect Elpida to begin rolling-out next generation mobile DRAM that embeds our developed technology and IP in mobile devices such as smart phones and tablets. We are well-positioned with critical developed technology and IP in DRAM, and look forward to the opportunity to work with Micron upon completion of their pending acquisition of Elpida.

All of our collaborations have led to us assembling a very powerful patent portfolio. At the end of 2012 we reached nearly 1,000 U.S. patents and applications.

Looking Ahead

Pioneering a new model for research and development (R&D) in the semiconductor and clean energy industries that delivers the benefits of differentiated IP to our customers and royalty revenues to us is an ambitious undertaking. Yet, we believe that the advantages of our unique R&D platform, leveraging our High Productivity Combinatorial (HPC™) technology and world-class team, will continue to accelerate innovation and product time to market for our industry leading customers.

We want to extend our deepest appreciation to our customers and stockholders for continuing to believe in our vision. We must also thank our employees who deliver daily results based on our vision. Yet, we firmly believe our greatest successes lie ahead, and with your support we look forward to realizing the full potential of our vision as we continue to redefine R&D for semiconductor and clean energy industries.

Sincerely,

David E. Lazovsky

President and Chief Executive Officer

April 16, 2013

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, 2012

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	**20-1616267**
(State or Other Jurisdiction of Incorporation or Organization)	(I.R.S. Employer Identification No.)
3011 N. First Street San Jose, California	**95134**
(Address of Principal Executive Offices)	(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):

Large accelerated filer ☐	Accelerated filer ☒	Non-accelerated filer ☐ (Do not check if a smaller reporting company)	Smaller reporting company ☐

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

The aggregate market value of the registrant's common stock, par value $0.001, held by non-affiliates of the registrant was approximately $145 million, based upon the closing sale price of such shares on the NASDAQ Global Select Market on June 29, 2012, which was the last business day of the registrant's most recently completed second fiscal quarter. The number of shares held by non-affiliates is based on Schedules 13D and 13G filed by certain stockholders for the year ended December 31, 2012 and subsequent reports, if any, filed by certain stockholders pursuant to Section 16 of the Exchange Act. Exclusion of such shares should not be construed to indicate that any such person possesses the power, direct or indirect, to direct or cause the direction of the management or policies of the registrant or that such person is controlled by or under common control with the registrant.

As of February 25, 2013, the number of outstanding shares of the registrant's common stock, par value $0.001 per share, was 44,364,108.

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 2013 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, 2012. 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, 2012

TABLE OF CONTENTS

		Page
	PART I	
Item 1.	Business	5
Item 1A.	Risk Factors	26
Item 1B.	Unresolved Staff Comments	46
Item 2.	Properties	46
Item 3.	Legal Proceedings	46
Item 4.	Mine Safety Disclosures	47
	PART II	
Item 5.	Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities	48
Item 6.	Selected Financial Data	51
Item 7.	Management's Discussion and Analysis of Financial Condition and Results of Operations	55
Item 7A.	Quantitative and Qualitative Disclosures about Market Risk	77
Item 8.	Financial Statements and Supplementary Data	79
Item 9.	Changes in and Disagreements with Accountants on Accounting and Financial Disclosure	113
Item 9A.	Controls and Procedures	113
Item 9B.	Other information	114
	PART III	
Item 10.	Directors, Executive Officers and Corporate Governance	115
Item 11.	Executive Compensation	115
Item 12.	Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters	115
Item 13.	Certain Relationships and Related Transactions, and Director Independence	115
Item 14.	Principal Accounting Fees and Services	115
	PART IV	
Item 15.	Exhibits, Financial Statement Schedule	116
Signatures		117

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 industry and the challenges it 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 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 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

Intermolecular has pioneered a proprietary approach to accelerate research and development, innovation and time-to-market for the semiconductor and clean energy industries. Through paid collaborative development programs (CDPs) with our customers, we develop proprietary technology and intellectual property (IP) for our customers focused on advanced materials, processes, integration and device architectures. This technology enables our customers to bring optimized, high-volume manufacturing-ready integrated devices to market faster and with less risk than conventional approaches to research and development (R&D). We provide our customers with proprietary technology through various fee arrangements and grant them rights to associated IP, primarily through royalty-bearing licenses. Through paid CDPs and our own development, we have established a portfolio of greater than 1,000 patents and patent applications. Our proprietary approach is broadly applicable to high-volume integrated device markets, which include the markets for semiconductors, flat glass coatings and glass-based devices, solar cells, light-emitting diodes (LEDs), flat-panel displays, advanced batteries and other energy efficiency applications.

Our customers' integrated devices are typically manufactured using thin-film deposition of advanced materials through customized processes that create specific device architecture. It is increasingly necessary to evaluate a wider range of elements in the periodic table, as well as a broader range of processes, to develop advanced device structures capable of addressing particular application requirements. Our proprietary approach to R&D dramatically accelerates the experimentation required to evaluate different combinations of materials and processes.

Our approach consists of our proprietary high productivity combinatorial (HPC™) platform, coupled with our multi-disciplinary team of scientists and engineers. Our HPC platform consists of our Tempus™ processing tools, our unique, automated characterization methods, and our Informatics analysis software. Our platform 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 HPC platform allows us to perform up to 192 experiments on a single substrate as compared to traditional methods, which typically allow only a single experiment at a time. Our automated characterization systems and proprietary informatics and analytics software can handle the same high throughput of our processing tools. Our multi-disciplinary team of approximately 150 scientists and engineers as of December 31, 2012 (of whom approximately 40% have Ph.D.s), designs customized workflows for our customers' specific applications using the HPC platform and applies the workflows in collaboration with our customers. The combination of the HPC platform and our team generates significant competitive advantages for our customers. By accelerating innovation and enabling our customers to commercialize higher-performance and lower-cost integrated devices faster than through conventional methods of R&D, we provide them an opportunity to gain market share and generate higher margins, including through a first-mover advantage. See the section entitled "Our Solution" for an illustration of our approach.

Customers pay us development services fees during the CDPs, which typically last for one to three years. We typically initiate new customer engagements with "micro-CDPs", which are shorter and more narrow in scope than full CDPs; these are intended to give new customers an opportunity to become more familiar with our approach before making a long-term commitment.

Our customers receive rights to the technology and IP developed during the CDPs in exchange for license fees. When our customers commercialize products using this technology and IP, they pay us primarily through royalties. In certain cases, we sell HPC processing tools to our customers who pay a recurring license fee to operate those tools with our combinatorial processing capabilities.

We currently target large, high-volume semiconductor and high-growth emerging clean energy markets, including DRAM, non-volatile memory (including flash memory and embedded memory), complex logic, flat glass coatings and glass-based devices, solar cells, LEDs and other energy efficiency applications. 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)
- Elpida Memory, Inc. (Elpida)
- First Solar. Inc. (First Solar)
- GLOBALFOUNDRIES Singapore Pte. Ltd (GLOBALFOUNDRIES)
- Guardian Industries Corp. (Guardian)
- SanDisk Corporation (SanDisk)
- Taiwan Semiconductor Manufacturing Company (TSMC)
- Toshiba Corporation (Toshiba)

Each of ATMI, Elpida and GLOBALFOUNDRIES accounted for more than 10% of our revenue for the years ended December 31, 2012 and 2011. ATMI and Elpida each accounted for 10% or more of our revenue for the year ended December 31, 2010. 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 substantial majority of our revenue from customers in DRAM, flash memory, complex logic, materials and energy-efficient applications in flat glass. However, 2012 marked our first year with material revenue from our clean energy industry customers.

Industry Background

High-volume integrated devices serve large and growing markets, including the markets for semiconductors, flat glass, solar cells, LEDs, flat-panel displays, advanced batteries and other energy efficiency 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. These devices are typically manufactured using thin-film deposition of advanced materials through customized processes that create a specific device architecture. These device structures must then be scaled and integrated into cost-effective manufacturing processes to serve high-volume integrated device markets. Conventional R&D approaches are increasingly challenged by the ever increasing device complexity and the market need to accelerate innovation and time-to-market for the semiconductor and clean energy industries.

Semiconductor Industry

Since the inception of the semiconductor industry more than 50 years ago, innovation has been continually driven by consumer and enterprise demands for smaller, higher-performance, more power-efficient and less expensive electronic products. Recently, this innovation has been driven by broad end-market demand for smartphones, tablet computers, cloud computing, high-definition media, PCs, and advanced aerospace and industrial applications. The semiconductor industry is characterized by intense competition, with many semiconductor companies seeking to gain market advantage over

competitors by expanding their broad product portfolios, using their deep design and/or process capabilities and leveraging their IP libraries. Increasingly, these companies are relying on combinations of advanced materials, processes, integration and device architectures to differentiate their products.

Historically, the pace of semiconductor innovation has been enabled by device scaling, in which, according to Moore's Law, the number of transistors in a design generally doubles every two years. This increasing density has reduced costs and improved capabilities over time, thereby driving market demand and growth. However, semiconductors are approaching the limitations of device scaling with the current set of materials and manufacturing processes. Consequently, semiconductor manufacturers are turning to advanced materials, processes, integration and new device architectures to generate continued device scaling and deliver improved product performance and cost competitiveness. The reliance on advanced materials, processes, integration and new device architectures has in turn made advancements in semiconductor technology increasingly complex and expensive. Each new process node requires experimentation with more elements in the periodic table and more material combinations to deliver the desired physical and electrical characteristics for device performance and manufacturability. For example, the broad adoption of copper interconnects enabled the industry to continue device scaling in the microprocessor field. However, this advancement required changes not only in materials, but also in processes, integration and device architectures, to achieve high-volume, cost-effective manufacturing. Accordingly, the transition was challenging and slow.

Semiconductor manufacturing companies have used device scaling to shrink transistors and develop new process technology nodes to address customer requirements for lower cost and higher performance integrated circuits (ICs). However, advanced R&D and new fabrication facility costs have increased significantly over time, especially as the use of advanced materials and processes has become increasingly important to the development and introduction of the latest generation process technology nodes. The greater expertise and higher costs required to explore advanced materials, processes, integration and new device architectures have led to increased specialization among materials, capital equipment, semiconductor manufacturing and IC design companies. However, 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 IC production.

To succeed in the market and deliver an appropriate financial return, semiconductor companies are under intense pressure to rapidly develop optimized ICs and efficiently scale them to cost-effective production. Using advanced semiconductor materials, processes, integration and new architectures requires intensive, time-consuming experimentation because advanced materials are not well-understood, and accurate, robust models do not exist. As a result, semiconductor companies must increasingly rely on time-consuming and resource-intensive empirical R&D to develop innovative solutions and enable manufacturability at lower costs.

For example, we have observed that the flash memory industry is in the process of developing new architectures to address a growing problem of latency between a server's central processing unit and the associated enterprise storage system. Flash memory is well-suited to replace hard disk drives in enterprise storage, but the cost per gigabit of flash storage limits the spectrum of applicable use cases to those that are less cost-sensitive and demand ultra-high bandwidth. The performance and efficiency of a data center is largely determined by the quantity and rate at which data can be supplied from storage to the server for processing. Legacy data center architectures using hard disk drives cannot effectively supply the increasingly large quantities of process-critical data quickly enough to fully utilize the processing capacity of today's servers, leading to low levels of server utilization. Industry-leading flash memory manufacturers are developing new technologies using advanced materials, processes, integration and new device architectures for flash memory to decrease the cost per gigabit beyond traditional device scaling. The ability to bring down the cost of flash storage will accelerate the adoption of flash storage into the large enterprise storage market.

Clean Energy Industry

The emerging clean energy markets also depend on improvements in advanced materials, processes, integration and new device architectures. Clean energy markets, which we define to include the markets for glass coatings and glass-based devices (including flat panel displays (FPDs)), solar cells, LEDs, advanced batteries and other energy efficiency technologies, are in the early stages of technological evolution. Companies in clean energy markets are in the early stages of understanding materials, processes, integration, device architectures and manufacturing methodologies. As a result, those companies that successfully develop relevant, scalable proprietary materials and device technologies will likely have a competitive advantage over their peers in both time-to-market and price.

Decreasing prices, government policies and social awareness are driving growth in the clean energy markets and certain sectors have entered high-volume production. Reduced prices and improved performance relative to traditional alternatives generally catalyzed widespread adoption of new technologies. For example, LEDs for the general illumination market are currently more expensive to purchase than incandescent and fluorescent lighting. To increase penetration of the general lighting market, price reductions and improvements in performance, such as brightness, color and form factor will be critical. New advanced materials, improved process technologies and new device architectures will enable larger wafer sizes, less costly substrate materials, higher-volume production and improved yields for lower-cost and higher-performing LEDs.

Improved performance relative to traditional alternatives is also driving the need for new materials, process integration, device architectures and manufacturing methodologies in FPD market. For example, growth in mobile devices, 3D and higher-resolution displays are driving the need for higher refresh rates and lower power consumption. This is introducing new material changes to the Thin Film Transistor (TFT) backplane which has historically been silicon-based. As a result, the display industry is exploring metal oxides as a future replacement TFT backplane that requires fundamental understanding of the materials and device integration in manufacturing.

Because of the early stages of technology development in the clean energy markets, there are significant opportunities for cost savings and competitive advantage. Market participants who resolve the price-performance challenges ahead of their competitors through advanced materials, processes, integration and new device architectures may greatly accelerate market adoption of their technologies and establish themselves as market leaders. These opportunities amplify the importance of empirical R&D to develop low-cost, high-performance solutions in these early-stage markets.

Current Challenges with Innovation in High-Volume Integrated Device Markets

Advanced materials and device integration are driving forces behind technology advancement in high-volume integrated device 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, device 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

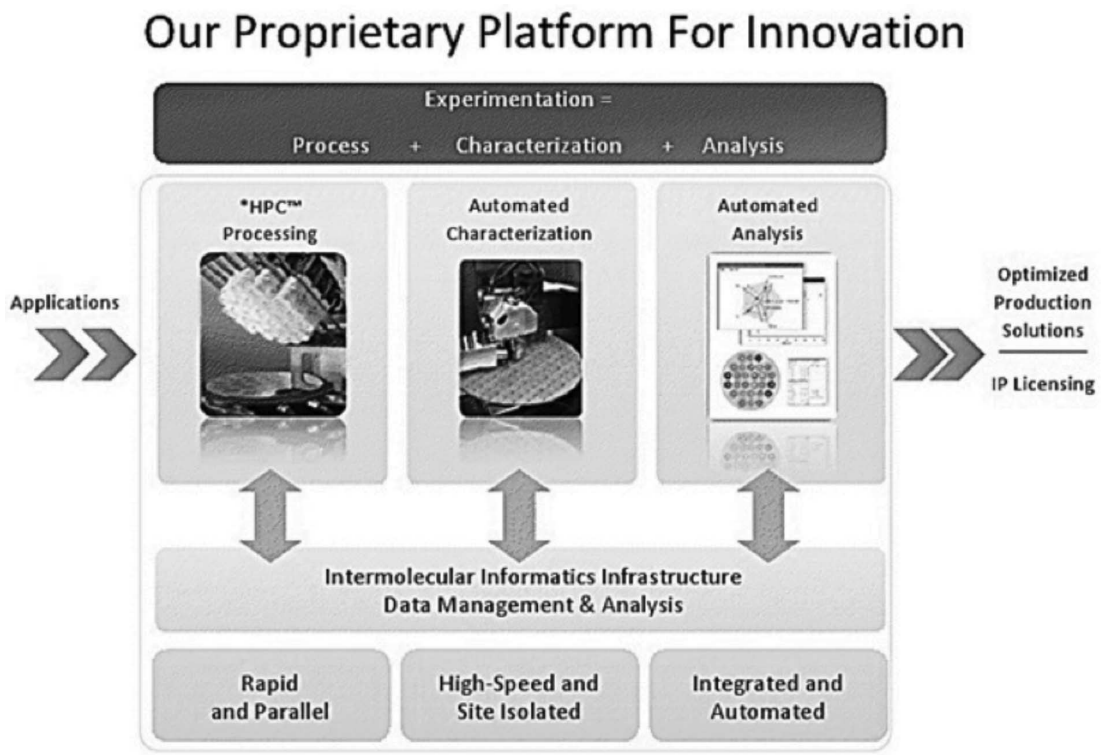
We have pioneered a proprietary approach to accelerate research and development, innovation and time-to-market for the semiconductor and clean energy industries. Using our approach, we develop technology and IP rights focused on advanced materials, processes, integration and device architectures in collaboration 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 150 scientists and engineers as of

December 31, 2012, of whom approximately 40% 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.

The following graphic illustrates how these elements combine to form our HPC platform:



Benefits to Our Customers

Our business model aligns our interests with those of our customers as we collaborate to develop optimized, differentiated, manufacturing-ready IP for high-volume integrated devices. We provide our customers with proprietary technology through various fee arrangements and grant them rights to IP developed during our CDPs, primarily through royalty-bearing licenses. Our differentiated platform

solution and approach to collaborative engagements are designed to deliver the following significant benefits to our customers:

- ***Accelerated time-to-market with better, lower-cost products.*** 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 market with improved, lower-cost products enables our customers to gain market share and improve profitability.
- ***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 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 the semiconductor and clean energy 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, 2012, we owned or had exclusive rights within our field of use to 971 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 150 scientists and engineers, of whom approximately 40% 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. During each CDP, 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 with customers. IP such as materials characteristics, optimized processes and interoperability of systems and architectures can be applicable beyond the field of use of the CDP and can benefit new customers 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.
- ***Attractive business model with contracted CDP revenue and recurring 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. These licensing and royalty arrangements create a business model with attractive margins and a high degree of near-term visibility. Licensing and royalty revenue has increased over the past three years and has accounted for a larger portion of revenue (24%, 27% and 19% in the years ended December 31, 2012, 2011 and 2010, respectively), and we expect the percentage will increase going forward as more of our customers license our developed technology and commercialize and ramp production of products incorporating technology developed through our CDPs.

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 enter into CDPs with companies that are well-positioned to lead their markets. We engage with customers that have track records of technological innovation, deploy significant resources and are pursuing advancements that are critical to their success and strategy.
- ***Create proprietary IP with our customers.*** We develop differentiated, IP-protected technologies with our customers, and we grant them 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 will continue to 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, including, in particular, clean energy. 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.

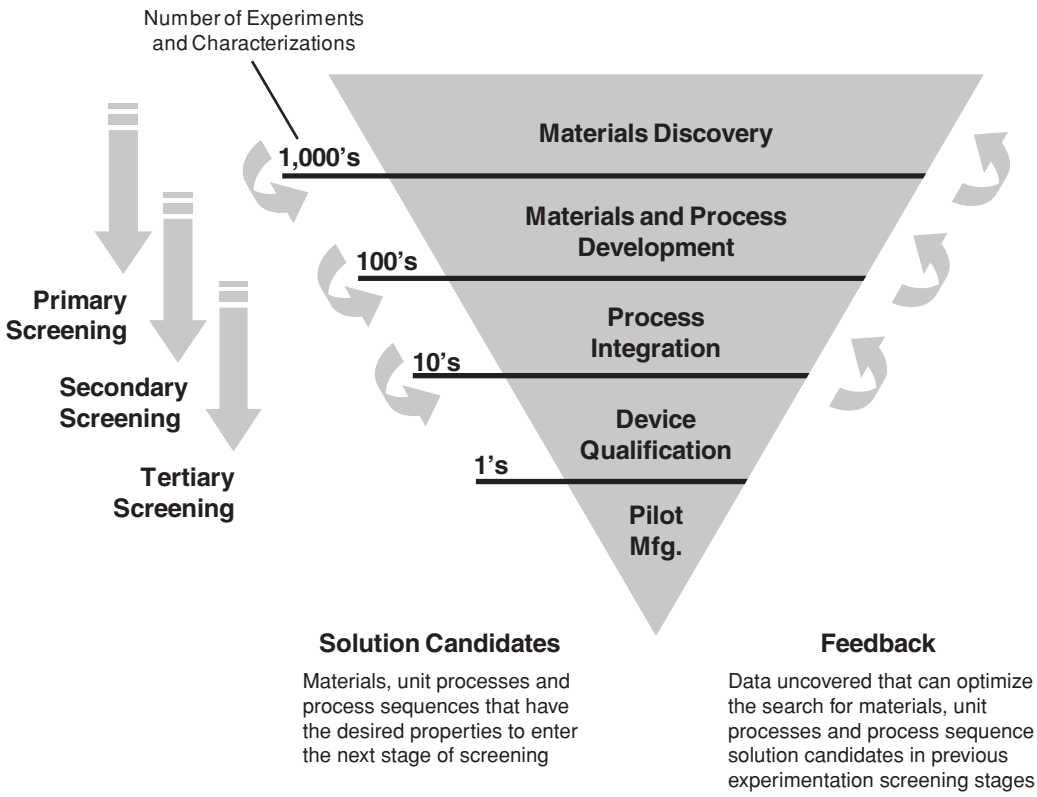
Our Platform

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. Below is an illustration of the screening process of the HPC platform for use in evaluating materials, unit processes, and process sequences:



- *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 and wet etch, self-assembly, and surface treatment processes. These tools, which can be used alone or in combination, include:

- *Tempus F-10.* A stand-alone system used for primary screening through the automatic creation of formulations, especially those involving powders and viscous liquids.
- *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 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, entry and storage of HPC processing and automated 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. 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 the semiconductor and clean energy industries, 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:

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

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 customer 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 team but allow us to demonstrate the capabilities of our HPC platform to a customer without requiring a customer 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 customers an opportunity to invest in our business and success. During 2012 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, GLOBALFOUNDRIES, Guardian, SanDisk, TSMC, and Toshiba. Typically, our customers engage 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. Successes in our initial CDPs have led to expanded relationships and follow-on programs with existing customers for new products and applications.

The majority of our revenue during the past two years came from our three largest customers, ATMI, Elpida and GLOBALFOUNDRIES, which represented a combined 67% and 64% of our total revenue during the years ended December 31, 2012 and 2011. Our two largest customers, ATMI and Elpida, accounted for 72% of our revenue in year ended December 31, 2010. We believe that the revenue concentration associated with these customers will likely decline as our other customers begin to transition technology developed through CDPs into licensing and royalty revenue and as we continue to enter into new CDPs with new and existing customers in the semiconductor and clean energy markets.

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, 2012, we owned or had exclusive rights to 971 U.S. patents and patent applications (some of which also have foreign counterparts). Of the 645 patents and applications that we owned as of December 31, 2012, 45% are related to the HPC platform and 55% 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, 2012, we owned 96 patents and 193 patent applications related to our HPC platform in the United States, and 40 patents and 59 patent applications in other jurisdictions. The expiration dates of these patent rights range from October 2014 to December 2031. 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 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, 2012, we owned 55 patents and 301 patent applications in the U.S. covering Program IP, as well as 2 patents and 60 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. 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 collaboration program 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, 2012, we employed a research and development team of 189 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 $21.8 million, $19.3 million and $13.9 million for the years ended December 31, 2012, 2011 and 2010, respectively; this represented approximately 33%, 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, 2012, we had a total of 232 full-time employees, consisting of 189 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 as we engage in additional CDPs, we will need to hire enough highly-skilled scientists, engineers and other technical staff to support the CDPs. We evaluate our hiring needs on a project by project basis, taking into account current and anticipated CDP timelines and lifecycles. 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 20%, 28% and 29% of total revenue for the years ended December 31, 2012, 2011 and 2010, 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, 2012 was $77.2 million, of which $44.6 million is scheduled to be recognized as revenue during 2013 and $32.6 million is scheduled to be recognized as revenue in periods beyond 2013. As of December 31, 2011, we had backlog of approximately $85.6 million, which contributed approximately $47.2 million in revenue during the year ended December 31, 2012.

Customer and Collaborative Agreements

The descriptions below contain only a summary of the material terms of the agreements as of December 31, 2012 and do not purport to be complete. These descriptions are qualified in their entirety by reference to the respective agreements.

Collaborative Development Program Agreement with GLOBALFOUNDRIES

In June 2011, we entered into a CDP agreement with GLOBALFOUNDRIES to develop and improve certain semiconductor products. Under the agreement, we are providing development services to GLOBALFOUNDRIES and have granted to GLOBALFOUNDRIES a non-exclusive license to use our proprietary HPC platform (which includes a subscription to the platform and a license to the associated software) for the purpose of developing and improving certain semiconductor products. We agreed to dedicate certain resources to support the development activities under the CDP. We also granted GLOBALFOUNDRIES an option to purchase certain HPC processing tools.

Each party will own the rights arising out of the CDP technology solely created by its inventors (CDP IP). Rights arising out of the CDP technology that is created jointly will be jointly owned. We

agreed that we would not grant a license under our rights in the CDP IP to any third party outside a certain field without the prior written consent of GLOBALFOUNDRIES.

When GLOBALFOUNDRIES commercializes products that incorporate the CDP IP, GLOBALFOUNDRIES will owe us royalties on sales of those products. GLOBALFOUNDRIES may grant sublicenses to use the CDP IP to third parties, but must share with us the royalties it receives from certain third party sublicenses. During the development period, GLOBALFOUNDRIES is paying us (i) fees for providing development services, (ii) subscription and license fees for use of the HPC platform, and (iii) certain pre-approved expenses and material costs.

The initial period for development activities under the CDP is three years, which period will automatically renew for additional one-year periods unless either party elects to terminate. The initial term of the agreement is five years from the date of the last sale of a product that incorporates CDP IP.

We announced in October 2012 that IBM is now able to leverage our HPC platform within the CDP to speed the development of manufacturing technologies down to the 7-nanometer node.

Collaborative Development Program Agreement with Toshiba and SanDisk

In March 2010, we entered into a CDP agreement with Toshiba and SanDisk to develop certain memory technologies and related materials. Under the agreement, we are providing development services to Toshiba and SanDisk and we granted Toshiba and SanDisk non-exclusive use of our proprietary HPC platform (which includes a subscription to the platform and a license to the associated software). The initial period for the development activities was two years, with the option to extent for up to two additional one-year periods. In March 2012, we amended the CDP agreement to extend the initial term of development for an additional year (through March 2013). For this additional year, Toshiba and SanDisk retain their exclusive collaboration license in the field of memory chips.

Toshiba and SanDisk own the rights to the technology and IP arising out of the CDP (CDP IP) that is based on Toshiba or SanDisk background technology or that is solely developed by Toshiba or SanDisk. We own the rights to the technology and CDP IP that is solely developed by us and that is based on our background technology. Jointly developed technology and CDP IP that is based on our background technology is jointly owned. Patent rights based on technology resulting from design of experiments, or based on technology solely developed by us that is based on Toshiba or SanDisk background technology, is also jointly owned.

We granted Toshiba and SanDisk an exclusive license to the rights we own in the technology and CDP IP during the term of the CDP. After the conclusion of the CDP term, in exchange for payments, as applicable, Toshiba and SanDisk each shall have the option (i) to continue to maintain an exclusive license to certain or all of the CDP IP; (ii) to convert the exclusive license to non-exclusive; or (iii) to terminate the license to the CDP IP but retain a non-exclusive license to certain background IP.

Toshiba and SanDisk have agreed to pay us volume-based royalties on sales of products that incorporate the CDP IP, subject to certain minimum and maximum levels. Their obligations to pay royalties under the licenses we grant to them shall continue for the duration of the licenses. During the development period, Toshiba and SanDisk are paying us (i) fees for providing development services, (ii) subscription and license fees for use of the HPC platform and associated software, and (iii) certain pre-approved expenses and material costs. Toshiba or SanDisk may request that we grant to other third parties a royalty-bearing license to the CDP IP.

Advanced Memory Development Program Agreement with Elpida

In May 2008, we entered into an Advanced Memory Development Program Agreement with Elpida relating to a CDP to develop and improve certain advanced memory products. The Elpida agreement was supplemented and/or amended in August 2008, January 2009, May 2009, July 2010 and December 2012.

Under the agreement, we are providing development services to Elpida and we granted Elpida non-exclusive use of our proprietary HPC platform (which includes a subscription to the platform and a license to the associated software) for the purpose of developing and improving certain advanced memory products.

We own the rights for certain technology and IP arising out of the CDP (our CDP IP). Elpida owns the rights for certain other technology and IP arising out of the CDP (Elpida CDP IP). All other technology and IP arising out of the CDP is jointly owned by Elpida and us (joint CDP IP). We also granted Elpida an exclusive license to use our CDP IP and the joint CDP IP in certain fields during the term of the agreement.

Elpida has agreed to pay us royalties on sales of products that incorporate our technology, our CDP IP, Elpida CDP IP or joint CDP IP, subject to certain minimum and maximum levels. Elpida's obligation to pay royalties will continue for the duration of its licenses. During the development period Elpida is paying fees for development services, subscription and license fees for use of the HPC platform, and certain pre-approved expenses and material costs.

The current period for development activities and use of the HPC platform is through April 1, 2013, after which the exclusive license will convert to a non-exclusive license unless Elpida meets certain minimum quarterly sales thresholds from high-volume manufacturing of royalty-bearing products. In December 2012, we amended the agreement to (i) confirm that the CDP IP would be first utilized by Elpida in a product by January 1, 2013; and (ii) agree on an annual fee and payment schedule for Elpida's use of the CDP IP starting in 2013.

In February 2012, Elpida filed a petition for commencement of corporate reorganization proceedings under the Japan Corporate Reorganization Act in the Tokyo District Court. In July, 2012, the trustees appointed by the Tokyo District Court entered into a sponsorship agreement with Micron pursuant to which Micron has agreed to purchase the outstanding stock of Elpida subject to various terms and conditions expressed therein including obtaining approval of the creditors. In October, 2012, the Tokyo District Court referred Elpida's plan of reorganization for creditor voting. The voting ended on February 26, 2013. On February 28, 2013, Elpida announced that the reorganization plan was approved by the statutorily required majority of the creditors and was also approved by the Tokyo District Court. Subject to certain other conditions, the transaction is currently scheduled to close during

the first half of 2013, but there can be no assurance that it will close in a timely manner or at all. In addition, we cannot provide any assurance regarding the extent to which Micron will continue to focus its product development and commercialization on technologies covered by our CDP with Elpida. For more details, see Section 1A, Risk Factors, "*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"* and "*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."*

ATMI Engagement

In November 2006, we entered into an alliance agreement with ATMI to develop advanced materials for semiconductor products under one or more individual CDPs as agreed between the parties from time to time. Each CDP would provide payments from ATMI to us (i) for providing development services to ATMI, (ii) for subscription and license fees for use of the HPC platform, and (iii) for certain pre-approved expenses and material costs. ATMI owns any technology and IP that it independently creates during the alliance agreement. We own the technology and IP we independently create. Unless modified by the terms of a CDP, we also own the technology arising out of the CDP and the HPC technology. The initial term of the alliance activities is ten years.

The parties have collaborated on one CDP under the alliance agreement. Under that CDP, ATMI owns any technology and IP that it independently creates during the alliance agreement, as well as any materials manufacturing technology and associated IP rights that are created during the course of the alliance agreement (the Alliance Materials Manufacturing Technology). We own the technology and IP we independently create and, other than the Alliance Materials Manufacturing Technology, any other technology and IP that is created during the course of the alliance agreement (the Alliance IP). We granted to ATMI a limited, field-restricted, exclusive license to use the Alliance IP, with the right to sublicense, and ATMI has agreed to pay us royalties or share revenues on the sales or licenses of ATMI products that incorporate the Alliance IP. We retained the right to be the sole licensor of any Alliance IP to any IC manufacturers or original equipment manufacturers.

In July 2007, we entered into a Wets Workflow Purchase Agreement with ATMI, which was extended and amended through amendments in December 2007, December 2008, March 2009, August 2010, March 2011, October 2011 and December 2012 (as amended, the ATMI Wets Workflow). Pursuant to this agreement, we agreed to sell to ATMI certain HPC processing tools and license informatics software related to liquid or fluids-based materials (wets) used in semiconductor processing and manufacturing (collectively, the wets workflow). The wets workflow may only be used at certain designated sites and solely for the purpose of developing and commercializing materials, wets processing processes, products and materials manufacturing technologies in a certain field. The agreement generally provides that ATMI is obligated to pay us royalties on products that incorporate any material identified, first synthesized, or discovered through use of any wets workflow (the ATMI products). However, the parties have agreed that for 2013, ATMI would instead pay a fixed fee to us in exchange for subscription and license fees for use of the HPC platform and related software and any volume-based royalties on the sale of the ATMI products during 2013. ATMI's obligation to pay volume-based royalties and annual tool license fees will resume on January 1, 2014.

During the term of the agreement, we have agreed not to enter into any joint marketing, sales or development agreements in certain fields with certain competitors of ATMI. During the term of the agreement and subject to economic terms, we also agreed not to ship certain elements of the wets workflow and certain other proprietary HPC processing tools to certain ATMI competitors for use in certain defined fields. We have agreed to evaluate ATMI materials for CDPs between us and integrated device manufacturers for an IC or solar application. We have agreed to recommend ATMI materials to

our customers in these CDPs, provided that the ATMI materials are timely available, meet our customer's requirements and are cost competitive. If we identify an opportunity for ATMI and us to work in a joint development program or if ATMI introduces us to such an opportunity with an integrated device manufacturer, we and ATMI will enter into good faith negotiations to agree on an economic arrangement, unless ATMI does not have HPC-related resources available to contribute to such an opportunity. In addition, we agreed to introduce one of ATMI's workflows to one of our other customers in exchange for ATMI committing to providing its support to such customer. We are required to dedicate certain resources to supporting ATMI's use of the wets workflow. The agreement will continue in effect as long as any license granted under any applicable purchase order under the agreement remains in effect, which will be at least through December 31, 2013.

In December 2008, we entered into a Dry Workflow Purchase Agreement with ATMI, which was extended through amendments in August 2010, March 2011, October 2011 and December 2012 (as amended, the ATMI Dry Workflow Agreement). Pursuant to the agreement, we agreed to sell to ATMI certain HPC processing tools and license informatics software related to vapor-based applications (dry) used in semiconductor processing and manufacturing (collectively, the dry workflow). The agreement generally provides that ATMI is obligated to pay us royalties on products that incorporate any compounds or materials (or composition of compounds or materials) identified, first synthesized, or discovered in whole or in part through the use of the dry workflow, and any derivative thereof (the ATMI dry products). However, the parties have agreed that for 2013, ATMI would instead pay a fixed fee to us in exchange for subscription and license fees for use of the HPC platform and related software. This payment is in lieu of any volume-based royalties on the sale of ATMI dry products during 2013. ATMI's obligation to pay volume-based royalties and annual tool license fees will resume on January 1, 2014. We are required to dedicate certain resources to supporting ATMI's use of the dry workflow. In addition, we provided support from October 2011 to August 2012 to a customer of ATMI who was utilizing the dry workflow ATMI purchased from us. The agreement will continue in effect as long as any license granted under any applicable purchase order under the agreement remains in effect, which will be at least through December 31, 2013.

First Solar Collaborative Development Programs

In June 2012, we entered into a CDP agreement with First Solar (Initial CDP) to accelerate the efficiency of First Solar's cadmium-telluride (CdTe) thin-film photovoltaic (PV) manufacturing technology. Under the Initial CDP, we agreed to provide development services to First Solar and we granted First Solar non-exclusive use of our proprietary HPC platform (which includes a subscription to the platform and a license to the associated software). Each party owns the rights arising out of the Initial CDP technology solely created by its inventors. Rights arising out of the Initial CDP technology that was created jointly is jointly owned (all IP collectively is Initial CDP IP). The initial term for the development activities in the Initial CDP was six months. The Initial CDP gave First Solar an election, exercisable within 90 days after the end of the initial term, to purchase our rights to the jointly owned CDP IP as well as the CDP IP that was created and owned by us. First Solar elected to exercise this purchase right in October 2012 (after slightly more than four months of development activity) pursuant to an Asset Purchase Agreement in exchange for a one-time fee payable to us within 90 days of the signing of the Asset Purchase Agreement.

In December 2012, we entered into another CDP agreement with First Solar (Second CDP). Under the Second CDP, we are providing development services to First Solar using our proprietary HPC platform for the purpose of improving the efficiency of First Solar's CdTe PV cell-based solar panels. First Solar has agreed to pay us fees for (i) providing the development services, and (ii) certain pre-approved expenses and material costs. Each party will own the rights arising out of the Second CDP technology solely created by its inventors. Rights arising out of the Second CDP technology that is created jointly will be jointly owned (all IP collectively is Second CDP IP). To the extent that we are

successful in improving the efficiency of First Solar's CdTe solar panels, we agreed to grant First Solar a royalty bearing license under our rights in the Second CDP IP to use such IP as necessary to manufacture and sell any improved solar panels. For certain other incremental technology developed by us under this CDP, First Solar has a right for a fixed period of time to purchase the technology for a fixed amount. The initial period of development activities is through at least February 28, 2014.

In February 2013, we entered into a Tool Purchase and Informatics License Agreement (the "Purchase Agreement") with First Solar. Under the Purchase Agreement, First Solar will purchase certain equipment and we will grant First Solar non-exclusive licenses to our proprietary HPC platform and to our proprietary informatics software, for use solely with the purchased equipment for a fixed period. We will also provide warranty services on the equipment under the Purchase Agreement.

In connection with the signing of the Purchase Agreement, we also amended the Second CDP. The amendment modifies the fee terms in the Second CDP to reflect the purchase of equipment under the Purchase Agreement.

Guardian Collaborative Development Programs

We entered into our first CDP agreement with Guardian in February 2010 to collaborate on research and development tasks relating to liquid coatings for flat glass. We entered into our second CDP agreement with Guardian in July 2010 to collaborate on research and development tasks relating to sputtered coatings for flat glass. In January 2012, we amended both of these CDPs to extend the period of development activities under the CDPs through December 31, 2013. We also agreed in the amendment to provide Guardian with certain additional services and resources in exchange for additional fees.

Under the agreements, we are providing development services to Guardian and granted Guardian non-exclusive use of our proprietary HPC platform (which includes a subscription to the platform and a license to the associated software) for the purpose of developing and improving certain glass products. We own the rights for certain technology and IP arising out of the CDPs (CDP IP). Under the agreements, Guardian has the right to take either an exclusive or non-exclusive limited royalty-bearing license to the CDP IP owned by us. In either case, Guardian's obligation to pay royalties under the licenses granted by us will continue for the duration of the licenses. Exclusive licenses will be subject to certain minimum royalty payments. If Guardian elects to take a non-exclusive license, then we may be required to share with Guardian any licensing revenues we generate by granting licenses under our CDP IP to third parties.

Guardian has agreed to pay us royalties on sales of products covered by the licenses. In addition, during the development period, Guardian is paying us (i) fees for providing development services, (ii) subscription and license fees for use of the HPC platform, and (iii) certain pre-approved expenses and material costs.

Symyx Asset Purchase

In 2005, we entered into a Collaborative Development and License Agreement with Symyx Technologies, Inc. (Symyx), as well as an Alliance Agreement (Symyx Alliance Agreement) with Symyx. Both agreements were amended periodically through 2009. Under the Symyx agreements, Symyx granted us, and we agreed to pay Symyx royalties for, a license to certain high-throughput combinatorial patents held or licensed by them and related software to design, develop and manufacture integrated circuits, photovoltaic cells, glass coatings, light emitting diodes, organic light-emitting diodes and thin films for electronics, optical and energy applications. During the years ended December 31, 2012, 2011 and 2010, we recorded zero, $2.1 million and $2.0 million in cost of revenue, respectively, and had accrued liabilities due to Symyx of zero and $0.5 million as of December 31, 2012 and 2011.

On July 28, 2011, we entered into an agreement with Symyx, pursuant to which we agreed to allow Symyx to sell in the initial public offering of our common stock a total of 3,968,204 shares of common stock held by them, and Symyx agreed to (i) sell its shares in the offering, (ii) sell to us all of its the patents that related to combinatorial processing, and (iii) terminate our future royalty obligations under the Symyx agreements to the extent they would have accrued after December 31, 2011. We completed this asset purchase in connection with the closing of our initial public offering in November 2011, during which we 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%. The note is payable in an amount equal to the greater of $0.5 million per quarter or the amount of accrued interest, with a balloon payment at maturity, if applicable. The note, which is pre-payable by us at any time without penalty or premium, is secured by all of our tangible personal property (but not intangibles such as intellectual property.) In addition, we reimbursed Symyx for 50% of the underwriting discounts and commissions paid by them in connection with the sale of their common stock in the offering, which amounted to approximately $1.4 million. As of December 31, 2012, the balance of the note payable was $26.5 million and is required to be paid by November 2013.

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. 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/or results of operations.

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 24%, 27% and 19% of total revenue in fiscal years 2012, 2011 and 2010, 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 incorporate technology developed through our collaborative development programs (CDPs), our financial condition and results of operations would be materially and adversely affected.

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 and development cycles for CDPs, which makes it difficult to predict the timing of new or expanded CDPs, as well as 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 generate royalty revenue for us;
- our revenue mix, which may vary from quarter to quarter as we enter into new CDPs and related customer arrangements, existing CDPs are completed, extended or expanded and licensing arrangements take effect;
- the highly cyclical nature of and price volatility in the semiconductor industry;
- the financial stability of any of our customers (including but not limited to the impact of our customer Elpida's filing for protection under the Corporate Reorganization Act in Japan in February 2012);
- the timing and extent to which we enter into new CDPs or complete, extend or expand existing CDPs;
- one-time offsets to revenue associated with the vesting of contingent warrants issued to two of our customers that are currently outstanding;
- non-cash charges relating to stock-based compensation, amortization of intangible assets and impairment expenses related to inventory and long-lived assets;
- any involvement in significant litigation, and in particular intellectual property litigation;
- any payments resulting from our intellectual property indemnification policies and obligations;
- our potential need for additional capital to finance our business;
- any delay in shipments caused by shortages of components incorporated in our customers' products, design errors or other manufacturing problems associated with our customers' products;
- warranty claims, product recalls and product liability for our HPC tools and for our customers' products that incorporate technology developed through our CDPs; 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 $0.8 million, $30.0 million and $1.8 million for the fiscal years ended December 31, 2012, 2011 and 2010, respectively. Our accumulated deficit as of December 31, 2012 was $101.3 million. We will need to significantly increase revenue and operating margins to achieve 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 in other risk factors in this Item 1A:

(1) **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 cannot assure you we will 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.

(2) **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 a valid 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 intellectual property. 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 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.

(3) **Our customers may not be successful in commercializing products that incorporate technology and IP developed during our CDPs with them.**

If we are successful in developing valuable technology for our customers, they still face significant challenges in commercializing products that incorporate the technology. The markets for our customers' products are intensely competitive and are characterized by rapid technological change. These changes result in frequent product introductions, short product life cycles and increased 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 make or sell any products incorporating CDP-developed technology. They may not have the financial strength to cost-effectively manufacture the products at high volume and in quantities sufficient to meet demand, or the competitiveness to market and sell their products in intensely competitive markets. They may experience delays in shipments caused by shortages of components incorporated in their products, design errors or other manufacturing problems associated with their products. A decline in demand or average selling prices in the end markets for products incorporating technology developed through our CDPs 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 products developed through our CDPs could also negatively affect such 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 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 target markets.

(4) **Potential customers may be resistant to negotiating agreements for payment of license and royalty revenue; 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 our customers' products that incorporate technology developed through our CDPs with these customers. 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 potential customers we may face resistance to structuring royalty arrangements in the future that are acceptable to us, or our 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 provide us with complete and accurate information regarding revenue and payments owed and to make those payments on a timely basis.

Licensing and royalty revenue we may receive in the future may be based on sales of our customers' products that incorporate technology developed through our CDPs. In order to accurately report our financial results on a timely basis, we will need to receive timely and accurate information from our customers regarding their sales and resulting payments they owe to us. If the information that we receive is not accurate, we may not receive the full amount of revenue to which we are entitled to 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 parties, 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 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 engagement, and our business model relies on licensing and royalty revenue based on the sales by our customers in the end-markets of products incorporating the technology developed through our CDPs.

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 our customers, or if we are otherwise not successful in maintaining and managing our CDPs, we may not receive sufficient amounts of licensing 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 relatively small number of customers will continue to account for a high percentage of our revenue for the foreseeable future. Our three largest customers (all of which are in the semiconductor industry), accounted for 67% and 64% of our revenue in the fiscal years ended December 31, 2012 and 2011, respectively, and our two largest customers (both in the semiconductor industry), accounted for 72% of our revenue in the fiscal year ended December 31, 2010. Our largest customer accounted for 28%, 29% and 52% of our revenue in each of these periods, respectively. 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. In addition, as with any of our customers, our profitability and success are dependent, in part, upon the receipts of royalties on the sale of products by our customers, and we cannot control the timing of customer product introductions or their success or failure in the marketplace. The loss of any of these customers or a decrease or delay in the manufacturing or sales volumes of their products, or their failure to pay amounts due to us or renew or extend 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.

Our customer Elpida filed for protection under the Corporate Reorganization Act in Japan in February 2012, and our future revenue from Elpida under our CDP (including amounts reflected in backlog) is uncertain and may be reduced or even eliminated. In July 2012, Micron Technology, Inc. ("Micron") and Elpida's trustees jointly announced that they signed a definitive sponsor agreement for Micron to acquire and support Elpida. On October 31, 2012, the Tokyo District Court issued an order to refer Elpida's reorganization plan, which includes the proposed Micron acquisition, to Elpida's creditors for approval. Creditors had until February 26, 2013 to submit their votes. On February 28, 2013, Elpida announced that the reorganization plan was approved by the statutorily required majority of the creditors and was also approved by the Tokyo District Court. The transactions, which are subject to certain other conditions, are scheduled to close in the first half of 2013. However, there can be no assurance that these transactions will close in a timely manner or at all.

The use of our technology in their current product shipments generates a license fee for us, and may include a royalty if and when additional developed technology is incorporated in future Elpida products. Any adjustment in the amount of CDP services fees, license fees or royalties that Elpida might owe us pursuant to our agreement with them could be reduced or eliminated as a result of the restructuring or changes in their shipments and product development. If any of these were to occur our revenue would decline, and our financial condition and results of operations would be materially and adversely affected. As of December 31, 2012 we had $26.6 million in backlog from Elpida, of which $4.1 million is scheduled to be recognized as revenue during 2013 with the balance scheduled to be recognized as revenue in periods beyond 2013. Of the $4.1 million in backlog to be recognized as revenue during 2013 that is attributable to Elpida, we received payment in the amount of $2.2 million in December 2012 for CDP services and license fees for the three months ending March 31, 2013. Failure to convert all or part of the remaining backlog to revenue could cause significant fluctuations in our results of operations because our expenses are fixed in the short term.

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 pipeline 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;
- our customers' budgetary constraints and internal review procedures that must be completed to begin collaboration with us; and
- the significant cultural transition required for a customer's internal R&D team to embrace us as a collaborative partner.

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 stay ahead of the technology curve in their sectors and expect that the technology developed through 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 from 300mm to 450mm wafers.

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 semiconductor industry, we may experience significant fluctuations in operating results due to the cyclicality and price volatility of the industry.

The industry has also been affected in recent years by tightening credit markets, turmoil in the financial markets, and weak, uncertain global economic conditions. These factors may cause sudden changes in our customers' manufacturing capacity requirements and spending, which depend in part on capacity utilization, demand for our customers' integrated circuit products by consumers, inventory levels relative to demand, and access to affordable capital. For example, pressures in the DRAM sector have caused financial difficulties for our customer, Elpida.

Industry consolidation (including but not limited to consolidation of semiconductor manufacturing towards 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 high levels of consolidation in the future. This will likely result in a smaller number of companies, but more large companies with greater financial resources—companies that may be less likely to become our customers than smaller companies with more limited resources. Furthermore, if any of our existing customers is acquired, the acquiror may not continue to engage in a CDP with us. For example, our customer Elpida, with whom we have a CDP, recently entered into an agreement to be acquired by Micron. For more details, see the risk factor titled "We depend on a limited number of customers, and a loss of any of them would adversely affect our business and operating results," above . Even if the acquisition is completed, we cannot provide any assurance regarding the extent to which Micron will continue to focus its product development and commercialization on technologies covered by our CDP.

The clean energy industry in general is in a very early stage of development, and the solar industry is experiencing significant economic challenges. As a result, we may not earn significant revenue from our initiatives in this industry for an extended period.

The clean energy industry is comprised of several sectors including energy-efficient glass, solar cells, LEDs, advanced batteries and other energy-efficient 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 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. Companies within the clean energy industry may also be hesitant to enter into CDPs with us given our limited experience in the clean energy industry. 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 may become market leaders, and we may invest time and resources in collaborations with companies who are ultimately unsuccessful in the clean energy industry, which could adversely affect our operating results.

The solar industry is experiencing a challenging environment, reflected in intense pricing competition due to production capacity significantly exceeding demand, bankruptcies of several solar companies, many solar companies with little or no operating income, and announcements of manufacturing shut-downs or slow-downs. The demand for solar products is also influenced by macroeconomic factors such as the global economic conditions, including the ongoing debt crisis in Europe. A global economic downturn that affects the availability of financing can slow enterprise solar projects; it can also affect individual customers, who may be reluctant to assume high up-front costs but will have more difficulty getting access to capital to cover those costs. Any negative market and industry trends could materially and adversely affect our existing and potential customers in the solar segment and ultimately have a negative impact on our clean energy business.

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 intellectual property that they may use in their products, we may not receive meaningful amounts of, or any, licensing and royalty revenue. In this case, we may not recover the upfront costs and cash invested in the CDP, which could adversely affect our results of operations. In addition, even if we successfully develop differentiated technology and intellectual property through a CDP that our customer is able to commercialize, 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 target markets.

If we are unable to scale our development services to accommodate a greater volume of CDPs, 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 as well as dedicated lab space 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, 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 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 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, light emitting diodes (LEDs), flat-panel displays, advanced batteries and other energy-efficient technologies. This is an extremely complex and costly process. We expect R&D expenses 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.

Although we are making progress in certain areas, 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 build new systems, or configure, modify, expand or customize existing systems for these applications and develop our expertise to support these fields, our business growth might be limited, and our business and results of operations could be adversely affected.

Our strategy includes conducting proprietary R&D efforts in collaboration with and on behalf of multiple customers. Failure to adequately protect against potential conflicts of interest and breaches of confidentiality would harm our reputation and our relationships with our customers, and our business prospects and operating results would be adversely affected. Moreover, some potential 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 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. Our failure to 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 if we make significant efforts to isolate each development activity, we may fail to meet the contractual confidentiality commitments as to one or more customers. Moreover, even if we meet these commitments, conflicts 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, adversely affect our ability to enter into new CDPs and cause our revenue and operating results to decline.

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 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, tools or equipment. Our recommendations may negatively impact our relationships with materials and tool 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 their development efforts, which would adversely affect our business and operations.

Failure of our suppliers to timely deliver sufficient quantities of the components, materials or software used 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 continue to grow in all operational areas and to successfully integrate our new employees. In particular, we expect continued 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, operational systems and facilities, which may make it difficult to implement our business strategy. The addition of new employees may increase the likelihood of employee claims against us.

To effectively manage our operations and 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 and quickly, then we will not be able to successfully grow our business as planned. Our future operating results will also depend on our management's ability to:

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

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

Acquisitions 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 or acquisitions where there is an opportunity to expand the potential applications and reach of our HPC platform. Exploring and implementing any investments or acquisitions may place strain upon our ability to manage our future growth and may divert management attention from our core development and licensing business. There are also other risks associated with this strategy. We cannot assure you that we will be able to make investments or acquire businesses 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 synergies or benefits from such investments or acquisitions. Our relative

inexperience in effecting such transactions heightens these risks. In addition, to finance any acquisitions or investments, we may utilize our existing funds, or might need to raise additional funds through public or private equity or debt financings. Prolonged tightening of the financial markets may impact our ability to obtain financing to fund future acquisitions and we could find it necessary to obtain financing on less than favorable terms. Additionally, equity financings may result in dilution to our stockholders. We cannot predict the number, timing or size of investments or acquisitions, or the effect that any such transactions might have on our operating results.

Our financial obligation to Symyx Technologies, Inc. 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.

In connection with an agreement for the purchase of intellectual property and the termination of our royalty obligations under a then-existing license agreement with Symyx, we issued a promissory note in the principal amount of $27.3 million to Symyx Technologies, Inc. (Symyx), a wholly-owned subsidiary of Accelrys, Inc., upon the consummation of our initial public offering. The promissory note has a term of 24 months, an interest rate equal to 4% and is payable in an amount equal to the lesser of the principal amount and the greater of $0.5 million per quarter or the amount of accrued interest, with a balloon payment at maturity if applicable. The promissory note is secured by all of our tangible personal property, but excluding intellectual property. During the fiscal year ended December 31, 2012, the Company paid Symyx $2.0 million, which included interest in the amount of $1.2 million and principal in the amount of $0.8 million. As of December 31, 2012, we anticipate that we will make a final payment of $25.9 million in November 2013.

Our obligations under the promissory note require us to dedicate a substantial portion of our cash flow from operations to payments on interest and principal of the promissory note 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 promissory note and the security interests granted in favor of Symyx 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, particularly as we continue to develop our business and expand our collaborative development efforts. Although we believe that, based on our current level of operations and anticipated growth, our existing cash, cash equivalents and marketable securities will provide adequate funds for ongoing operations, planned capital expenditures and working capital requirements for at least the next 12 months, we may need additional capital if our current plans and assumptions change. 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 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 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 would suffer dilution. If we raise future debt financing, we may be subject to restrictive covenants that 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, in particular, the services of Mr. David Lazovsky, our President and Chief Executive Officer, and Dr. Tony Chiang, our Chief Technology Officer. If we lose the services of Mr. Lazovsky or Dr. Chiang, it could slow the execution of our business plan, hinder our development processes and impair our sales efforts, and searching for a replacement could divert our other senior management's time and increase our operating expenses. In addition, our customers could become concerned about our future operations, which could harm our reputation.

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, until new senior personnel become familiar with our technology, business model and systems or with their new roles, we may experience some 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, who 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 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 development program 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 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 in obtaining visas

permitting entry for some of our employees who are foreign nationals into the United States, and delays 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 market 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 combinatorial development methods internally, particularly if we are slow in 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 products based on their own 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 solutions for the design of and 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 disclosed in our financial statements accounted for $21.1 million (31.6%) of our revenue in the year ended December 31, 2012 and $21.0 million (39.0%) and $26.0 million (60.9%) of our revenue for the years ended December 31, 2011 and 2010, respectively. ATMI, which beneficially owned approximately 8.8% of our outstanding stock as of December 31, 2012, accounted for $16.5 million (24.7%) of our revenue during the year ended December 31, 2012 and $15.8 million (29.3%) and $22.1 million (51.8%) of our revenue for years ended December 31, 2011 and 2010, respectively. For more information about these transactions, see Note 11 to our condensed 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 that 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 to our customers is recalled, we may incur 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.

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, 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 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 technology purchases and investments. The impact of this on us is difficult to predict, but if businesses defer licensing our technology, require fewer CDPs or development tools, or if consumers defer purchases of new products that incorporate technology developed through 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 our customers' products that incorporate technology developed through our CDPs. 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 adversely affect our licensing and royalty revenue irrespective of the volume of such products sold, which could adversely affect our business and operating results.

In addition, we derive a significant portion of our revenue from customers in foreign countries. 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. Although to date we have not experienced any material adverse effect on our operations as a result of these types of regulatory, geopolitical, and other 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, 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 events such as the 2011 earthquake and tsunami in Japan. 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.

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, 2012, we reported U.S. federal NOLs of approximately $37.6 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.

According to the American Taxpayer Relief Act of 2012 (HR 8) signed into law on January 3, 2013, the federal research credit, which was allowed to expire on January 1, 2012, was retroactively extended through 2013. This act will not impact the 2012 effective tax rate. However, the federal research credit for the retroactive extensions will be reflected in the 2013 tax provision.

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, 2012, we owned 971 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 through the CDPs. While we have been filing patent applications to seek protection for the further evolution 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 two years due to the expense and resource-intensiveness of the patenting process. We 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 registered or applied for outside of the U.S. that we purchase. Also, 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 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. 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, and any patents we obtain may be challenged (both before and after any such patents issue) and may be narrowed in scope or extinguished as a result of these challenges. Additional uncertainty may result from the recent 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 broad to prevent 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 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.

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. However, the laws of some foreign countries may not be as comprehensive as those of the United States and may not be sufficient to protect 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.

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

We rely in part on 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 inventions conceived by the individual in the course of rendering services to us shall be our exclusive property. Nevertheless, employees, collaborators or consultants may still disclose or misuse our confidential information, and we may not be able to meaningfully protect 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 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 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. 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.

Any assertion by a third party asserting ownership or other rights to technology developed through 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, as is the case for many companies with volatile stock prices, price fluctuations may be disproportionate, or even unrelated, to the their 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; and

- 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;
- investors' general perception of us; and
- general economic and political conditions in the US 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 furnish a report by management on, among other things, the effectiveness of our internal control over financial reporting beginning with the fiscal year ended December 31, 2012. This assessment needs to include disclosure of 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, 2012. 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 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 71.5% of our common stock outstanding as of December 31, 2012. Entities affiliated with Redpoint Ventures, entities affiliated with CMEA Ventures and entities affiliated with U.S. Venture Partners beneficially owned approximately 17.2%, 17.1% and 9.7%, respectively, of our common stock outstanding as of December 31, 2012. 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, 2012, we had 44,046,970 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, as amended, or the 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, 2012, the holders of 19,079,670 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 12.7 million shares of our common stock subject to outstanding stock options and reserved for issuance under our equity plans. These shares can be freely sold in the public market upon issuance, subject to vesting restrictions and the lock-up 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 may cover us change their recommendation regarding our stock adversely, or provide more favorable relative recommendations about our competitors, our stock price would likely decline. If any analyst who may cover 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 2015. For our CDP engagements, as of December 31, 2012, we were using approximately 60% 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
Fiscal Year Ended December 31, 2012		
First Quarter	$5.01	$ 9.55
Second Quarter	$5.87	$ 7.75
Third Quarter	$6.40	$ 8.00
Fourth Quarter	$6.31	$ 9.28

	Low	High
Fiscal Year Ended December 31, 2011		
Fourth Quarter (beginning November 18, 2011)	$8.00	$10.01

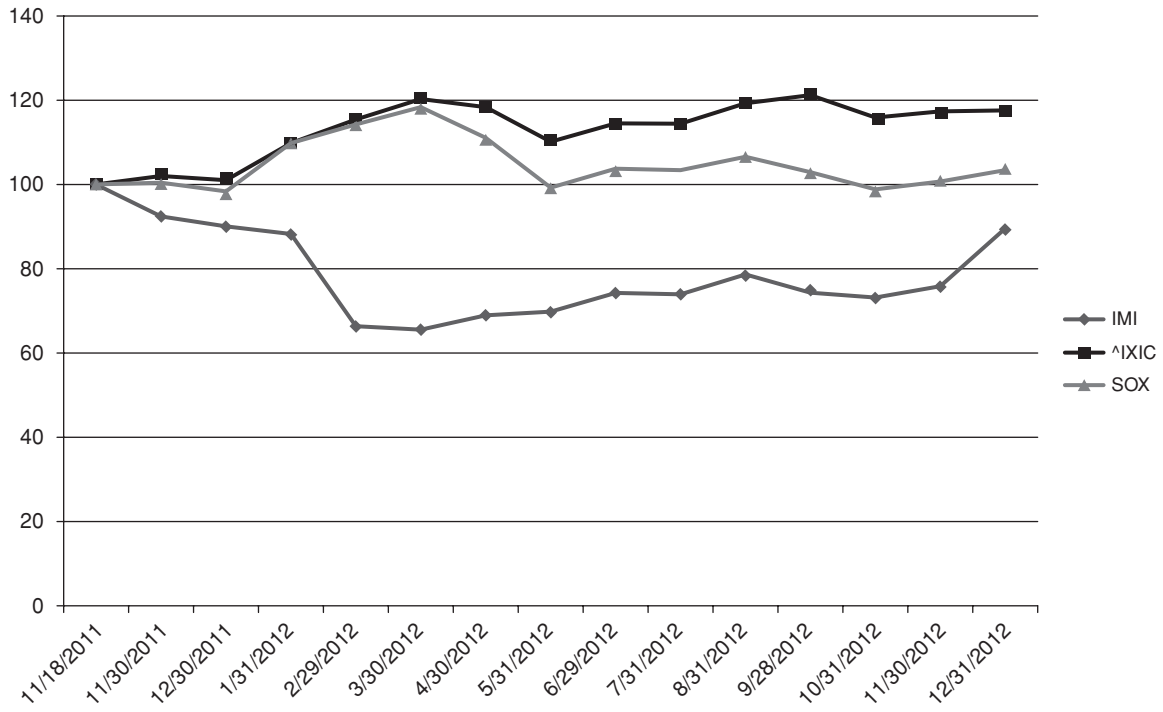
As of February 28, 2013, there were approximately 55 holders of record of our common stock. In addition, a substantially greater number of stockholders may be "street name" or beneficial holders, whose shares are held of record by banks, brokers and other financial institutions.

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 currently 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, 2012. 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.



Use of Proceeds from Registered Securities

On November 17, 2011, the Securities and Exchange Commission (SEC) declared effective our registration statement on Form S-1 (File No. 333-175877), as amended, filed in connection with the initial public offering of our common stock. Pursuant to the registration statement, we issued and sold 5,681,796 shares of our common stock and Symyx Technologies, Inc. sold 3,968,204 shares of our common stock, each at a public offering price of $10.00 per share. After deducting underwriting discounts, commissions and offering expenses paid or payable by us, our net proceeds from the offering were approximately $49.2 million.

There has been no material change in the planned use of proceeds from our initial public offering as described in our final prospectus filed with the SEC on November 18, 2011 pursuant to Rule 424(b). In connection with an agreement for the purchase of intellectual property and the termination of our royalty obligations under an existing license agreement, we issued a promissory note in the principal amount of $27.3 million to Symyx Technologies, Inc. (Symyx), a wholly-owned subsidiary of Accelrys, Inc., upon the consummation of our initial public offering. The promissory note has a term of 24 months, an interest rate equal to 4% and is payable in an amount equal to the lesser of the principal amount and the greater of $0.5 million per quarter or the amount of accrued interest, with a balloon payment at maturity if applicable. The promissory note is secured by all of our tangible personal property, but excluding intellectual property. We also agreed to reimburse Symyx for 50% of their underwriting discounts and commissions from the sale of their shares in our initial public offering, which amount was equal to $1.4 million. A portion of the net proceeds of our initial public offering will be used to make payments of scheduled interest and payment of principal on the promissory at any time at or prior to maturity. From November 17, 2011, the date on which the SEC declared effective the registration statement on Form S-1 for our initial public offering, through December 31, 2011, we used a portion of the net proceeds of our initial public offering to pay Symyx $1.4 million in satisfaction of our agreement to reimburse Symyx for 50% of their underwriter discounts and commissions. We also paid Symyx $2.0 million, which included interest in the amount of $1.2 million and principal in the amount of $0.8 million. We have invested the remainder of funds received in short and intermediate-term, interest-bearing obligations, investment-grade instruments, or guaranteed obligations of the U.S. government.

ITEM 6. SELECTED FINANCIAL DATA

The following selected consolidated financial data should be read together with our consolidated financial statements 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 2012, 2011 and 2010 and the consolidated balance sheets data as of December 31, 2012 and 2011 from our audited consolidated financial statements appearing elsewhere in this filing. The consolidated statements of operations data for 2009 and 2008 and the consolidated balance sheets data as of December 31, 2010, 2009 and 2008 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,				
	2012	2011	2010	2009	2008
	(in thousands, except share and per share amounts)				
Consolidated Statement of Operations Data:					
Revenue:					
CDP and services revenue	$ 47,468	$ 36,733	$ 27,705	$ 14,182	$ 14,647
Product revenue	3,495	2,717	6,959	9,065	6,206
Licensing and royalty revenue	15,864	14,380	8,010	3,663	2,276
Total revenue	66,827	53,830	42,674	26,910	23,129
Cost of revenue	28,403	25,469	20,926	13,018	12,625
Gross profit	38,424	28,361	21,748	13,892	10,504
Operating expenses:					
Research and development	21,839	19,260	13,917	10,983	11,849
Sales and marketing	5,433	4,285	4,074	3,211	3,849
General and administrative	10,868	8,534	5,761	4,867	4,300
Total operating expenses	38,140	32,079	23,752	19,061	19,998
Loss from operations	284	(3,718)	(2,004)	(5,169)	(9,494)
Other income (expense):					
Interest income (expense), net	(1,004)	(87)	43	(6)	174
Other income (expense), net	15	(26,167)	202	(62)	6
Total other income (expense), net	(989)	(26,254)	245	(68)	180
Loss before provision for income taxes	(705)	(29,972)	(1,759)	(5,237)	(9,314)
Provision for income taxes	51	43	19	17	186
Net loss	(756)	(30,015)	(1,778)	(5,254)	(9,500)
Accretion on redeemable convertible preferred stock	—	(8,660)	(14,162)	(9,170)	(5,436)
Net loss attributable to common stockholders	$ (756)	$ (38,675)	$ (15,940)	$ (14,424)	$ (14,936)
Net loss per share of common stock, basic and diluted	$ (0.02)	$ (3.99)	$ (2.86)	$ (2.62)	$ (2.97)
Weighted-average number of shares used in computing net loss per share of common stock, basic and diluted	42,966,448	9,698,880	5,567,286	5,511,889	5,024,118
Other Data:					
Adjusted EBITDA (unaudited)	$ 12,895	$ 6,367	$ 4,589	$ 272	$ (5,062)
Adjusted earnings (unaudited)	$ 2,896	$ (842)	$ (358)	$ (4,131)	$ (8,504)

	Years Ended December 31,				
	2012	2011	2010	2009	2008
	(in thousands)				
Consolidated Balance Sheet Data:					
Cash, cash equivalents and short-term investments	$78,283	$ 81,002	$ 23,064	$ 32,620	$ 40,902
Working capital	52,207	74,665	4,825	16,389	26,663
Total assets	123,685	127,814	55,571	54,469	62,190
Long-term debt, including current portion	26,514	27,318	—	—	4,445
Preferred stock warrant liability	—	—	215	159	—
Redeemable convertible preferred stock	—	—	55,633	55,633	55,633
Accumulated accretion of redeemable convertible preferred stock to redemption values	—	—	34,426	20,264	11,094
Total stockholders' equity (deficit)	85,517	80,173	(64,356)	(49,889)	(36,579)

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 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 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 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 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 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:

	Years Ended December 31,				
	2012	2011	2010	2009	2008
	(in thousands)				
Adjusted EBITDA:					
Net loss	$ (756)	$(30,015)	$(1,778)	$(5,254)	$(9,500)
Non-GAAP adjustments:					
Revenue(1)	—	312	—	—	—
Interest, net	1,004	641	13	48	(94)
Provision for taxes	51	43	19	17	186
Depreciation, amortization and impairments	8,944	7,079	4,971	4,380	3,430
Mark-to-market derivative liability	—	25,865	—	—	—
Stock-based compensation expense(2)	3,652	2,442	1,364	1,081	916
Adjusted EBITDA	$12,895	$ 6,367	$ 4,589	$ 272	$(5,062)

	Years Ended December 31,				
	2012	2011	2010	2009	2008
	(in thousands)				
Adjusted Earnings:					
Net loss	$ (756)	$(30,015)	$(1,778)	$(5,254)	$(9,500)
Non-GAAP adjustments:					
Revenue(1)	—	312	—	—	—
Interest expense (preferred stock warrant mark-to-market)	—	554	56	42	80
Mark-to-market derivative liability	—	25,865	—	—	—
Stock-based compensation expense(2)	3,652	2,442	1,364	1,081	916
Adjusted earnings	$2,896	$ (842)	$ (358)	$(4,131)	$(8,504)

(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,				
	2012	2011	2010	2009	2008
	(in thousands)				
Cost of revenues	$1,011	$ 622	$ 285	$ 134	$ 71
Research and development	872	462	204	222	170
Sales and marketing	774	770	422	378	408
General and administrative	995	588	453	347	267
Total stock-based compensation	$3,652	$2,442	$1,364	$1,081	$916

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 condensed 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, 2012 to the year ended December 31, 2011.
- *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 have pioneered a proprietary approach to accelerate research and development, innovation and time-to-market for the semiconductor and clean energy industries. Using our approach, we develop technology and intellectual property ("IP") 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 to market faster and with less risk than traditional approaches to research and development ("R&D").

We provide our customers with proprietary technology through various fee arrangements and grant them rights to associated IP, primarily through royalty-bearing licenses. Our proprietary approach is broadly applicable to high-volume integrated device markets, which include semiconductors, flat glass coatings and glass based devices, solar cells, light emitting diodes ("LEDs"), flat-panel displays, advanced batteries and other energy-efficient technologies.

We were founded in 2004 and are headquartered in San Jose, California. Our total revenue increased to $66.8 million for the year ended December 31, 2012 from $53.8 million for the year ended December 31, 2011. Our net loss decreased to $0.8 million for the year ended December 31, 2012 from a net loss before accretion on redeemable convertible preferred stock of $30.0 million for the year ended December 31, 2011. Our backlog as of December 31, 2012 was $77.2 million, of which $44.6 million is scheduled to be recognized as revenue during 2013 and $32.6 million is scheduled to be recognized as revenue in periods beyond 2013. As of December 31, 2011, we had backlog of approximately $85.6 million, which contributed approximately $47.2 million in revenue during the year ended December 31, 2012. Our net loss in 2011 included a mark-to-market related charge recorded in other income (expense), net in the amount of $25.9 million related to our purchase of intellectual property from Symyx. Since inception, we have incurred net losses leading to an accumulated deficit of $101.3 million as of December 31, 2012.

In February 2012, one of our significant customers, Elpida, filed for protection under the Corporate Reorganization Act in Japan. This created uncertainty relating to future revenue (including amounts in backlog) from our collaborative development program ("CDP") with Elpida, which runs through March 2013. In July 2012, Micron Technology, Inc. ("Micron") and Elpida's trustees jointly announced that they signed a definitive sponsor agreement for Micron to acquire and support Elpida. On October 31, 2012, the Tokyo District Court issued an order to refer Elpida's reorganization plan, which includes the proposed Micron acquisition, to Elpida's creditors for approval. Creditors had until February 26, 2013 to submit their votes. On February 28, 2013, Elpida announced that the reorganization plan was approved by the statutorily required majority of the creditors and was also approved by the Tokyo District Court. The transactions, which are subject to certain other conditions, are scheduled to close in the first half of 2013. However, there can be no assurance that these transactions will close in a timely manner or at all. During the year ended December 31, 2012 we recognized $9.1 million in revenue and recorded bad debt expense related to pre-bankruptcy accounts receivable in the amount of $0.2 million from Elpida. As of December 31, 2012 we had outstanding accounts receivable, net of allowance for doubtful accounts, in the amount of $0.1 million and had $26.6 million in backlog from Elpida, of which $4.1 million is scheduled to be recognized as revenue during 2013 with the balance scheduled to be recognized as revenue in periods beyond 2013. Of the $4.1 million in backlog to be recognized as revenue during 2013 that is attributable to Elpida, we received payment in the amount of $2.2 million in December 2012 for CDP services and license fees for the three months ending March 31, 2013.

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, solar cells, LEDs, displays and energy-efficient technologies. 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, Elpida, First Solar, GLOBALFOUNDRIES, Guardian Industries, SanDisk, Taiwan Semiconductor Manufacturing Company ("TSMC") and Toshiba. 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 and energy-efficient 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, solar cells, LEDs, displays and other energy-efficient 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 team but allow us to demonstrate the capabilities of our HPC platform to a customer without requiring a customer 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 a recurring license fee to operate those tools with our combinatorial processing capabilities.

	Years Ended December 31,		
	2012	2011	2010
	(in thousands)		
Revenue:			
CDP and services revenue	$47,468	$36,733	$27,705
Product revenue	3,495	2,717	6,959
Licensing and royalty revenue	15,864	14,380	8,010
Total revenue	$66,827	$53,830	$42,674

- *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.
- *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. Historically, we have not sold a significant number of our workflow products and we do not anticipate selling a significant number in the future. As our other revenue streams increase we expect our product revenue to decrease as a percentage of our overall revenue. Product revenue has been recognized upon shipment since January 1, 2011. Product sales that originated prior to January 1, 2011 were generally recognized on a straight-line basis over the maintenance period once delivery occurred (title and risk of loss passed to the customer), and customer acceptance, if required, was 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. In the last three years, licensing and royalty revenue has generally been the fastest growing element of our

revenue. Over the long term, we expect licensing and royalty revenue to be an increasing and significant component of our revenue.

Our revenue growth has been primarily driven by the adoption of our collaboration model and HPC platform leading to both new CDPs and the ramp of licensing and royalty revenue from products commercialized by our customers that incorporate technology developed through our CDPs. Successful CDPs result in the commercialization of products whereby we receive licensing fees and royalties over the course of the respective product cycles. Certain of our semiconductor customers have already commenced shipping products incorporating technology developed through our CDPs, which generate associated licensing and royalty revenue. Our revenue mix may vary from quarter to quarter as we enter into new CDPs and related customer arrangements, existing CDPs are completed or expanded and licensing and royalty arrangements generate revenue.

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 2012. 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,		
	2012	2011	2010
	(in thousands)		
Semiconductor	$55,181	$49,655	$40,678
Clean energy	11,646	4,175	1,996
Total	$66,827	$53,830	$42,674

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. As our customer engagements progress, we expect licensing and royalty revenue to be an increasing and significant component of our revenue. We are broadening our development and sales efforts by expanding CDPs in the semiconductor industry resulting from the adoption of our HPC platform for technology development and engaging in CDPs with companies in the clean energy industry as we believe this will accelerate the future growth of our business.

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, 2012 was $77.2 million, of which $44.6 million is scheduled to be recognized as revenue during 2013, and $32.6 million is scheduled to be recognized as revenue in future periods beyond 2013.

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 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 income (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 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 income (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 solar power 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 solar panel 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 CDPs. 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 five largest customers in the year ended December 31, 2012, four of which are in the semiconductor industry, accounted for 83% of our revenue. We believe there is an opportunity to expand our engagements with these customers into new applications over time. In addition, because our platform is broadly applicable to semiconductors, flat glass coatings and glass-based devices, solar cells, LEDs, flat-panel displays, advanced batteries 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 $21.1 million and $21.0 million, or 31.6% and 39.0%, respectively, of our revenue for the years ended December 31, 2012 and 2011. ATMI, which beneficially owns approximately 8.8% of our capital stock as of December 31, 2012, accounted for $16.5 million and $15.8 million, or 24.7% and 29.3%, respectively, of our revenue for the years ended December 31, 2012 and 2011. 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.

Warrants Issued in Connection with a CDP

In March 2010, in connection with a CDP, we issued contingent warrants to two customers to purchase an aggregate of up to 822,368 shares of our common stock at a cash exercise price of $6.08288 per share. The exercise price was equal to the price of the then-most recent sale of preferred stock. These warrants become exercisable for four months after an election by the holders to license technology developed through the associated CDP. If either of the customers elect to license this technology, we will record a one-time, non-cash charge based on the fair value of these warrants as measured on the date of election against any revenue derived from these agreements. The fair value will be determined using the Black-Scholes option pricing model and may be significant. This election is available to the customers initially through May 2013, but the election period may be extended if the customers extend the CDP. Had the election been made on December 31, 2012 the fair value of these warrants would have been $2.3 million.

In June 2011, in connection with a CDP, we issued a fully vested and exercisable warrant to a customer to purchase 411,000 shares of our common stock at a cash exercise price of $8.30824 per share. The exercise price was equal to the price of the then-most recent sale of preferred stock. This warrant was fully exercised in connection with our initial public offering in November 2011. The fair value of the warrant as measured on the date of grant using the Black-Scholes options pricing model

was $312,000 and was recognized as a reduction of revenue derived from the agreement during the year ended December 31, 2011.

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,		
	2012	2011	2010
	(in thousands)		
Cost of revenues:			
Cost of CDP and services revenue	$26,492	$23,761	$16,855
Cost of product revenue	1,635	953	3,665
Cost of licensing and royalty revenue	276	755	406
Total cost of revenues	$28,403	$25,469	$20,926

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. As customers commercialize products that incorporate technology developed through our CDPs, we expect our cost of revenue to decrease as a percentage of total revenue when licensing and royalty revenue become an increasing component of our revenue. As a result of our asset purchase transaction with Symyx Technologies, Inc. (Symyx), the amortization of acquired patents is being recorded in cost of revenue.

- *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.
- *Cost of product revenue.* Our cost of product revenue primarily includes our cost of products sold. Our cost of product revenue will fluctuate based on the type of product and configuration sold. Historically, we have not sold a significant number of our workflow products and we do not anticipate selling a significant number in the future. Cost of product revenue has been recognized upon product shipment since January 1, 2011. For product sales that originated prior to January 1, 2011, our cost of product revenue was recognized in a similar manner as the corresponding product revenue and was generally recognized on a straight-line basis over the maintenance period. 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 and the corresponding maintenance period over which product revenue and cost of product revenue is being recognized.
- *Cost of licensing and royalty revenue.* Our cost of licensing and royalty revenue prior to January 1, 2012 included license fees paid to Symyx. As part of our completion of the Symyx asset purchase transaction in November 2011, in connection with our initial public offering, we no longer have an obligation to pay licensing fees to Symyx for any period on or after January 1, 2012. In 2012, our cost of licensing and royalty revenue has been, and we expect will continue to be, primarily comprised of the amortization of acquired patents 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. Overhead costs that are not allocated to a customer program are recognized as expenses within R&D. We expect our R&D expenses will continue to increase for the foreseeable future as we continue to devote substantial internal resources 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 that our sales and marketing expenses will continue to increase for the foreseeable future as we increase the number of our sales and marketing employees to support the growth in our business and as we incur increasing external marketing communication costs.

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. In addition to these expenses, we expect that our general and administrative expenses will continue to increase for the foreseeable future.

Interest (Expense) Income, net

Interest expense primarily consists of interest accrued on our note payable to Symyx in connection with the Symyx asset purchase transaction that closed in November 2011. 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 Income (Expense), net

Other income consists of municipal economic development grant proceeds received during the year ended December 31, 2010. Other income (expense), net also consists of the change in fair value of our preferred stock warrants and derivative liability and other income. Prior to the exercise of the preferred stock warrant we issued in connection with a line of credit, we had classified the warrant as a liability and remeasured it to fair value at each balance sheet date with the corresponding gain or loss from the adjustment recorded as other income (expense), net. Following the exercise of the warrant in connection with our initial public offering in November 2011, the warrant is no longer outstanding and will not be remeasured at each balance sheet date. In connection with entering into the Symyx asset purchase transaction we recorded a derivative liability representing the value of the guaranteed return to Symyx and reimbursement of 50% of the underwriting discounts and commissions payable in connection with our initial public offering. We adjusted the fair value of the derivative liability to

market value at each balance sheet date with the final remeasurement occurring upon the consummation of our initial public offering that closed in November 2011 with the change in the market value of the derivative liability recorded in other income (expense), net. Effective as of the Company's initial public offering in November 2011 these preferred stock warrants and derivative liability are no longer outstanding.

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, 2012, we had net operating loss carryforwards for federal and state income tax purposes of approximately $37.6 million and $37.1 million, respectively. Of these amounts, $6.8 million and $6.6 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 $3.5 million in U.S. federal R&D credit and $5.7 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. When there are multiple elements of deliverables in a contract entered into or modified on or prior to December 31, 2010, we identify all deliverables and allocate revenue among all of the undelivered elements, which might include CDP and other services revenue, product revenue and licensing and royalty revenue, based on objective and reliable evidence of fair value for any such element. In the event that vendor-specific objective evidence does not exist, revenue will be recognized over the term of the agreement and will be allocated among the deliverables based on the relative stated invoice price for the elements. In an arrangement that includes software

that is more than incidental to the products or services as a whole, we recognize revenue from the software and software-related elements, as well as any non-software deliverable(s) for which a software deliverable is essential to its functionality, in accordance with the authoritative guidance on software revenue recognition.

For all transactions entered into after December 31, 2010, we recognize revenue using estimated selling prices of the delivered goods and services. We use vendor-specific objective evidence of selling price (VSOE) for determination of estimated selling price of elements in each arrangement if available, 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 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 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.

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 from historical volatilities of several unrelated, publicly listed peer companies over a period approximately equal to the expected term of the award because we have limited information on the volatility of our common stock since we have a limited trading history. 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, 2012 we had $6.4 million of unrecognized stock-based compensation expense, net of estimated forfeitures, that is expected to be recognized over a weighted average period of 2.4 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, 2012 was $42.3 million based on the $8.90 per share closing sale price for our common stock on December 31, 2012, which was the last trading day of 2012.

Results of Operations

Comparison of the Years Ended December 31, 2012 and 2011

	Years Ended December 31,			
	2012	2011	$ Change	% Change
		(in thousands)		
Revenue:				
CDP and services revenue	$47,468	$ 36,733	$10,735	29%
Product revenue	3,495	2,717	778	29%
Licensing and royalty revenue	15,864	14,380	1,484	10%
Total revenue	66,827	53,830	12,997	24%
Cost of revenue	28,403	25,469	2,934	12%
Gross profit	38,424	28,361	10,063	35%
Operating expenses:				
Research and development	21,839	19,260	2,579	13%
Sales and marketing	5,433	4,285	1,148	27%
General and administrative	10,868	8,534	2,334	27%
Total operating expenses	38,140	32,079	6,061	19%
Income (loss) from operations	284	(3,718)	4,002	(108)%
Other income (expense):				
Interest expense, net	(1,004)	(87)	(917)	
Other income (expense), net	15	(26,167)	26,182	
Total other income (expense), net	(989)	(26,254)	25,265	
Loss before provision for income taxes	(705)	(29,972)	29,267	
Provision for income taxes	51	43	8	
Net loss	$ (756)	$(30,015)	$29,259	

Revenue

Our revenue increased by $13.0 million, or 24%, to $66.8 million during the year ended December 31, 2012 from $53.8 million during the year ended December 31, 2011 due to increases in CDP and services revenue, product revenue and licensing and royalty revenue.

CDP and services revenue increased by $10.7 million, or 29%, to $47.5 million during the year ended December 31, 2012 from $36.7 million during the year ended December 31, 2011. This increase was primarily attributable to $14.9 million in revenue derived from the extension and expansion of

existing customer engagements and new customer engagements that commenced during the year ended December 31, 2012. These increases include a non-recurring amount of $0.8 million related to the expiration of a customer's purchase option and a performance incentive in the amount of $0.8 million. Partially offsetting these increases is a $4.2 million decrease in revenue from the scheduled completion and reduction of government service contracts and other CDP and service agreements. Of the growth from existing and new customer engagements, $10.8 million in revenue was derived from two CDPs.

Product revenue increased by $0.8 million, or 29%, to $3.5 million during the year ended December 31, 2012 from $2.7 million during the year ended December 31, 2011. This increase was attributable to the shipment of elements of workflow hardware and embedded software that was completed during the year ended December 31, 2012.

Licensing and royalty revenue increased by $1.5 million, or 10%, to $15.9 million during the year ended December 31, 2012 from $14.4 million during the year ended December 31, 2011. This increase was primarily attributable to the purchase of developed technology by one of our clean energy customers during the three months ended December 31, 2012 combined with an increase in scheduled minimum license fees guaranteed by customer contracts, which was partially offset by a decrease in minimum license fees guaranteed by other customer contracts.

The following table presents revenue by geographic region (based on invoiced locations) during the years ended December 31, 2012 and 2011 in dollars (in thousands) and as a percentage of revenue for the periods presented:

	Years Ended December 31,			
	2012		2011	
	Revenues (in thousands)	% of Revenues	Revenues (in thousands)	% of Revenues
United States	$51,045	76%	$35,573	66%
Japan	13,594	20%	15,148	28%
APAC other	2,066	4%	2,934	5%
Europe and Middle East	122	—%	175	1%
Total	$66,827	100%	$53,830	100%

Cost of Revenue

Cost of revenue increased by $2.9 million, or 12%, to $28.4 million during the year ended December 31, 2012 from $25.5 million during the year ended December 31, 2011. This change is directly attributable to increased CDP and services revenue and product revenue recognized from new and ongoing customer engagements, which resulted in a $2.7 million increase in direct labor, materials and other costs associated with these programs, including a $0.3 million asset impairment expense related to retired assets previously supporting a customer CDP program, and a $0.7 million increase in direct product costs consistent with increased product revenue. This increase was partially offset by a decrease in cost of licensing and royalty revenue from the elimination of royalty payments to Symyx in connection with the Symyx asset purchase agreement that closed in November 2011, which eliminated our obligation to pay Symyx a 5% royalty on all HPC-derived revenue. The elimination of the royalty obligation was partially offset by the amortization of Symyx-acquired IP and licensing obligations that collectively approximated $0.8 million during the year ended December 31, 2012.

Cost of revenue as a percentage of revenue decreased from 47% during the year ended December 31, 2011 to 43% during the year ended December 31, 2012. This decrease is primarily related to the elimination of royalty payments to Symyx in connection with the Symyx asset purchase agreement that closed in November 2011, which eliminated our obligation to pay Symyx a 5% royalty on all HPC-derived revenue and growth in CDP and services and licensing and royalty revenue.

Furthermore, to the extent we are successful in growing our revenue and increasing licensing and royalty revenue as a percentage of revenue we expect our cost of revenue as a percentage of total revenue to decline.

Research and Development

R&D expenses increased by $2.6 million, or 13%, to $21.8 million during the year ended December 31, 2012 from $19.3 million during the year ended December 31, 2011. The change is primarily attributable to $3.7 million in higher personnel costs as a result of increased headcount and higher stock-based compensation expense and $0.6 million in asset impairment expense related to retired assets previously supporting platform prototypes for new application development. These costs were partially offset by a $0.8 million decrease in facility and occupancy-related costs due in part to the elimination of costs from our prior facility, which ended in October 2011 as well as a decrease in R&D expenses due to an increase in the use of equipment for CDPs resulting in an increase in the allocation of expenses to cost of revenue during the year ended December 31, 2012 as compared to the year ended December 31, 2011.

Sales and Marketing

Sales and marketing expenses increased by $1.1 million, or 27%, to $5.4 million during the year ended December 31, 2012 from $4.3 million during the year ended December 31, 2011. Increased personnel costs associated with headcount growth that resulted in increased wages, stock-based compensation and other employee related benefits of approximately $1.0 million and bad debt expense related to pre-bankruptcy Elpida accounts receivable of approximately $0.2 million. These costs were partially offset by a $0.1 million decrease in general sales and marketing related expenses.

General and Administrative

General and administrative expenses increased by $2.3 million, or 27%, to $10.9 million during the year ended December 31, 2012 from $8.5 million during the year ended December 31, 2011. The increase is primarily attributable to $1.4 million in higher professional fees that include legal and accounting services associated with being a public company, and $1.3 million in higher personnel costs as a result of increased headcount. The increase was partially offset by the elimination of $0.5 million in costs from our prior facility, which ended in October 2011.

Income (loss) from Operations

Our operating loss decreased by $4.0 million to an operating income of $0.3 million during the year ended December 31, 2012 from an operating loss of $3.7 million during the year ended December 31, 2011. To the extent we are successful in growing our revenue and increasing licensing and royalty revenue as a percentage of our total revenue, and if our expenses increase at a slower rate than our revenue, we expect that our income from operations will increase in the future. Our operating expenses increased by $6.1 million to $38.1 million during the year ended December 31, 2012 from $32.1 million during the year ended December 31, 2011. We expect our operating expenses to continue to increase as we expand and invest in our business, making investments in both personnel and capital resources leading to increased depreciation expense.

Interest Expense, net

Interest expense, net decreased by $0.9 million to an expense of $1.0 million during the year ended December 31, 2012 from an expense of $0.1 million during the year ended December 31, 2011. The decrease is primarily attributable to interest expense associated with our note payable to Symyx.

Other Income (Expense), net

Other income (expense), net increased by $26.2 million to an income of $15,000 during the year ended December 31, 2012 from an expense of $26.2 million during the year ended December 31, 2011. This change was primarily due to the prior year change in value of the Symyx purchase right derivative that was finalized as part of the closing of the Symyx asset purchase transaction in November 2011 and to a lesser extent the conversion and subsequent exercise of our outstanding preferred stock warrant liability in connection with our initial public offering in November 2011. Both were no longer outstanding or subject to remeasurement during the year ended December 31, 2012.

Provision for Income Taxes

Provision for income taxes for the years ended December 31, 2012 and 2011 consisted primarily of foreign income taxes and were not significant during these periods.

Net Loss

Our net loss decreased by $29.3 million to a net loss of $0.8 million during the year ended December 31, 2012 from a net loss of $30.0 million during the year ended December 31, 2011. The difference between income from operations and net loss during the year ended December 31, 2012 was primarily related to the prior year mark-to-market change in the valuation of the Symyx purchase right derivative that resulted in an expense of $25.9 million combined with the current year interest expense associated with our note payable to Symyx.

Comparison of the Years Ended December 31, 2011 and 2010

	Years Ended December 31,			
	2011	2010	$ Change	% Change
		(in thousands)		
Revenue:				
CDP and services revenue	$ 36,733	$27,705	$ 9,028	33%
Product revenue	2,717	6,959	(4,242)	(61)%
Licensing and royalty revenue	14,380	8,010	6,370	80%
Total revenue	53,830	42,674	11,156	26%
Cost of revenue	25,469	20,926	4,543	22%
Gross profit	28,361	21,748	6,613	30%
Operating expenses:				
Research and development	19,260	13,917	5,343	38%
Sales and marketing	4,285	4,074	211	5%
General and administrative	8,534	5,761	2,773	48%
Total operating expenses	32,079	23,752	8,327	35%
Loss from operations	(3,718)	(2,004)	(1,714)	86%
Other income (expense):				
Interest (expense) income, net	(87)	43	(130)	
Other (expense) income, net	(26,167)	202	(26,369)	
Total other income (expense), net	(26,254)	245	(26,499)	
Loss before provision for income taxes	(29,972)	(1,759)	(28,213)	
Provision for income taxes	43	19	24	
Net loss	$(30,015)	$(1,778)	$(28,237)	

Revenue

Our revenue increased by $11.2 million, or 26%, to $53.8 million during the year ended December 31, 2011 from $42.7 million during the year ended December 31, 2010. This increase was due to increases in CDP and services revenue and licensing and royalty revenue of $15.4 million which were partially offset by decreases in product revenue of $4.2 million.

CDP and services revenue increased by $9.0 million, or 33%, to $36.7 million during the year ended December 31, 2011 from $27.7 million during the year ended December 31, 2010. This increase was primarily attributable to $6.3 million in revenue derived from new customer engagements, combined with $6.3 million from the expansion of existing customer engagements, offset by a $3.6 million decrease in revenue from the scheduled completion of CDPs. Of the new customer engagements, $5.7 million in revenue was derived from a new CDP.

Product revenue decreased by $4.2 million, or 61%, to $2.7 million during the year ended December 31, 2011 from $7.0 million during the year ended December 31, 2010. The decrease in product revenue is due to differences in both the type of product sold during each period as well as the length of the corresponding maintenance periods for the respective products for which the revenue was recognized. We have not had any product sales of our workflow hardware that were initiated during 2011.

Licensing and royalty revenue increased by $6.4 million, or 80%, to $14.4 million during the year ended December 31, 2011 from $8.0 million during the year ended December 31, 2010. This increase was primarily attributable to an increase in sales of products subject to licensing fees and royalties, including minimum license fees as guaranteed by customer contracts.

The following table presents revenue by geographic region (based on invoiced locations) during the twelve months ended December 31, 2011 and 2010 in dollars (in thousands) and as a percentage of revenue for the periods presented:

	Years Ended December 31,			
	2011		2010	
	Revenues (in thousands)	% of Revenues	Revenues (in thousands)	% of Revenues
United States	$35,573	66%	$29,526	69%
Japan	15,148	28%	12,449	29%
APAC Other	2,934	5%	489	1%
Europe and Middle East	175	1%	210	1%
Total	$53,830	100%	$42,674	100%

Cost of Revenue

Cost of revenue increased by $4.5 million, or 22%, to $25.5 million during the year ended December 31, 2011 from $20.9 million during the year ended December 31, 2010. This change is directly attributable to the increased CDP and services revenue we recognized from our new and ongoing customer engagements, which resulted in a $6.9 million increase in direct labor, materials and other costs associated with these programs. Additionally, cost of licensing and royalty revenue increased by $0.3 million directly attributable to increased licensing and royalty revenue. This increase was partially offset by a $2.7 million decrease in cost of product revenue associated with the decrease in product revenue recognized during the period.

Cost of revenue as a percentage of revenue decreased slightly from the prior year from 49% during the year ended December 31, 2010 to 47% in 2011. To the extent we are successful in growing

our revenue and increasing licensing and royalty revenue as a percentage of revenue we expect our cost of revenue as a percentage of total revenue to decline.

Research and Development

R&D expenses increased by $5.3 million, or 38%, to $19.3 million during the year ended December 31, 2011 from $13.9 million during the year ended December 31, 2010. The change is primarily attributable to $2.4 million in higher personnel costs as a result of increased headcount, $0.6 million increase in facility and occupancy-related costs due to clean room expansion, $1.8 million increase in depreciation expense, and $0.5 million in consulting and professional service fees.

Sales and Marketing

Sales and marketing expenses increased by $0.2 million, or 5%, to $4.3 million during the year ended December 31, 2011 from $4.1 million during the year ended December 31, 2010. The change is primarily due to higher consulting and personnel costs related to increased stock-based compensation expense during the year ended December 31, 2011.

General and Administrative

General and administrative expenses increased by $2.8 million, or 48%, to $8.5 million during the year ended December 31, 2011 from $5.8 million during the year ended December 31, 2010. The increase is primarily attributable to $1.3 million in higher professional fees associated with legal and accounting services, $1.2 million in higher personnel costs as a result of increased headcount, and $0.3 million in increased facility expenses.

Loss from Operations

Our operating loss increased by $1.7 million, to an operating loss of $3.8 million during the year ended December 31, 2011 from an operating loss of $2.0 million during the year ended December 31, 2010. To the extent we are successful in growing our revenue and increasing licensing and royalty revenue as a percentage of our total revenue, and if our expenses increase at a slower rate than our revenue, we expect that our net loss will decrease in the future. Our operating expenses increased by $8.3 million to $32.1 million during the year ended December 31, 2011 from $23.8 million during the year ended December 31, 2010. We expect our operating expenses to continue to increase as we expand and invest in our business, making investments in both personnel and capital resources leading to increased depreciation expense.

Interest (Expense) Income, net

Interest income, net decreased by $130,000 to an expense of $87,000 during the year ended December 31, 2011 from income of $43,000 during the year ended December 31, 2010. The decrease was primarily attributable to interest expense associated with the note payable to Symyx.

Other (Expense) Income, net

Other income (expense), net decreased by $26.4 million to an expense of $26.2 million during the year ended December 31, 2011 from income of $0.2 million during the year ended December 31, 2010. This decrease was due to a charge for the mark-to-market change in the valuation of the Symyx purchase right derivative that was finalized as part of the closing of the Symyx asset purchase transaction that closed in November 2011 in connection with the completion of our initial public offering. Included in the mark-to-market change in value is the reimbursement of 50% of Symyx's underwriting discounts and commissions in connection with the sale of their common stock in our initial public offering, which amount was equal to approximately $1.4 million.

Provision for Income Taxes

Provision for income taxes as of December 31, 2011 and 2010 consisted of income taxes on our foreign entities and were not significant during either period.

Net Loss

Our net loss increased by $28.2 million, to a net loss of $30.0 million during the year ended December 31, 2011 from a net loss of $1.8 million during the year ended December 31, 2010. The increase in net loss from our operating loss during the year ended December 31, 2011 was primarily attributable to the mark-to-market change in the valuation of the Symyx purchase right derivative that resulted in an expense of $25.9 million.

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, 2012 were as follows (in thousands, except share and per share amounts):

	Three Months Ended							
	December 31, 2012	September 30, 2012	June 30, 2012	March 31, 2012	December 31, 2011	September 30, 2011	June 30, 2011	March 31, 2011
	(unaudited)							
Revenue:								
CDP and services revenue	$ 11,632	$ 12,481	$ 11,160	$ 12,195	$ 10,564	$ 10,349	$ 8,027	$ 7,793
Product revenue	—	760	2,057	678	679	678	682	678
Licensing and royalty revenue	5,811	3,248	3,296	3,509	3,889	3,847	3,427	3,217
Total revenue	17,443	16,489	16,513	16,382	15,132	14,874	12,136	11,688
Cost of revenue	6,537	7,204	7,474	7,188	7,470	6,676	5,807	5,516
Gross profit	10,906	9,285	9,039	9,194	7,662	8,198	6,329	6,172
Operating expenses:								
Research and development	5,837	5,174	5,760	5,068	4,659	5,113	4,969	4,519
Sales and marketing	1,599	1,322	1,272	1,240	1,056	1,249	1,075	905
General and administrative	2,678	2,650	2,722	2,818	2,378	2,231	2,126	1,799
Total operating expenses	10,114	9,146	9,754	9,126	8,093	8,593	8,170	7,223
Income (loss) from operations	792	139	(715)	68	(431)	(395)	(1,841)	(1,051)
Other income (expense):								
Interest (expense) income, net	(250)	(255)	(250)	(249)	(103)	6	6	4
Other (expense) income, net	(1)	10	12	(6)	(24,993)	(839)	(157)	(178)
Total other (expense) income, net	(251)	(245)	(238)	(255)	(25,096)	(833)	(151)	(174)
Income (loss) before provision for income taxes	541	(106)	(953)	(187)	(25,527)	(1,228)	(1,992)	(1,225)
Provision for income taxes	39	6	7	(1)	24	6	12	1
Net income (loss)	502	(112)	(960)	(186)	(25,551)	(1,234)	(2,004)	(1,226)
Accretion on redeemable convertible preferred stock	—	—	—	—	—	(1,565)	(3,054)	(4,041)
Net income (loss) attributable to common stockholders	$ 502	$ (112)	$ (960)	$ (186)	$ (25,551)	$ (2,799)	$ (5,058)	$ (5,267)
Net income (loss) per share of common stock, basic	$ 0.01	$ 0.00	$ (0.02)	$ 0.00	$ (1.19)	$ (0.49)	$ (0.89)	$ (0.93)
Net income (loss) per share of common stock, diluted	$ 0.01	$ 0.00	$ (0.02)	$ 0.00	$ (1.19)	$ (0.49)	$ (0.89)	$ (0.93)
Shares used in computing net income (loss) per share of common stock, basic	43,684,167	43,278,588	42,650,369	42,241,345	21,519,116	5,750,979	5,663,213	5,633,192
Shares used in computing net income (loss) per share of common stock, diluted	47,726,284	43,278,588	42,650,369	42,241,345	21,519,116	5,750,979	5,663,213	5,633,192

Liquidity and Capital Resources

Prior to our initial public offering in November 2011, we substantially satisfied our capital and liquidity needs through private placements of redeemable convertible preferred stock and, to a lesser extent, cash flow from operations. As of December 31, 2012, we had $78.3 million of cash and cash equivalents and $52.2 million of net working capital. During the year ended December 31, 2011, we closed a private placement of our Series E redeemable convertible preferred stock for $24.9 million in net proceeds and completed our initial public offering which provided us with aggregate net proceeds of $49.2 million. In connection with the consummation of our initial public offering in November 2011, we also received $6.4 million in proceeds from the exercise of common stock warrants.

As of December 31, 2012, we had debt outstanding of $26.5 million related to the promissory note payable to Symyx as a result of the completion of the Symyx asset purchase transaction. During the year ended December 31, 2012, the Company paid Symyx $2.0 million, which included interest in the amount of $1.2 million and principal in the amount of $0.8 million. As of December 31, 2012, we anticipate that $25.9 million will need to be paid in November 2013. Our obligations under the promissory note require us to dedicate a substantial portion of our cash flow from operations to payments on interest and principal of the promissory note 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 promissory note and the security interests granted in favor of Symyx 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.

To date, we have incurred significant losses. During the years ended December 31, 2012, 2011 and 2010, we incurred net losses of $0.8 million, $30.0 million, and $1.8 million. As of December 31, 2012, our accumulated deficit was $101.3 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 industry, 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 and cash equivalents 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.

In February 2012, one of our significant customers, Elpida, filed for protection under the Corporate Reorganization Act in Japan. This created uncertainty relating to future revenue (including

amounts in backlog) from our CDP with Elpida, which runs through March 2013. In July 2012, Micron Technology, Inc. ("Micron") and Elpida's trustees jointly announced that they signed a definitive sponsor agreement for Micron to acquire and support Elpida. On October 31, 2012, the Tokyo District Court issued an order to refer Elpida's reorganization plan, which includes the proposed Micron acquisition, to Elpida's creditors for approval. Creditors had until February 26, 2013 to submit their votes. On February 28, 2013, Elpida announced that the reorganization plan was approved by the statutorily required majority of the creditors and was also approved by the Tokyo District Court. The transactions, which are subject to certain other conditions, are scheduled to close in the first half of 2013. However, there can be no assurance that these transactions will close in a timely manner or at all. During the year ended December 31, 2012 we recognized $9.1 million in revenue and recorded bad debt expense related to pre-bankruptcy accounts receivable in the amount of $0.2 million from Elpida and as of December 31, 2012 had outstanding accounts receivable, net of allowance for doubtful accounts, in the amount of $0.1 million and backlog in the amount of $26.6 million, of which $4.1 million is to be recognized during 2013 with the balance to be recognized in periods beyond 2013. We received payment in the amount of $2.2 million in December 2012 for CDP services and license fees for the three months ending March 31, 2013.

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,		
	2012	2011	2010
		(in thousands)	
Net cash provided by (used in) operating activities	$ 3,486	$ (8,156)	$1,175
Net cash (used in) provided by investing activities	$(7,834)	$(13,468)	$ 924
Net cash provided by financing activities	$ 1,629	$ 79,562	$ 109

Cash Flows from Operating Activities

We experienced positive cash flows from operating activities during the years ended December 31, 2012 and 2010, and experienced negative cash flows from operating activities during the year ended December 31, 2011.

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.

Net cash used in operating activities during the year ended December 31, 2011 of $8.2 million was primarily attributable to our net loss of $30.0 million and non-cash charges of $24.5 million due to our derivative liability as a result of the consummation of the Symyx asset purchase transaction, $7.1 million of depreciation and amortization, and $2.4 million in stock-based compensation. The net decline in cash flow from our operating assets and liabilities of $13.1 million was primarily as a result of an

$8.3 million reduction in deferred revenue related to timing of customer prepayments, $2.7 million in prepaid and other assets, and $7.0 million in accounts receivable, offset by an increase in accrued and other liabilities of $5.4 million. The decline in deferred revenue is primarily related to the earn out of customer prepayments for licensing and royalty related revenues.

Net cash provided by operating activities during the year ended December 31, 2010 of $1.2 million reflects the net loss of $1.8 million and non-cash charges of $5.0 million for depreciation and amortization and $1.4 million for stock-based compensation. The net decrease in our operating assets and liabilities of $3.4 million was primarily a result of a $0.8 million increase in inventory, a $2.9 million increase in accounts receivable and a $4.5 million decrease in deferred revenue which were partially offset by a $3.3 million increase in accounts payable and accrued expenses.

Cash Flows from Investing Activities

Our investing activities consist primarily of purchases and sales 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 significant capital expenditures to support our expanding operations and incur costs to protect our investment in our developed technology and IP.

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.

During the year ended December 31, 2011, cash used in investing activities was $13.5 million as a result of $12.8 million in capital expenditures and $0.8 million in capitalized patent and trademark costs, offset by a $0.2 million decrease in restricted cash.

During the year ended December 31, 2010, cash provided by investing activities of $0.9 million was primarily attributable to the $11.8 million in net proceeds received from the sale of our investments which were partially offset by $10.5 million of capital expenditures and $0.3 million in capitalized intangible asset costs. These capital expenditures were incurred as a result of us relocating our operations during the year ended December 31, 2010 to a new facility to support our expanding operations, as well as to prepare for new business programs requiring additional equipment.

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.

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.

During the year ended December 31, 2011, cash provided by financing activities was $79.6 million, primarily as a result of the receipt of $49.2 million in net proceeds from our initial public offering in November 2011 and $24.9 million in net proceeds from the sale of our Series E redeemable convertible preferred stock in March and June 2011. In addition, we received $6.4 million in proceeds from the exercise of common stock warrants and $0.5 million in proceeds from the exercise of common stock options. Funds received from financing activities were offset by a onetime payment of selling stockholder offering costs of $1.4 million in connection with obligations under the Symyx asset purchase transaction.

During the year ended December 31, 2010, cash provided by financing activities was $0.1 million which consisted of proceeds received from the exercise of stock options.

Contractual Obligations and Commitments

The following summarizes our contractual obligations as of December 31, 2012:

	Payments Due by Period				
	Total	Less Than One Year	1 - 3 Years	3 - 5 Years	More Than 5 Years
			(in thousands)		
Operating lease obligations	$ 4,092	$ 1,657	$2,435	—	—
Note payable	26,514	26,514	—	—	—
Contractual interest payments on note payable	936	936	—	—	—
Purchase obligations(1)	2,400	2,400	—	—	—
Total	$33,942	$31,507	$2,435	$—	$—

(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 agreements for our facility in San Jose, California. During the year ended December 31, 2012, we made regular lease payments of $1.6 million under the operating lease agreements.

In connection with the consummation of the Symyx asset purchase transaction, which occurred in connection with the consummation of our initial public offering, we issued a promissory note payable to Symyx. As of December 31, 2012, the note had a principal amount equal to $26.5 million and a remaining term of approximately 11 months and an interest rate of 4% and is payable in amounts equal to the greater of $0.5 million per quarter or the amount of accrued interest, with a balloon payment at maturity, if applicable.

Off-Balance Sheet Arrangements

As of December 31, 2012, 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, 2012 total $78.3 million, consisting primarily of cash and money market funds with maturities of less than three months from the date of purchase. 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.

In connection with the consummation of the Symyx asset purchase transaction, which occurred in connection with the consummation of our initial public offering, we issued a promissory note payable to Symyx. As of December 31, 2012, the note had a principal amount equal to $26.5 million and a remaining term approximately 11 months and an interest rate of 4% and is payable in amounts equal to the greater of $0.5 million per quarter or the amount of accrued interest, with a balloon payment at maturity, if applicable. While the interest rate on our debt is fixed 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.

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 exchanges 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

	Page
Reports of Independent Registered Public Accounting Firm	80
Consolidated Balance Sheets	82
Consolidated Statements of Operations	83
Consolidated Statements of Comprehensive Loss	84
Consolidated Statements of Redeemable Convertible Preferred Stock and of Stockholders' Equity (Deficit)	85
Consolidated Statements of Cash Flows	86
Notes to Consolidated Financial Statements	87

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 (the Company) as of December 31, 2012 and 2011, and the related consolidated statements of operations, comprehensive loss, redeemable convertible preferred stock and of stockholders' equity (deficit), and cash flows for each of the years in the threeyear period ended December 31, 2012. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

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

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Intermolecular, Inc. and subsidiaries as of December 31, 2012 and 2011, and the results of their operations and their cash flows for each of the years in the three-year period ended December 31, 2012, in conformity with U.S. generally accepted accounting principles.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), Intermolecular, Inc. internal control over financial reporting as of December 31, 2012, based on criteria established in *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO), and our report dated March 1, 2013, expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

/s/ KPMG LLP

Santa Clara, California

March 1, 2013

Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders
Intermolecular, Inc.:

We have audited Intermolecular, Inc.'s (the Company) internal control over financial reporting as of December 31, 2012, based on criteria established in *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in Item 9A. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit 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 audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company'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 company; (2) 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 (3) 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.

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

In our opinion, Intermolecular, Inc. maintained, in all material respects, effective internal control over financial reporting as of December 31, 2012, based on criteria established in *Internal Control—Integrated Framework* issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated balance sheets of Intermolecular, Inc. and subsidiaries as of December 31, 2012 and 2011, and the related consolidated statements of operations, comprehensive loss, redeemable convertible preferred stock and of stockholders' equity (deficit), and cash flows for each of the years in the three-year period ended December 31, 2012, and our report dated March 1, 2013, expressed an unqualified opinion on those consolidated financial statements.

/s/ KPMG LLP

Santa Clara, California

March 1, 2013

INTERMOLECULAR, INC. AND SUBSIDIARIES

Consolidated Balance Sheets

(In thousands, except share and per share data)

	December 31, 2012	December 31, 2011
ASSETS		
Current assets:		
Cash and cash equivalents	$ 78,283	$ 81,002
Accounts receivable, net of allowance for doubtful accounts of $170 and zero as of December 31, 2012 and 2011, respectively	7,294	10,227
Accounts receivable, due from related parties	1,036	935
Inventory, current portion	1,631	—
Prepaid expenses and other current assets	1,361	1,763
Total current assets	89,605	93,927
Inventory, net of current portion	3,160	2,532
Property and equipment, net	24,058	25,128
Intangible assets, net	6,671	6,067
Other assets	191	160
Total assets	$ 123,685	$ 127,814
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 971	$ 1,079
Accrued liabilities	3,386	3,759
Accrued compensation and employee benefits	3,397	2,452
Deferred revenue, current portion	2,301	1,575
Related party deferred revenue, current portion	829	9,593
Note payable, current portion	26,514	804
Total current liabilities	37,398	19,262
Related party deferred revenue, net of current portion	—	716
Deferred rent, net of current portion	624	1,004
Note payable, net of current portion	—	26,514
Other long-term liabilities	146	145
Total liabilities	38,168	47,641
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, 2012 and December 31, 2011	—	—
Common stock, par value $0.001 per share—200,000,000 and 200,000,000 shares authorized as of December 31, 2012 and 2011, respectively; 44,046,970 and 42,218,906 shares issued and outstanding, respectively	44	42
Additional paid-in capital	186,778	180,680
Accumulated deficit	(101,305)	(100,549)
Total stockholders' equity	85,517	80,173
Total liabilities and stockholders' equity	$ 123,685	$ 127,814

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,		
	2012	**2011**	**2010**
Revenue:			
Collaborative development program and services revenue	$ 47,468	$ 36,733	$ 27,705
Product revenue	3,495	2,717	6,959
Licensing and royalty revenue	15,864	14,380	8,010
Total revenue	66,827	53,830	42,674
Cost of revenue:			
Cost of collaborative development program and services revenue	26,492	23,761	16,855
Cost of product revenue	1,635	953	3,665
Cost of licensing and royalty revenue	276	755	406
Total cost of revenue	28,403	25,469	20,926
Gross profit	38,424	28,361	21,748
Operating expenses:			
Research and development	21,839	19,260	13,917
Sales and marketing	5,433	4,285	4,074
General and administrative	10,868	8,534	5,761
Total operating expenses	38,140	32,079	23,752
Income (loss) from operations	284	(3,718)	(2,004)
Other income (expense):			
Interest (expense) income, net	(1,004)	(87)	43
Other income (expense), net	15	(26,167)	202
Total other income (expense), net	(989)	(26,254)	245
Loss before provision for income taxes	(705)	(29,972)	(1,759)
Provision for income taxes	51	43	19
Net loss	(756)	(30,015)	(1,778)
Accretion on redeemable convertible preferred stock	—	(8,660)	(14,162)
Net loss attributable to common stockholders	$ (756)	$ (38,675)	$ (15,940)
Net loss per share of common stock, basic and diluted	$ (0.02)	$ (3.99)	$ (2.86)
Weighted-average number of shares used in computing net loss per share of common stock, basic and diluted	42,966,448	9,698,880	5,567,286

Related Party Transactions

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

	Years Ended December 31,		
	2012	**2011**	**2010**
Revenue:			
Collaborative development program and services revenue	$11,838	$11,294	$13,382
Product revenue	2,139	11	6,047
Licensing and royalty revenue	7,091	9,688	6,584
Total revenue	$21,068	$20,993	$26,013
Cost of Revenue:			
Cost of collaborative development program and services revenue	55	1,075	1,250
Cost of product revenue	—	119	322
Cost of licensing and royalty revenue	—	635	406
Total cost of revenue	$ 55	$ 1,829	$ 1,978

See accompanying notes to consolidated financial statements.

INTERMOLECULAR, INC. AND SUBSIDIARIES

Consolidated Statements of Comprehensive Loss

(In thousands, except share and per share data)

	Years Ended December 31,		
	2012	2011	2010
Loss for the period	$(756)	$(38,675)	$(15,940)
Other comprehensive loss	—	—	—
Comprehensive loss for the period, net of income tax	$(756)	$(38,675)	$(15,940)

See accompanying notes to consolidated financial statements.

INTERMOLECULAR, INC. AND SUBSIDIARIES

Consolidated Statements of Redeemable Convertible Preferred Stock and of Stockholders' Equity (Deficit)

(In thousands, except share data)

	Redeemable Convertible Preferred Stock		Stockholders' Equity (Deficit)				
			Common stock		Additional paid-in capital	Accumulated deficit	Total stockholders' equity (deficit)
	Shares	Amount	Shares	Amount			
Balances as of December 31, 2009	52,443,325	$ 75,897	5,532,801	$ 6	$ —	$ (49,895)	$ (49,889)
Issuance of common stock from option exercises	—	—	86,915	—	109	—	109
Stock-based compensation	—	—	—	—	1,364	—	1,364
Accretion of preferred stock to redemption amount	—	14,162	—	—	(1,473)	(12,689)	(14,162)
Net loss	—	—	—	—	—	(1,778)	(1,778)
Balances as of December 31, 2010	52,443,325	90,059	5,619,716	6	—	(64,362)	(64,356)
Issuance of Series E redeemable convertible preferred stock (net of issuance costs of $118)	6,018,122	24,882	—	—	—	—	—
Conversion of preferred stock into common stock at a conversion rate of 1-for-2	(58,461,447)	(123,601)	29,230,708	29	123,572	—	123,601
Proceeds from initial public offering, net of expenses	—	—	5,681,796	6	49,211	—	49,217
Reclassification of preferred stock warrant liability to APIC upon IPO	—	—	—	—	769	—	769
Issuance of common stock from option exercises	—	—	368,194	—	446	—	446
Stock-based compensation	—	—	—	—	2,413	—	2,413
Issuance of common stock warrants	—	—	—	—	341	—	341
Exercise of warrants	—	—	1,313,492	1	6,375	—	6,376
Non cash issuance of common stock for services	—	—	5,000	—	41	—	41
Accretion of preferred stock to redemption amount	—	8,660	—	—	(2,488)	(6,172)	(8,660)
Net loss	—	—	—	—	—	(30,015)	(30,015)
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

See accompanying notes to consolidated financial statements.

INTERMOLECULAR, INC. AND SUBSIDIARIES

Consolidated Statements of Cash Flows

(In thousands)

	Years Ended December 31,		
	2012	2011	2010
Cash flows from operating activities:			
Net loss	$ (756)	$(30,015)	$ (1,778)
Adjustments to reconcile net loss to net cash provided by (used in) operating activities:			
Depreciation and amortization	7,995	7,079	4,971
Stock-based compensation	3,652	2,442	1,364
Revaluation of preferred stock warrant liability	—	554	56
Revaluation of derivative liability	—	24,476	—
Common stock warrant charge (contra revenue)	—	312	—
Impairment of long-lived assets	949	—	—
Loss on disposal of property and equipment	2	65	—
Changes in operating assets and liabilities:			
Prepaid expenses and other assets	371	(2,677)	1,523
Inventory	(1,459)	(343)	(810)
Accounts receivable	2,788	(7,030)	(2,943)
Accounts payable	(177)	(203)	1,000
Accrued and other liabilities	(369)	5,446	2,274
Deferred revenue	726	(5,128)	4,827
Related party deferred revenue	(10,236)	(3,134)	(9,309)
Net cash provided by (used in) operating activities	3,486	(8,156)	1,175
Cash flows from investing activities:			
Purchase of short-term investments	(2,201)	(750)	—
Redemption of short-term investments	2,201	750	11,764
Purchase of property and equipment	(6,560)	(12,806)	(10,517)
Purchased and capitalized intangible assets	(1,274)	(835)	(323)
Decrease in restricted cash	—	173	—
Net cash (used in) provided by investing activities	(7,834)	(13,468)	924
Cash flows from financing activities:			
Payment of long-term debt	(804)	—	—
Payment of selling stockholder offering costs	—	(1,389)	—
Proceeds from exercise of common stock options	2,433	476	109
Proceeds from exercise of common stock warrants	—	6,376	—
Proceeds from initial public offering, net of expenses	—	49,217	—
Proceeds from issuance of redeemable convertible preferred stock, net of issuance costs	—	24,882	—
Net cash provided by financing activities	1,629	79,562	109
Net (decrease) increase in cash and cash equivalents	(2,719)	57,938	2,208
Cash and cash equivalents at beginning of period	81,002	23,064	20,856
Cash and cash equivalents at end of period	$ 78,283	$ 81,002	$ 23,064
Supplemental disclosure of cash flow information:			
Cash paid for interest	$ 1,196	$ —	$ —
Cash paid for income taxes, net of refunds received	$ 45	$ 20	$ (73)
Noncash investing and financing activities			
Accretion of redeemable convertible preferred stock	$ —	$ 8,660	$ 14,162
Contract intangible obtained under a derivative liability	$ —	$ 2,842	$ —
Issuance of debt in connection with derivative liability	$ —	$ 27,318	$ —

See accompanying notes to consolidated financial statements.

1. The Company and 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 combinational 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 $101.3 million and $100.5 million as of December 31, 2012 and 2011, 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.

Initial Public Offering

On November 23, 2011, the Company completed an initial public offering of its common stock in which the Company sold and issued 5,681,796 shares of its common stock and a selling stockholder sold 3,968,204 shares of the Company's common stock, in each case at a public offering price of $10.00 per share. The Company raised a total of $56.8 million in gross proceeds from the initial public offering, or approximately $49.2 million in net proceeds after deducting underwriting discounts and commissions of $4.0 million and other offering costs of approximately $3.6 million.

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. Such estimates include the valuations of accounts receivable, inventories, intangible assets, debt, capital stock and 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.

1. The Company and Summary of Significant Accounting Policies (Continued)

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.

Cash and Cash Equivalents

The Company considers all highly liquid investments purchased with a maturity of three months or less, from the date of purchase, to be cash equivalents. The Company's cash equivalents are comprised of money market funds and are maintained with high quality financial institutions.

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 $2.4 million and $2.5 million as of December 31, 2012 and 2011, respectively, and work-in-process for products that are not expected to be sold during the next twelve months in the amount of $0.8 million as of December 31, 2012. 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 did not experience any material inventory impairments during the three-year period 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 in connection with the Symyx asset purchase transaction disclosed in note 5. 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

1. The Company and Summary of Significant Accounting Policies (Continued)

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 year ended December 31, 2012, the Company recorded impairment expenses in the amount of $0.9 million related to retired assets previously supporting a customer collaborative development program and platform prototypes for new application development. The Company did not record any impairment expenses during the year ended December 31, 2011 or 2010.

Revenue Recognition

The Company derives its revenue from three principal sources: collaborative development programs and other services; product sales; and technology sale and/or 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 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. 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 and to 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 consistent with the CDP term. Operating lease income recorded in

1. The Company and Summary of Significant Accounting Policies (Continued)

CDP and services revenue during the Years Ended December 31, 2012, 2011, and 2010 was $9.7 million, $5.4 million and $2.8 million, respectively.

Future minimum operating lease payments associated with CDP arrangements that contain operating leases were $8.4 million as of December 31, 2012.

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.

During 2012 the Company recognized revenue for the first time on sale of intellectual property. The sale of intellectual property included the transfer of all ownership and rights of use in specific intellectual property. Revenue is recognized in full when title transfers if there are no remaining deliverables related to the intellectual property purchase.

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.

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. For transactions entered into prior to January 1, 2011, the Company assesses whether there is objective and reliable evidence of fair values of all undelivered elements. Fair values of such elements are determined by reference to the Company-specific objective evidence, such as pricing of these elements when sold separately, substantive renewal prices for product maintenance and support and time-based licenses, or other available evidence. If the fair value of any undelivered elements in a multiple-element arrangement cannot be objectively determined, revenue is deferred until all elements are delivered, or until fair value can objectively be determined for any remaining undelivered elements. However, in situations where the undelivered elements are software-related hardware elements, the Company will recognize revenue under a proportional performance model when fair value for the hardware elements is not available, if the

1. The Company and Summary of Significant Accounting Policies (Continued)

undelivered hardware elements are substantially similar products. If product maintenance and support and time-based licenses are the only undelivered elements without objective and reliable evidence of fair value, all revenue from the arrangement is amortized over the longer of the product maintenance and support term or license period. 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.

In 2009, the Financial Accounting Standards Board (FASB) issued *Accounting Standards Update (ASU) 2009-13 Revenue Recognition (Topic 605): Multiple-Deliverable Revenue Arrangements—a consensus of the FASB Emerging Issues Task Force* (ASU 2009-13) and *ASU 2009-14 Software (Topic 985): Certain Revenue Arrangements That Include Software Elements—a consensus of the FASB Emerging Issues Task Force* (ASU 2009-14). ASU 2009-13 and 14 are amendments to the accounting standards for revenue recognition to remove tangible products containing software components and nonsoftware components that function together to deliver the product's essential functionality from the scope of industry- specific software revenue recognition guidance, and also:

- provide updated guidance on whether multiple deliverables exist, how the deliverables in an arrangement should be separated, and how the consideration should be allocated;
- require an entity to allocate revenue in an arrangement using estimated selling prices (ESP) of deliverables if the Company does not have vendor- specific objective evidence of selling price (VSOE) or third-party evidence of selling price (TPE); and
- eliminate the use of the residual method and require an entity to allocate revenue using the relative selling price method.

For all transactions entered into after December 31, 2010, the Company recognizes revenue using estimated selling prices of the delivered goods and services based on a hierarchy of methods contained in ASU 2009-13. The Company uses VSOE for determination of estimated selling price of elements in each arrangement if available, and when third-party evidence is not available for those elements where vendor-specific objective evidence of selling price cannot be determined, the Company evaluates factors to determine its ESP for 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.

1. The Company and Summary of Significant Accounting Policies (Continued)

Accounts Receivable and Allowance for Doubtful Accounts

Trade accounts receivable are recorded at invoiced amounts, unbilled contractually obligated amounts, and 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 a customers' ability to pay. The Company determined that an allowance for doubtful accounts was appropriate as of December 31, 2012 for $170,000 related to outstanding accounts receivable that are part of the current Elpida proceedings under the Corporate Reorganization Act in Japan. The Company did not record any bad debt expense during 2011 or 2010.

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

	Balance at Beginning of Period	Additions Charged to Revenues	Deductions(1)	Balance at End of Period
Allowance for doubtful accounts:				
2012	$—	$170	$—	$170
2011	$—	$ —	$—	$ —
2010	$—	$ —	$—	$ —

(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 December 31,			As of December 31,	
	2012	2011	2010	2012	2011
Customer A	25%	29%	52%	*	*
Customer B	28%	17%	*	25%	78%
Customer C(1)	14%	18%	20%	*	*
Customer D	*	*	*	12%	*
Customer E	*	—	—	40%	—

* less than 10%

(1) In February 2012, Customer C filed for protection under the Corporate Reorganization Act in Japan. As part of any restructuring under this law Customer C may either voluntarily or involuntarily reduce or eliminate payments owed to the Company or

1. The Company and Summary of Significant Accounting Policies (Continued)

shipments of products that include the Company's technology, which would lead to a reduction in revenue from Customer C. During the years ended December 31, 2012, 2011 and 2010 the Company recognized $9.1 million, $9.9 million and $8.6 million in revenue from Customer C.

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 fab process operations employees. Additionally, cost of revenue includes wafers, targets, materials, program-related supplies, depreciation on equipment used in collaborative development programs and allocated facility-related costs. Product cost of revenue primarily includes cost of products sold. Cost of licensing and royalty includes related party license fees paid to Symyx during the years ended December 31, 2011 and 2010. During the year ended December 31, 2012, cost of licensing and royalty primarily included 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.

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 bases 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, 2012 and 2011. 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.

1. The Company and Summary of Significant Accounting Policies (Continued)

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, 2012, the Company has not recognized any interest or penalties associated with unrecognized tax benefits.

Share-Based Compensation

Compensation costs related to employee equity awards are based on the fair value of the award on the date of grant, net of estimated forfeitures. The Company determines the grant date fair value of the awards using the Black-Scholes option-pricing model and the related stock-based compensation expense is generally recognized on a straight-line basis over the period in which an employee is required to provide service in exchange for the awards, or the vesting period of the respective awards.

The Company accounts for equity grants issued to nonemployees based on the fair value of the options determined using the Black-Scholes option-pricing model. The fair value of awards granted to nonemployees is remeasured each reporting period as the awards 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 preferred stock warrant liabilities 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

1. The Company and Summary of Significant Accounting Policies (Continued)

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 assets and Level III liabilities. Level I securities include highly liquid money market funds and certificates of deposit. The Company does not hold any Level II instruments. Level III liabilities that were measured at fair value on a recurring basis during 2011 consisted of preferred stock warrant liabilities. There were no Level III liabilities during 2012. The fair values of preferred stock warrants were measured using the Black-Scholes option-pricing model. Inputs used to determine estimated fair value include the estimated fair value of the underlying stock at the valuation measurement date, the remaining contractual term of the warrants, risk-free interest rates, expected dividends and the expected volatility of the underlying stock. In connection with the Company's initial public offering in November 2011, outstanding preferred stock warrants were converted to common stock warrants and subsequently exercised.

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 if-converted method for convertible securities and the treasury stock method for all other common stock equivalents. For purposes of this calculation, redeemable convertible preferred stock, options to purchase common stock, common stock subject to repurchase, warrants to purchase redeemable convertible preferred stock 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 September 2011, the FASB issued an update to ASC 350 Intangibles—Goodwill and Other ("ASC 350"): Testing Goodwill for Impairment. The update gives an entity an option to first assess qualitative factors to determine whether the existence of events or circumstances leads to a determination that it is more likely than not that the fair value of a reporting unit is less than its carrying amount. If, after assessing the totality of events or circumstances, an entity determines it is not more likely than not that the fair value of a reporting unit is less than its carrying amount, then performing the two-step impairment test is unnecessary. An entity has the option to bypass the qualitative assessment for any reporting unit in any period and proceed directly to performing the first step of the two-step goodwill impairment test. An entity may resume performing the qualitative assessment in any subsequent period. Under the amendments, an entity no longer is permitted to carry forward its detailed calculation of a reporting unit's fair value from a prior year as previously permitted by ASC 350. This update to ASC 350 is effective for the Company in the fiscal year 2013. The

1. The Company and Summary of Significant Accounting Policies (Continued)

Company is currently evaluating the impact of the update, but does not expect the adoption of this update to ASC 350 to have a material impact on its financial position, results of operations or cash flows.

2. Fair Value of Financial Instruments

The Company measures and reports its cash equivalents and preferred stock warrant liability at fair value. The following tables set forth the fair value of the Company's financial assets and liabilities by level within the fair value hierarchy (in thousands):

	As of December 31, 2012			
	Fair Value	Level I	Level II	Level III
Assets:				
Money market funds	$70,488	$70,488	$—	$—
Total assets measured at fair value	$70,488	$70,488	$—	$—

	As of December 31, 2011			
	Fair Value	Level I	Level II	Level III
Assets:				
Money market funds	$75,660	$75,660	$—	$—
Certificates of deposit	100	100	—	—
Total assets measured at fair value	$75,760	$75,760	$—	$—

The following table sets forth a summary of the changes in the fair value of the Company's Level III financial liabilities (in thousands):

	Years Ended December 31,		
	2012	2011	2010
Fair value—beginning of period	$—	$ 215	$159
Initial fair value of derivative liability	—	2,842	—
Mark-to-market of warrant and derivative liabilities	—	25,030	—
Reclassification of warrant liability to equity	—	(769)	56
Reclassification of derivative liability to note payable	—	(27,318)	—
Fair value—end of period	$—	$ —	$215

3. Property and Equipment

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

	As of December 31,	
	2012	2011
Lab equipment and machinery	$ 38,667	$ 33,515
Leasehold improvements	2,873	2,086
Computer equipment and software	3,467	3,016
Furniture and fixtures	160	146
Construction in progress	5,964	5,088
Total property and equipment	51,131	43,851
Less accumulated depreciation	(27,073)	(18,723)
Property and equipment, net	$ 24,058	$ 25,128

As of December 31, 2012 and 2011 all tangible property and equipment were pledged as collateral against the note payable issued in connection with the closing of the Symyx asset purchase transaction. Amortization of leasehold improvements is included in depreciation expense.

As discussed in Note 1, Impairment of Long-Lived Assets, during the year ended December 31, 2012, the Company recorded impairment-related expenses in the amount of $0.9 million related to retired assets previously supporting a customer collaborative development program 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 (in thousands):

	Years Ended December 31,		
	2012	2011	2010
Depreciation Expense	7,411	6,992	4,962

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 that have a net book value of $5.9 million and $7.0 million as of December 31, 2012 and 2011, respectively.

4. Intangible Assets

Intangible assets consist of the following (in thousands):

	As of December 31,	
	2012	2011
Patents issued	$3,932	$3,562
Patents pending	3,386	2,566
Trademarks	40	38
Total intangible assets	7,358	6,166
Less patent amortization	(687)	(99)
Intangible assets, net	$6,671	$6,067

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 our current portfolio is 17 years from the date of patent issuance. The average estimated remaining amortization period of patents acquired as part of the Symyx asset purchase transaction disclosed in note 5 is 5 years.

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

	Years Ended December 31,		
	2012	2011	2010
Amortization Expense	$588	$81	$9

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

As of December 31:	
2013	$ 727
2014	727
2015	712
2016	511
2017	480
Thereafter	3,474
Total	$6,631

5. Commitments and Contingencies

Leases

The Company entered into an operating lease agreement in July 2005 for a facility in California with a lease term that expired on October 31, 2011. During the year ended December 31, 2010, the Company relocated its operations to a new facility and, accordingly, entered into an operating lease

5. Commitments and Contingencies (Continued)

agreement in May 2010 that expires in May 2015. Rent expense is being recognized on a straight-line basis over the lease term. The following table presents rent expense included in the Consolidated Statement of Operations (in thousands):

	Years Ended December 31,		
	2012	2011	2010
Rent expense	$1,297	$1,961	$1,649

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

As of December 31:	
The years ending December 31,	
2013	$1,657
2014	1,707
2015	728
Total	$4,092

During 2012, the Company made payments of $1.6 million on operating leases.

Symyx Asset Purchase and Note Payable

On July 28, 2011, the Company entered into an agreement with Symyx Technologies, Inc., a related party at the time of the agreement (Symyx), pursuant to which the Company agreed to use commercially reasonable efforts to allow Symyx to sell in the Company's initial public offering a total of 3,968,204 shares of common stock held by them, and Symyx agreed to sell such shares in the offering, transfer to the Company all patents held by them that relate to combinatorial processing and terminate future royalty obligations under the Symyx agreements to the extent they would have accrued after December 31, 2011. The Company completed this asset purchase in connection with the closing of its initial public offering in November 2011. In connection with this transaction, the Company also 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%. The note is payable in an amount equal to the greater of $0.5 million per quarter or the amount of accrued interest, with a balloon payment at maturity, if applicable. The note is also pre-payable by the Company at any time without penalty or premium, and is secured by tangible personal property, excluding intellectual property. In addition, the Company reimbursed Symyx for 50% of the underwriting discounts and commissions payable by them in connection with the sale of their common stock in the offering, which amount was equal to approximately $1.4 million.

In connection with entering into the agreement the Company recorded a derivative liability representing the value of the guaranteed return to Symyx and reimbursement of 50% of the underwriting discounts and commissions payable in connection with the offering. The Company recorded the liability at inception because it had effectively issued a written option that requires the Company to settle with a cash payment to Symyx. The initial fair value of the contract as of the date of the agreement was determined using a hybrid model utilizing a probability-weighted expected return

5. Commitments and Contingencies (Continued)

model and a Monte Carlo Simulation model to be $2.8 million, which incorporates parameters such as the volatility of the Company's stock price, the time value of the feature, the strike price on the guarantee, the likelihood of an initial public offering, and the obligation to pay a portion of Symyx's selling costs. Between July 28, 2011 and the date of the offering, the Company adjusted the fair value of the derivative liability to market value, with changes in the market value recorded in other income (expense), net, in the Company's consolidated statement of operations. On July 28, 2011, the Company recorded an intangible asset in the amount of $2.8 million that represents the value of the intangible assets that was transferred by Symyx to the Company upon the completion of the offering.

During 2011 and until the completion of the Company initial public offering on November 23, 2011, the Company recorded charges to other income (expense), net in the amount of $25.9 million that represents the change in value of the derivative liability. The following table sets forth a summary of the changes in the fair value of the Company's derivative liability related to the Symyx asset purchase transaction (in thousands):

Minimum return to Symyx	$ 67,000
Proceeds to Symyx from offering	(39,682)
Initial fair value of derivative liability	(2,842)
Reimbursement of offering related expenses	1,389
Mark-to-market adjustment	$ 25,865

The following table presents payments made in connection with the note payable to Symyx (in thousands):

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

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.

5. Commitments and Contingencies (Continued)

Indemnification

From time to time, the Company agrees to indemnify certain customers against certain third-party liabilities, including liability if its products infringe a third party's intellectual property rights. The indemnification is typically limited to no more than the amount paid by the customer. As of December 31, 2012 and 2011, the Company was not subject to any material pending intellectual property-related litigation for which it is indemnifying a customer.

6. Redeemable Convertible Preferred Stock

On November 23, 2011, the closing date of the Company's initial public offering, and pursuant to the amended and restated certificate of incorporation, all outstanding shares of redeemable convertible preferred stock converted into an aggregate of 29,230,708 shares of common stock.

	Conversion Rate	Preferred Stock Shares	Common Stock Shares
Series A	1-for-2	8,399,831	4,199,912
Series B	1-for-2	22,780,964	11,390,477
Series C	1-for-2	14,686,698	7,343,345
Series D	1-for-2	6,575,832	3,287,915
Series E	1-for-2	6,018,122	3,009,059
		58,461,447	29,230,708

Redeemable Convertible Preferred Stock

During the year ended December 31, 2011, the Company issued 6,018,122 shares of Series E at $4.15 per share, resulting in net cash proceeds of $24.9 million.

Measurement of Redeemable Securities

The shares contained redemption features that were not solely within the Company's control. Accordingly, all shares of redeemable convertible preferred stock, were classified as temporary equity rather than as a component of stockholders' equity (deficit) in the Company's consolidated balance sheets for all periods prior to conversion.

The carrying value of redeemable convertible preferred stock was recorded at its fair value at the date of issue. In accordance with the standard, the Company has accounted for changes in the redemption value over the period from the date of issuance to the earliest redemption date using the interest method to a value equal to the fair value, as determined by the Company using the most recent round of redeemable convertible preferred stock financing as an estimate for the fair value, of its redeemable convertible preferred stock over the period from the date of issuance to the earliest redemption date on June 14, 2016. As the Company did not have a round of redeemable preferred stock financing around December 31, 2009 or December 31, 2010, the Company determined the fair value by selecting a value that approximated an increase in value on a consistent basis between the Series D round (December 31, 2008) and the Series E round (June 14, 2011). The increases in the redemption value increases the value of the redeemable convertible preferred stock and decreases the additional paid-in capital and accumulated deficit balances.

6. Redeemable Convertible Preferred Stock (Continued)

Estimated Redemption Values

In evaluating the fair value of preferred stock and the related preferred stock accretion leading up to the Company's initial public offering the Company considered the potential impact of the appreciation on the fair value of common stock between the June 14, 2011 Series E second closing as well as the convergence of the preferred stock and common stock prices as the likelihood of an initial public offering increased. The Company determined that following the filing of its registration statement on Form S-1 on July 29, 2011 a redemption was no longer probable given the decrease in the likelihood of a redemption occurring. Accordingly, effective July 29, 2011 the Company was no longer accreting its redeemable convertible preferred stock to its redemption value. Upon the completion of its initial public offering all mandatorily convertible preferred stock and related preferred stock accretion were reclassified to additional paid-in capital.

7. Warrants

Preferred Stock Warrants

In connection with the loan and security agreement obtained in November 2005, the Company issued a warrant to purchase 168,747 shares of Series B redeemable convertible preferred stock at a price of $0.44 per share. The Series B warrants were exercisable immediately and had a contractual term of 7 years. The fair value of the warrant on the date of issuance was $37,000 which was recognized as interest expense over the term of the loan and security agreement. The fair value of the warrant was determined using the Black-Scholes option-pricing model and was remeasured at each reporting period. In connection with the Company's initial public offering which closed on November 23, 2011, the preferred stock warrants were remeasured to their current value prior to their conversion to common stock warrants and subsequent exercise. As of December 31, 2012 and 2011 there were no preferred stock warrants outstanding. During the years ended December 31, 2011 and 2010, the remeasurement of the warrant liability resulted in the recognition of remeasurement losses of $0.6 million and $56,000, respectively, which was recorded as other income (expense), net on the consolidated statement of operations.

Common Stock Warrants

During the year ended December 31, 2007, the Company issued warrants to purchase 817,500 shares of common stock in connection with certain collaboration agreements with exercise prices ranging from $1.50 to $3.76 per share and five year terms. During the years ended December 31, 2011 and 2010, the Company recognized expenses related to the issuances and vesting of these warrants in the amount of $1,000 and $1,000, respectively. In connection with the Company's initial public offering these warrants were exercised and are no longer outstanding.

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 10 year term. These warrants vest over four years. During the years ended December 31, 2012, 2011 and 2010, the Company recognized expenses related to the issuances and vesting of these warrants in the amount of $13,000, $52,000, and $35,000, respectively. As of December 31, 2012 and 2011, these warrants to purchase shares of common stock were still outstanding.

7. Warrants (Continued)

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 and approximately two year terms, of which 411,184 were granted to a related party. These warrants will become exercisable upon election of specified licenses by the holders prior to the expiration of the warrants. These warrants, if they become exercisable, do not contain a net exercise provision and therefore can only be exercised on a cash basis upon surrender of the warrants. Upon a license election by the holders, the Company will record the fair value of these warrants as measured on the date of election against any related revenue derived from these agreements. As of December 31, 2012, the holders have not elected the license option.

During the year ended December 31, 2011, the Company issued a warrant to purchase 411,000 shares of common stock in connection with a collaboration agreement with an exercise price of $8.31 per share and a term of 18 months. The warrant was exercisable immediately. The warrant does not contain a net exercise provision and therefore can only be exercised on a cash basis upon surrender of the warrants. The fair value of the warrant as measured on the date of grant was $312,000 and was recognized as a reduction of revenue derived from the agreement. The Company also issued a warrant to purchase 2,500 shares of common stock in connection with services that were provided to the Company with an exercise price of $0.20 per share and a term of 18 months. The warrant was exercisable immediately. The fair value of the warrant as measured on the date of grant was $29,000 and was recognized in general and administrative expenses. In connection with the Company's initial public offering both of these warrants were exercised.

In total, the Company had 912,368 outstanding warrants to purchase shares of common stock as of December 31, 2012 and 2011, respectively. Of these outstanding warrants, 90,000 and 78,750 were exercisable as of December 31, 2012 and 2011, respectively. During the years ended December 31, 2012, 2011 and 2010, the Company recognized expenses related to the issuances and vesting of these warrants in the amount of $13,000, $82,000 and $36,000, respectively. Additionally, during the year ended December 31, 2011, the Company recognized a reduction to revenue in the amount of $312,000 related to the issuance and vesting of a warrant granted to a customer in connection with a collaboration agreement.

8. Stock-Based Compensation

On October 26, 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. Cancelled 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 2012 the Company registered an additional 1,899,862 shares under its 2011 Plan.

8. Stock-Based Compensation (Continued)

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 10 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.

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, 2009	6,097,431	$1.18	7.3	$ 9,047
Granted	1,579,875	2.76		
Exercised	(86,915)	1.18		141
Cancelled	(321,482)	2.06		
Balance as of December 31, 2010	7,268,909	1.48	6.9	13,937
Granted	1,570,684	7.13		
Exercised	(368,194)	1.26		2,854
Cancelled	(241,802)	3.28		
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
Exercisable as of December 31, 2012	4,949,432	$2.00	5.2	$34,298
Vested and expected to vest as of December 31, 2012	6,961,817	$3.38		$38,826

The options exercisable as of December 31, 2012 include options that are exercisable prior to vesting. The weighted average grant date fair value of options granted during the years ended December 31, 2012, 2011 and 2010 was $4.50, $4.14 and $1.48, respectively.

8. Stock-Based Compensation (Continued)

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
Vested and expected to vest as of December 31, 2012	209,045	

Typically, vesting of RSUs occurs over four years and is subject to the employee's continuing service to the Company. The aggregate intrinsic value of RSUs outstanding at December 31, 2012 was $2.3 million.

As of December 31, 2012 and 2011, the Company had reserved shares of common stock for issuance under its equity incentive plans as follows:

	Years Ended December 31,	
	2012	2011
Number of stock options outstanding	7,426,417	8,229,597
Number of RSUs outstanding	254,863	—
Shares available for future grant	5,001,956	4,300,996
Number of warrants outstanding	912,368	912,368
Total shares reserved	13,595,604	13,442,961

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

	Years Ended December 31,		
	2012	2011	2010
Cost of revenue	$1,011	$ 622	$ 285
Research and development	872	462	204
Sales and marketing	774	770	422
General and administrative	995	588	453
Total stock-based compensation	$3,652	$2,442	$1,364

As of December 31, 2012 and 2011, there was $6.4 million and $5.8 million, respectively, of unrecognized compensation cost related to stock option compensation arrangements which is primarily recognized on a straight-line basis over a weighted average period of 2.4 and 3.1 years, respectively.

There were no capitalized stock-based compensation costs or recognized stock-based compensation tax benefits during the years ended December 31, 2012 and 2011.

8. Stock-Based Compensation (Continued)

Additional information regarding options outstanding as of December 31, 2012 is as follows:

	Options Outstanding			Options Exercisable	
Exercise Price	Options Outstanding	Weighted-Average Remaining Contractual Life (Years)	Weighted-Average Exercise Price per Share	Exercisable	Weighted-Average Exercise Price per Share
$ 0.10	888,873	2.5	$ 0.10	888,873	$ 0.10
0.20	476,500	3.3	0.20	476,500	0.20
1.50	288,500	3.8	1.50	288,500	1.50
1.66	722,000	4.7	1.66	722,000	1.66
2.00	1,301,036	6.2	2.00	1,218,666	2.00
2.04	112,863	5.2	2.04	112,863	2.04
2.66	1,042,042	7.2	2.66	673,050	2.66
2.90	36,305	5.8	2.90	36,305	2.90
3.40	147,240	8.0	3.40	61,984	3.40
5.34	22,200	9.2	5.34	4,500	5.34
6.20	900,623	8.3	6.20	375,675	6.20
6.60	30,000	9.3	6.60	—	—
6.62	60,000	9.4	6.62	—	—
6.91	202,000	9.6	6.91	—	—
7.06	137,900	9.8	7.06	—	—
7.25	8,550	9.9	7.25	—	—
8.84	772,000	9.1	8.84	1,500	8.84
9.05	32,535	8.9	9.05	10,746	9.05
10.00	138,750	8.9	10.00	42,254	10.00
11.96	106,500	8.6	11.96	36,016	11.96
	7,426,417	6.4	3.57	4,949,432	2.00

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.

8. Stock-Based Compensation (Continued)

Expected Volatility—The expected volatility was based on the historical stock volatilities of several of the Company's publicly listed peers over a period approximately equal to the expected term of the options as the Company did not have a sufficient trading history to use the volatility of its own common stock.

Fair Value of Common Stock—The fair value of the common stock underlying the stock options, prior to our 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,		
	2012	2011	2010
Expected term (in years)	6.0	6.0	6.0
Risk-free interest rate	1.1%	2.1%	2.2%
Expected volatility	60%	57%	55%
Expected dividend rate	—%	—%	—%

9. 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, 2012, 2011 and 2010 (in thousands, except for share and per share amounts):

	Years Ended December 31,		
	2012	2011	2010
Net loss attributable to common stockholders	$ (756)	(38,675)	$ (15,940)
Shares used in computing net loss per share of common stock, basic and diluted	42,966,448	9,698,880	5,567,286
Net loss per share of common stock, basic and diluted	$ (0.02)	(3.99)	$ (2.86)

9. Net Loss per Share of Common Stock (Continued)

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,		
	2012	2011	2010
Redeemable convertible preferred stock	—	—	26,221,649
Stock options to purchase common stock	7,426,417	8,229,597	7,268,909
Common stock subject to repurchase	7,500	15,000	—
Common and preferred stock warrants	912,368	912,368	1,812,360

10. 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, 2012, the income tax provision of $51,000 represents a provision for income taxes of $15,000 related to foreign income taxes, foreign withholding taxes of $35,000 and state minimum income taxes of $1,000.

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

	As of December 31,		
	2012	2011	2010
Current:			
U.S. Federal	$—	$—	$—
State	1	1	1
Foreign	50	42	18
Total current	$51	$43	$19
Deferred:			
U.S. Federal	$—	$—	$—
State	—	—	—
Foreign	—	—	—
Total deferred	—	—	—
Total provision for income taxes	$51	$43	$19

10. Income Taxes (Continued)

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

	As of December 31,		
	2012	2011	2010
Expected provision at statutory federal rate	$(247)	$(10,482)	$(616)
State tax—net of federal benefit	1	1	1
U.S. federal research credit	—	(870)	(626)
Non deductible expenses	131	763	486
Change in statutory tax rate	—	—	(264)
Others	31	6	164
Change in valuation allowance	135	10,625	874
Provision for income taxes	$ 51	$ 43	$ 19

As of December 31, 2012, 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,	
	2012	2011
Deferred tax assets:		
Net operating loss federal and state	$ 12,515	$ 10,776
Research and foreign tax credits	5,810	4,619
Accrued compensation and vacation	1,201	437
Deferred revenue, other accruals and reserves	574	2,186
Stock-based compensation	1,822	346
Patents	8,118	10,280
Gross deferred tax assets	30,040	28,644
Valuation allowance	(29,199)	(27,057)
Total deferred tax asset	841	1,587
Deferred tax liabilities:		
Property and equipment	841	1,587
Total deferred tax liabilities	841	1,587
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, 2012, the Company

10. Income Taxes (Continued)

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 $29.2 million and $27.1 million as of December 31, 2012 and 2011, respectively. The increase in the valuation allowance during the years ended December 31, 2012 and 2011 was $2.1 million and $11.3 million, respectively.

As of December 31, 2012, the Company has net operating loss carryforwards for U.S. federal and state income tax purposes of approximately $37.6 million and $37.1 million, respectively. Of these amounts, $6.8 million and $6.6 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 $3.5 million U.S. federal R&D credit and $5.7 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.

Uncertain Tax Positions

For the year ended December 31, 2012, the total amount of unrecognized tax benefits excluding interest thereon was $1.8 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, 2012, 2011 and 2010. 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,		
	2012	2011	2010
Unrecognized benefit—beginning of period	$1,401	$1,067	$ 746
Gross increase—prior period tax positions	38	—	—
Gross decreases—prior period tax positions	—	(113)	—
Gross increases—current period tax positions	401	447	321
Unrecognized benefit—end of period	$1,840	$1,401	$1,067

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, 2009 for the U.S., and tax year ended December 31, 2008 for the Company's major state and local jurisdictions remain generally open to audit by relevant tax authorities.

11. Related Party Transactions

In March 2012, the Company amended the CDP agreement that it had entered into in March 2010 with a related party. Under the agreements, the two companies will work together to conduct research and development and other activities. Depending on the output of the research and development, the primary rightholder will be the Company or the other party. However, if the other party is not the primary rightholder, it will be able to license the developed technology from the Company. The other party's vice chairman of the board of directors is a director of the Company and is also a managing member of a significant shareholder of the Company. As of December 31, 2012, this shareholder was a beneficial owner of approximately 9.7% of the Company's common stock. As of December 31, 2012 and 2011 the Company had accounts receivable in the amount of $0.4 million and $0.5 million, respectively, and had a deferred revenue balance in the amount of $0.1 million at the end of both years.

The following table presents related party revenue included in the Consolidated Statement of Operations from these agreements (in thousands):

	Years Ended December 31,		
	2012	2011	2010
Related party revenue	$4,543	$5,237	$3,883

In November 2006, the Company entered into an Alliance Agreement with a related party that was a beneficial owner of approximately 8.8% of the Company's common stock as of December 31, 2012. The other party and the Company each have an independent board member that serves on both companies' boards of directors. Under the agreement, the two companies will work together to conduct research and development and other activities with respect to materials and high productivity combinatorial technology for use in semiconductor applications. Depending on the output of the research and development, the primary rightholder could be either company. However, the party that is not the primary rightholder will be assigned the right to use the output property. Under the agreement, the other party will pay the Company fees for services and both parties may provide royalties to the other for licensed technology sold to third parties. Since November 2006, the agreement has been amended numerous times with the last amendment signed in December 2012. As of December 31, 2012 and 2011 the Company had accounts receivable in the amount of $0.6 million and $0.5 million, respectively, and had a deferred revenue balance in the amount of $0.7 million and $10.2 million, respectively, related to these agreements.

The following table presents related party revenue and cost of revenue included in the Consolidated Statement of Operations from these agreements (in thousands):

	Years Ended December 31,		
	2012	2011	2010
Related party revenue	$16,524	$15,756	$22,130
Related cost of revenue	$ 55	$ 78	$ —

12. 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,		
	2012	2011	2010
United States	$51,045	$35,573	$29,526
Japan	13,594	15,148	12,449
APAC other	2,066	2,934	489
Europe and Middle East	122	175	210
Total	$66,827	$53,830	$42,674

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.

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, 2012. 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, 2012 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, 2012 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, 2012, utilizing the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission in Internal Control—Integrated Framework. Based on our management's assessment, we believe that, as of December 31, 2012, 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, 2012 has been audited by KPMG LLP, an independent registered public accounting firm, as stated in their report which is included 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 2013 Annual Meeting of Stockholders (the 2013 Proxy Statement).

ITEM 11. EXECUTIVE COMPENSATION

The information required by this item concerning executive compensation is incorporated by reference to the information in the 2013 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 2013 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 2013 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 2013 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: March 1, 2013

By: /s/ DAVID E. LAZOVSKY
David E. Lazovsky
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/ DAVID E. LAZOVSKY David E. Lazovsky	President, Chief Executive Officer and Director (Principal Executive Officer)	March 1, 2013
/s/ PETER L. EIDELMAN Peter L. Eidelman	Chief Financial Officer (Principal Financial and Accounting Officer)	March 1, 2013
/s/ THOMAS R. BARUCH Thomas R. Baruch	Chairman of the Board of Directors	March 1, 2013
/s/ MARVIN D. BURKETT Marvin D. Burkett	Director	March 1, 2013
Irwin Federman	Director	
/s/ BRUCE M. MCWILLIAMS Bruce M. McWilliams	Director	March 1, 2013
/s/ GEORGE M. SCALISE George M. Scalise	Director	March 1, 2013
/s/ JOHN L. WALECKA John L. Walecka	Director	March 1, 2013

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	Form of warrant to purchase shares of common stock issued to Toshiba Corporation and SanDisk Corporation dated March 15, 2010.	S-1/A	10/26/2011	4.3	
4.4	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	
4.5	Secured Promissory Note, issued by the Company to Symyx Technologies, Inc. on November 23, 2011.	10-K	03/16/2012	4.5	
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	
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	

Exhibit Number	Exhibit Description	Incorporated By Reference			Filed Herewith
		Form	Date	Number	
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	
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	

Exhibit Number	Exhibit Description	Incorporated By Reference			Filed Herewith
		Form	Date	Number	
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	
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				X

Exhibit Number	Exhibit Description	Incorporated By Reference			Filed Herewith
		Form	Date	Number	
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				X
10.19†	Collaborative Development Program Agreement by and between First Solar, Inc. and Intermolecular, Inc. dated as of December 31, 2012				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.

Exhibit 23.1

Consent of Independent Registered Public Accounting Firm

The Board of Directors
Intermolecular, Inc.:

We consent to the incorporation by reference in the registration statements (No. 333-178154 and 333-180169) on Form S-8 of Intermolecular, Inc. of our reports dated March 1, 2013, with respect to the consolidated balance sheets of Intermolecular, Inc. as of December 31, 2012 and 2011, and the related consolidated statements of operations, comprehensive loss, redeemable convertible preferred stock and of stockholders' equity (deficit), and cash flows for each of the years in the three-year period ended December 31, 2012, and the effectiveness of internal control over financial reporting as of December 31, 2012, which reports appear in the December 31, 2012 annual report on Form 10-K of Intermolecular, Inc.

/s/ KPMG LLP

Santa Clara, California
March 1, 2013

Exhibit 31.1

Certification of Chief Executive Officer

Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

I, David E. Lazovsky, certify that:

1. I have reviewed this Annual Report on Form 10-K of Intermolecular, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us, particularly during the period in which this report is being prepared;

   b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;

   c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 1, 2013

/s/ DAVID E. LAZOVSKY

David E. Lazovsky
President and Chief Executive Officer

Exhibit 31.2

Certification of Chief Financial Officer

Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

I, Peter L. Eidelman, certify that:

1. I have reviewed this Annual Report on Form 10-K of Intermolecular, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us, particularly during the period in which this report is being prepared;

   b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;

   c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 1, 2013

/s/ PETER L. EIDELMAN

Peter L. Eidelman
Chief Financial Officer

Exhibit 32.1

Certification of Chief Executive Officer

Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906

of the Sarbanes-Oxley Act of 2002

In connection with the Annual Report of Intermolecular, Inc. (the "Company") on Form 10-K for the fiscal year ended December 31, 2012, as filed with the Securities and Exchange Commission (the "Report"), David E. Lazovsky, President and Chief Executive Officer of the Company, does hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

- The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- The information in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: March 1, 2013

By: /s/ DAVID E. LAZOVSKY

Name: David E. Lazovsky
Title: *President and Chief Executive Officer*

A signed original of this written statement required by Rule 13a-14(b) of the Securities Exchange Act of 1934 and 18 U.S.C. Section 1350 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

This certification accompanies the Form 10-K to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of the Company under the Securities Act of 1933 or the Securities Exchange Act of 1934 (whether made before or after the date of the Form 10-K), irrespective of any general incorporation language contained in such filing.

Exhibit 32.2

Certification of Chief Financial Officer

Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906

of the Sarbanes-Oxley Act of 2002

In connection with the Annual Report of Intermolecular, Inc. (the "Company") on Form 10-K for the fiscal year ended December 31, 2012, as filed with the Securities and Exchange Commission (the "Report"), Peter L. Eidelman, Chief Financial Officer of the Company, does hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

- The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- The information in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: March 1, 2013

By: /s/ PETER L. EIDELMAN

Name: Peter L. Eidelman
Title: *Chief Financial Officer*

A signed original of this written statement required by Rule 13a-14(b) of the Securities Exchange Act of 1934 and 18 U.S.C. Section 1350 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

This certification accompanies the Form 10-K to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of the Company under the Securities Act of 1933 or the Securities Exchange Act of 1934 (whether made before or after the date of the Form 10-K), irrespective of any general incorporation language contained in such filing.

Experimentation =

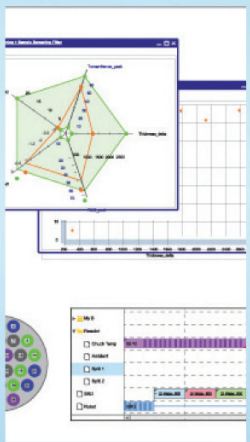
Process + Characterization + Analysis

Applications

HPC Processing

Automated Characterization

Automated Analysis



Optimized Production Solutions

IP Licensing

Intermolecular Informatics Infrastructure

Data Management & Analysis

Rapid and Parallel

High-Speed and Site-Isolated

Integrated and Automated

INTERMOLECULAR®

FAST FORWARD THINKING >>

3011 North First Street, San Jose, CA 95134
www.intermolecular.com