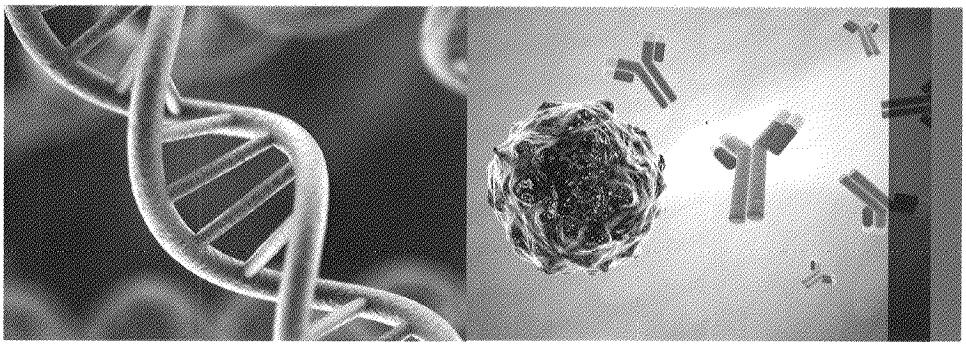
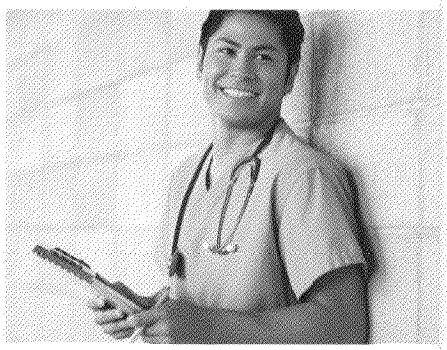
affymetrix
Biology for a better world

Annual Report **2012**





eBioscience GeneChip Panomics USB

Dear Affymetrix shareholders,

Dramatic improvements in the quality of life are being realized from decades of investments into biological research. For our customers, the Affymetrix team is proud to help build a better world by translating scientific advances into valuable state-of-the-art molecular tests and research tools. For our shareholders, we are committed to return value with consistent and profitable growth. For our company, we are continuing to build a culture that attracts and retains the best and brightest employees who will help shape and implement our strategic vision while fulfilling their own personal aspirations. In 2012, we made progress in all these areas.

Our Company Vision – Biology for a Better World

With innovative products such as our pioneering GeneChip® technology, Affymetrix has long been a leader in genomics analysis products for academic and industrial research in the life science tools industry. Our primary customers over the years have been engaged in fundamental biology research or drug discovery applications. Through recent internal development efforts and acquisitions, we've evolved our mission to now serve the growing markets of translational medicine, clinical diagnostics, and applied sciences. Our focus is to enable our customers to rapidly translate their cell, protein, and genomics research data into understanding underlying disease mechanisms, identifying biomarkers for use in personalized medicine, creating molecular diagnostic tests, and improving genetic marker-assisted breeding programs in agriculture. Biology is quickly and dramatically improving everyone's daily life and we are proud to be part of that evolution.

Our Corporate Journey

Recently we presented our three-phase plan to return Affymetrix to a market leadership position in the focus areas described above.

In Phase I, we realigned our product portfolio to better serve our target markets and complemented our genomics franchise with cell and protein analysis technologies and products. This was accomplished through the acquisition of eBioscience, a leading provider of flow cytometry and immunoassay reagents for cellular and protein analysis. Our highly successful CytoScan® HD Cytogentics Solution continued to support the needs of the perinatal and cancer cytogenetics research community, and in early 2013 we filed a 510(k) application with the United States FDA on our CytoScan® Dx cytogenetics microarray system to be able to serve the cytogenetics diagnostic community. We further strengthened our position to grow and capture market share by significantly enhancing our powerful Axiom® Genotyping Solution for human and agricultural genotyping applications via new product launches.

We are currently in Phase II of our journey, which we envision concluding at the end of 2014. During this period we are returning the company to revenue growth by developing our franchise in the translational medicine, molecular diagnostics, and applied markets. In addition, we are significantly improving profitability by restructuring our organization and strengthening our balance sheet.

In Phase III, which will extend beyond 2014, our goals are to continue as a leading supplier in translational medicine, to have an established molecular diagnostics franchise, and to be a recognized supplier in applied sciences including agricultural genomics. We are committed to growing consistently, being profitable, and having strategic flexibility resulting from financial stability.

We are convinced that this three-phase program will deliver significant value to our customers and shareholders.

Progress Report and Priorities

In 2012 we stabilized revenues, realigned our product and commercial portfolio, and reduced our cost basis. For 2013, our top priorities include returning our business to single-digit growth, generating positive operating income and free cash flow, fully integrating eBioscience into our global operations, while aggressively paying down our senior debt and reducing leverage. Our product portfolio and commercial organization are aligned with our corporate vision to enable society to use biology to build a better world. Finally, we believe we are in a position to deliver value to our shareholders through a combination of reinvigorated market positions and improved operating results.

The Affymetrix Board of Directors, executive leadership team, and global employee base are dedicated to serving our customers and shareholders. We appreciate your support for the company over the last few challenging years. Our journey is clearly mapped out and we are energized by our mission. We look forward to building value for our customers, shareholders, and employees as we continue to make progress on our initiatives and goals.

Sincerely,

Frank Witney, PhD, President and CEO

Stephen P.A. Fodor, PhD, Founder and Chairman

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 0-28218

AFFYMETRIX, INC.

(Exact name of registrant as specified in its charter)

DELAWARE	**77-0319159**
(State or other jurisdiction of incorporation or organization)	(IRS Employer Identification Number)
3420 CENTRAL EXPRESSWAY SANTA CLARA, CALIFORNIA	**95051**
(Address of principal executive offices)	(Zip Code)

(408) 731-5000

(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, $0.01 par value	The Nasdaq Global Select Market
Preferred Stock Purchase Rights	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 (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ☒ No ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405) 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 held by non-affiliates of the registrant at June 30, 2012, based on the closing price of such stock on The Nasdaq Global Select Market on such date, was approximately $327 million. The number of shares of the registrant's Common Stock outstanding on February 22, 2013 was 71,053,521.

DOCUMENTS INCORPORATED BY REFERENCE

Certain sections of the Proxy Statement to be filed in connection with the 2013 Annual Meeting of Stockholders are incorporated by reference into Part III of this Form 10-K where indicated.

AFFYMETRIX, INC.

FORM 10-K
DECEMBER 31, 2012

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PART I

ITEM 1. BUSINESS

Forward-Looking Statements

All statements in this Annual Report on Form 10-K that are not historical are "forward-looking statements" within the meaning of the federal securities laws. These include statements regarding our strategic initiatives, anticipated cost savings, return to profitability and integration of and synergies related to eBioscience, as well as all other "expectations," "beliefs," "hopes," "intentions," "strategies" or the like. Such statements are based on our current expectations and are subject to a number of factors and uncertainties that could cause actual results to differ materially from those described in the forward-looking statements. We cannot assure you that actual results or business conditions will not differ materially from those projected or suggested in such forward-looking statements as a result of various factors, including, but not limited to, those discussed in "Risk Factors" contained in Item 1A of this Annual Report on Form 10-K. Unless required by law, we do not undertake to release publicly any updates or revisions to any forward-looking statements contained herein to reflect any change in our expectations with regard thereto or any change in events, conditions, or circumstances on which any such statements are based.

Overview

We are a leading provider of life science tools and molecular diagnostic products that enable parallel analysis of biological systems at the gene, protein and cell level. We sell our products to genomic research centers, academic institutions, government and private laboratories, as well as pharmaceutical, diagnostic and biotechnology companies. Over 48,000 peer-reviewed papers have been published based on work using our products. We have approximately 1,100 employees worldwide and maintain sales and distribution operations across the United States, Europe, Latin America and Asia.

We were incorporated in California in 1992 and reincorporated in Delaware in 1998. Our principal executive offices are located at 3420 Central Expressway, Santa Clara, CA 95051. Our telephone number is (408) 731-5000.

Our Strategy

In the past several years, we have been faced with declining financial performance. A significant portion of our business is a well-established GeneChip® Expression product line used to measure gene expression, i.e., the levels of the individual ribonucleic acid ("RNA") produced from genes contained in the cell. Historically, we have sold these products primarily in the basic research market focused on discovery research, where we face declining sales and intense competition from newer technologies such as next generation sequencing that is increasingly being used to identify and measure RNA levels in cells. Our strategy is to transform the company from one that is highly dependent on its GeneChip® Expression products, to one with diversified revenue streams that has a broad reach into the growing markets for translational medicine, molecular diagnostics and applied markets such as agricultural biotechnology ("AgBio").

The scientific and medical communities are recognizing that an understanding of complex diseases, such as cancer, will require not only an analysis of genes, but also parallel analyses of a wide variety of molecular events across the gene, protein and cell. They are increasingly focused on understanding underlying molecular mechanisms of disease and identification of biomarkers – molecular signatures of DNA, RNA or protein that are diagnostic, predictive and/or direct therapy – that will validate and translate research data into biomarker signatures with clinical utility. A primary goal is to identify biomarkers that will lead to routine use in the clinic. Affymetrix is evolving with these changes in the market to provide technologies that interrogate molecular events across the cell and between cells to enable scientists to more quickly derive results for clinical utility and routine use.

Dr. Frank Witney became our President and Chief Executive Officer in July 2011. Under Dr. Witney's leadership, we focused on realigning our product portfolio, stabilizing our core business and positioning our company for growth and increasing profitability. We expect our transformation will take several years, and we are executing on a plan that we have categorized into three phases:

- *Phase I (2011-2012) –Portfolio Realignment.* During this phase, we reorganized ourselves into business units to sharpen our business focus based on target markets. We also launched CytoScan®, our growing cytogenetic microarray product line and acquired eBioscience Holdings, Inc ("eBioscience"). Through eBioscience, we now offer flow cytometry and immunoassay products that enable us to broaden our reach into the translational medicine and molecular diagnostics markets. We believe these actions will lead to a stabilization of our core business and the realignment of our product portfolio will position us for growth.

- *Phase II (2013-2014) – Profitability, Strengthen Balance Sheet, Development of Newer Product Lines.* In the beginning of 2013, we implemented a corporate restructuring with a goal of accelerating our path to profitability. We expect the corporate restructuring to result in annualized savings of approximately $25 million based on 2013 run rates, of which $5 million is expected to be in cost of goods sold. Our priorities for this phase will be to achieve profitability, repay our senior secured debt, successfully commercialize our newer product lines (CytoScan®, Axiom® and QuantiGene® lines, as well as our eBioscience products) and invest in new product offerings. In addition, we will train and refocus our global commercial organization to expand our reach to customers in the translational medicine, molecular diagnostics and applied markets.

- *Phase III (2015-2016) – Strategic Flexibility, Expansion of Product Lines; Growth.* Our goal is to have a strong balance sheet in this phase that will provide us with the flexibility to make strategic acquisitions. In addition, we aim to grow revenues with developed product lines and new product offerings in the translational medicine, molecular diagnostic and applied markets.

eBioscience Acquisition in 2012

In June 2012, we acquired eBioscience for approximately $315 million (the "Acquisition"). eBioscience is based in San Diego, California, and engaged in the development, manufacture and sale of flow cytometry and immunoassay reagents for life science research and diagnostics.

We used a combination of cash-on-hand, third-party borrowings and the issuance of convertible senior notes to finance the Acquisition. We entered into a credit agreement with General Electric Capital Corporation, Silicon Valley Bank and other financial institutions that provided for a term loan (the "Term Loan") of an aggregate principal amount of $85.0 million and a revolving credit facility (the "Revolving Credit Facility") in an aggregate principal amount of $15.0 million (collectively, the "Senior Secured Credit Facility"). The term loan is due in 2017. As of December 31, 2012, we had $73.3 million of the Term Loan outstanding. We also issued $105.0 million of 4.00% Convertible Senior Notes (the "4.00% Notes") that are due July 1, 2019.

We believe that eBioscience will be a successful part of the Affymetrix portfolio and brand for the following reasons:

- Diversification and Market Opportunity. The acquisition of eBioscience represents a transformative opportunity for us to diversify our revenue streams with a stronger offering of reagents for cell and protein analysis that serve the immunology and cancer research, translational medicine and molecular diagnostics markets. We believe that diversification into cell and protein analysis provides an important growth opportunity and should help us offset the decline in our legacy gene expression microarray business. The integrated commercial organizations of eBioscience and Affymetrix Core enhance our

ability and strengthen our reach to strategic customers. Finally, we are executing on novel product development opportunities enabled by combined research and development capabilities.

- Recognized Brand. eBioscience develops, manufactures and markets reagents and antibodies that are fundamental for research applications in immunology, oncology, cell biology, and stem cell biology. Marketing products in over 70 countries worldwide, eBioscience maintains one of the most recognizable reagents brands in the biology research community.

- Strong Historical Financial Performance. eBioscience total revenues for 2012 were $72.8 million, up 3% from 2011.

Our Principal Markets

We believe that the analysis of genetic variation and an understanding of function and characteristics of single cells and sub-populations of cells will become increasingly important in disease research, drug development and the development of molecular tests. In addition to offering products in the basic research markets, we are making inroads into the translational research markets, the fast-growing molecular diagnostics market and the flow cytometry markets.

Basic Research Markets

Basic research encompasses the study of differences between individual humans, animals and plants or seeks to understand the biological mechanisms underlying normal development and disease states. Funding for basic research comes from a variety of public and private sources, with the National Institute of Health in the United States historically representing the largest financing source. The required technologies generally must enable large-scale and highly complex analysis of genetic variation and biological function. Our Affymetrix products target large scale genotyping (determining the genetic make-up of a cell and differences between individuals), copy number variation and gene expression applications, while our eBioscience reagents for flow cytometry and immunoassays serve academic research centers, government agencies, and private research foundations engaged in protein and cell biology research. A primary end-point of the end users of our products for basic research is peer-reviewed scientific publications.

Translational Medicine Markets

Customers in the translational medicine markets are clinical researchers, molecular pathologists, oncologists and cytogeneticists, who have become increasingly engaged in applying genetic analysis technologies for the development of new clinical methods to be used in the diagnosis, monitoring and treatment of a wide variety of molecular based diseases. These end users are often located in diagnostic companies, commercial reference laboratories, clinical research departments within academic medical centers and major pharmaceutical and biotechnology companies. The required technology is used in a repetitive testing environment and must enable cost effective, flexible analysis of significantly fewer genetic and biological markers, as compared to the technology used in basic research. Our Axiom®, CytoScan®, Oncoscan® and eBioscience® products line, and our low—to mid-plex QuantiGene® products target the needs of these users, who are focused on improving clinical outcomes and standard of care.

Molecular Diagnostic Markets

We believe molecular diagnostics is the fastest growing segment of the diagnostics market. At present, the growth historically has been driven by infectious disease testing, but molecular diagnostics is expanding into new areas such as non-invasive prenatal testing and cancer management. The increasing efficacy of molecular

diagnostics is driven by the continued discovery of genetic markers with proven clinical utility, the increasing adoption of genetic-based diagnostic tests, and the expansion of reimbursement programs to include a greater number of approved molecular diagnostic tests. Our CytoScan® product line seeks to serve this market by providing genome wide analysis of the chromosome complement of the cell in inherited and acquired diseases. In addition, we also partner with molecular diagnostics companies under our Powered by Affymetrix program to develop and commercialize molecular diagnostics tests using our products. In addition, we have a variety of other internal programs such our OncoScan, QG View RNA and a large panel of Analyte Specific Reagents ("ASRs") for leukemia and lymphoma immunophenotyping aimed at the translational medicine and molecular diagnostics market.

Flow Cytometry

Flow cytometry is a well-established technology used to count and examine physical and chemical parameters of particles, such as cells, in high throughput. Fluorescently-labeled antibodies are generally used to measure these parameters in a population of cells, which are suspended in a fluid and passed through an electronic detection device. Measurable parameters of a cell include volume and morphology, DNA/RNA content, DNA copy number variation, protein expression and localization, intracellular antigens (e.g. cytokines, chemokines), enzymatic activity and cell viability. Flow cytometry is routinely used in basic and clinical research, including immunology, cell biology, and stem cell biology, as well as in the diagnosis of health disorders, especially blood cancers and HIV. Our eBioscience products serve the flow cytometry market.

Applied Markets

Applied markets refer to a variety of other markets which we provide products and services in. The one we primarily target is the AgBio market where we supply catalog and custom genotyping and expression array products to facilitate agricultural plant and animal research and commercial improvement programs. We currently supply academic, industrial and government customers with SNP-based genotyping arrays for crops including wheat, strawberry and rice and for livestock such as cattle, buffalo and chicken. These genotyping products are used, among other things, in genomic selection for more rapid, accurate and efficient breeding of desired traits than traditional breeding methods. The AgBio market is growing rapidly and represents a significant business opportunity.

Factors Affecting Our Markets

We expect that the following factors, among others, will influence the size and development of the markets served by our technologies:

- the availability of government funding for basic and disease-related research;
- the amount of capital expenditures allocated to research and development by biotechnology, pharmaceutical and diagnostic companies;
- the regulatory and reimbursement environment for our customers in the translational medicine and molecular diagnostics markets;
- the application of gene, protein and cell analyses to new areas including molecular diagnostics, agriculture, human identity and consumer goods;
- technological innovation that creates price competition and lowers the costs of life science research;
- the development of new computational techniques to handle and analyze large amounts of life science search data; and

- the availability of genetic markers and signatures of the human population that have clinical value or of other organisms that have commercial value, and novel binding agents (such as antibodies) to new protein markers.

Business Segments

Our operations consist of two reportable segments, Affymetrix Core and eBioscience. Affymetrix Core accounted for approximately 80% of total revenue and eBioscience accounted for approximately 13% of total revenue during the year ended December 31, 2012. The remaining 7% of total revenue came from our Corporate business unit which we do not categorize as an operating segment.

Affymetrix Core is divided into three business units with each business unit having its own research, development and marketing groups to better serve customers and respond quickly to the market needs. In addition, the business units share common corporate services that provide capital, infrastructure and functional support, allowing them to focus on core technological strengths to compete and innovate in their markets. The following describes the three business units that form Affymetrix Core:

- *Expression:* This business unit develops and markets the Company's GeneChip® gene expression products and services, and the QuantiGene® line of low-to-mid-plex RNA measurement products.

- *Genetic Analysis and Clinical Applications:* This business unit develops and markets the Company's genotyping, such as the Axiom® product line and arrays with clinical research applications, such as the CytoScan® cytogenetics arrays.

- *Life Science Reagents:* This business unit develops and sells reagents, enzymes, purification kits and biochemicals used by life science researchers.

eBioscience is operated as a separate business unit with its own research, marketing and manufacturing groups, but shares common corporation services with Affymetrix Core:

- *eBioscience:* This reportable segment specializes in the development, manufacturing, marketing and distribution of research tools in the areas of flow cytometry, immunoassays, microscopic imaging and other protein-based analyses.

We have one additional business unit, the Corporate business unit, which is comprised primarily of revenue from royalty arrangements, and field revenue from services provided to customers by the Company. Its manufacturing operations are based on platforms that are used to produce various Affymetrix Core and eBioscience products that serve multiple applications and markets. The Corporate business unit will be disclosed in the "other category", as it is not deemed to be a separate operating segment and will not be aggregated into either of our two reportable operating segments.

Sales and Distribution

All of our business units sell their products through our Global Commercial Organization comprised of sales, field application and engineering support, and marketing personnel. We market and distribute our products directly to customers in North America, Japan and major European markets. In these markets, we have our own sales, service and application support personnel responsible for expanding and managing their respective customer bases. In other markets, such as Mexico, India, the Middle East and Asia Pacific, including the People's Republic of China, we sell our products principally through third party distributors that specialize in life science supply. For molecular diagnostic and industrial applications market opportunities, we supply our partners with arrays and instruments, which they incorporate into diagnostic products and assume the primary commercialization responsibilities.

Scientific Background

Introduction to the Genome

Understanding the genome helps us understand the inheritance of biological characteristics, developmental biology and normal and disease states of cells and organisms. Genetic variation accounts for many of the differences between individuals, such as eye color and blood group, and also affects a person's susceptibility to certain diseases including cancer. For example, many cancers are caused by genetic variations in individual cells. Genetic variation can also determine a person's response to drug therapies. We believe that this will lead to a new healthcare paradigm where disease is understood at the molecular level, allowing patients to be diagnosed according to genetic information and then treated with drugs designed to work on specific molecular targets.

The instructions required for every living cell to develop its characteristic form and function are believed to be represented within discrete regions of the genome known as genes. All known genomes, including the human genome, are composed of either deoxyribonucleic acid ("DNA") or RNA. DNA molecules consist of two long complementary strands comprised of four different building blocks called nucleotides. The amount of RNA made from any given gene is a measure of the expression level of that gene. One type of RNA, the messenger RNA ("mRNA") is central to protein synthesis. There are RNAs with other roles, such as regulating gene expression, involvement in protein synthesis or comprise the genetic information of viruses.

Genotyping

Genotyping is the process of determining the genetic constitution of a cell, organism or individual in order to determine how it is specialized or differs from a group. Typically, each cell in an individual contains a complete copy of its genome. In a population, individuals vary from one another because of differences in gene sequences which are inherited from each parent and sometimes through the introduction of sequence changes due to environmental damage or biological errors in processes like gene replication. Common forms of genetic variation include single-nucleotide polymorphisms, or SNPs, and copy number variations, or CNVs. A SNP is a variation in a single position in a DNA sequence and a CNV is a variation in the number of copies of a segment of the DNA.

By screening for these polymorphisms, researchers seek to identify those that might be implicated in specific diseases. Sometimes it is not a single SNP or CNV, but the combination of certain variations that lead to a diseased state. For this reason, researchers look at the patterns of these polymorphisms in a large number of healthy and diseased individuals in order to correlate specific variants with specific diseases or phenotypes. Large scale genotyping can be used, for example, in studies designed to elucidate the genetic contributions to disease and, in the case of clinical trials, to drug response.

Gene Expression

Gene expression monitoring is the process of determining which genes are active in a specific cell or group of cells. Timing and level of gene expression is an important mechanism by which the fate and function of cells are regulated. Although most cells contain an organism's full set of genes, each cell expresses only a subset of genes at any given time and the level of expression also varies with the state of that cell. The expression pattern or profile of genes can be correlated with many human diseases such as cancer, as well as with the effectiveness of treatment in specific patient populations. By identifying genes that are differentially expressed in particular diseases or patient populations, novel molecular targets and treatments may be identified and validated. In addition, gene expression signatures may be identified that provide early identification of a predisposition to disease or allow the selection of treatments optimized for an individual.

Our Principal Technologies

Array Technology

Our array technology leverages semiconductor-based photolithographic fabrication techniques, which enables us to synthesize a large variety of predetermined DNA sequences simultaneously in predetermined locations on a small glass chip called an "array." Photolithography is a technique which uses light to create exposure patterns on the glass chip and to direct chemical reactions. The function of each single-stranded sequence on our array, called a probe, is to bind to its complementary DNA or RNA from a biological sample. Our technology allows millions of probe sequences to be arrayed at specified locations on a chip the size of a thumb nail. Our arrays permit the analysis of all the genes or RNAs in the genome simultaneously.

The nucleic acid (DNA or RNA) to be tested is isolated from a sample, such as blood, saliva or biopsy tissue, amplified and prepared for hybridization, a process that enables the reaction of RNA or DNA targets in the sample to specific, pre identified locations on the array. The test sample is then washed over the array, where the individual nucleic acid sequences that represent the genetic content or expressed genes of the sample hybridize to their complementary sequences bound on the array. The molecules in the test sample may be labeled with fluorescent dye either before or after hybridization. When scanned by a laser in our scanner instrument, the test sample generates a fluorescent signal. The locations where a fluorescent signal is detected by an optical detection system on the scanner instrument correspond to sequences complementary to the test sample. Sequence variation, or the quantification of the amount of specific sequences of RNA or DNA sequences in the sample, can be determined by detecting the relative strength of these signals since the sequence and position of each complementary DNA probe on the GeneChip® is known.

The combination of a particular array, together with an optimized set of reagents and a user protocol describing how to carry out the procedure, is referred to as an "assay."

bDNA Technology

We offer customers our QuantiGene® line of assay products for a wide variety of low—to mid-plex genetic, protein and cellular analysis applications using branched DNA, or bDNA, technology. These assays measure RNA levels directly from samples, either in solution or in cells and tissues, using a signal amplification method without the need for RNA purification, providing customers with improved accuracy, scale and workflow relative to traditional methods based on the polymerase chain reaction, or PCR. An important feature of bDNA technology is the ability to measure RNA in clinically relevant samples such as FFPE (formalin fixed paraffin embedded) which are used in retrospective cancer research, as well as cancer diagnostic applications.

Flow Cytometry and Immunoassay

Flow cytometry is a well-established technology used to count and examine physical and chemical parameters of particles, such as cells, in high throughput. Fluorescently-labeled antibodies are generally used to measure these parameters in a population of cells, which are suspended in a fluid and passed through an electronic detection device. Measurable parameters of a cell include volume and morphology, DNA/RNA content, DNA copy number variation, protein expression and localization, intracellular antigens (e.g. cytokines, chemokines), enzymatic activity and cell viability.

Flow cytometry is routinely used in basic and clinical research, including immunology, cell biology, and stem cell biology, as well as in the diagnosis of health disorders, especially blood cancers and HIV. It is one of the primary methods for rapid cell analysis and is extensively used for numerous applications in life sciences such as examining gene and protein profiles, metabolic studies, stem cell research, and screening markers for gene expression.

Immunoassays allow research scientists to measure the presence and quantity of proteins produced by cells in model systems and disease processes.

Our Products

Overview

We offer a comprehensive line of products for the parallel analysis of biological systems at the gene, protein and cell level.

Affymetrix Core. Through its Expression and Genetic Analysis and Clinical Applications business units, Affymetrix Core sells integrated systems in two principal applications, genotyping and gene expression. Consumables for these two applications run on the same instruments. We have three families of systems, GeneChip®, GeneTitan® and GeneAtlas® that include (1) instruments, (2) consumables and (3) software. Our GeneChip® instruments run arrays packaged in cartridges and our GeneTitan® and GeneAtlas® instruments run a large number of arrays simultaneously as they are packaged in a plate format for automated high throughput processing. In addition, the Expression business unit also sells QuantiGene® lines of assays for gene expression for a wide variety of low—to mid-plex genetic, protein and cell analysis. The Life Science Reagents business unit offers reagents, enzymes, purification kits and biochemicals used by life science researchers. In addition, this business unit supplies other companies in our industries with products that are incorporated as part of their products.

eBioscience. Our eBioscience business segment offers an extensive portfolio of antibodies and reagents for use in flow cytometry and immunoassays.

GeneChip® Family of Products

Our GeneChip® system provides an integrated solution for gene expression and genotyping analysis. It consists of instruments and consumables that provide for the robust preparation and analysis of samples using our GeneChip® cartridge arrays. The components of the GeneChip® system include (1) disposable probe arrays containing genetic information on a chip, (2) reagents for extracting, amplifying and labeling target nucleic acids, (3) a fluidics station for introducing the test sample to the probe arrays, (4) a hybridization oven for optimizing the binding of samples to the probe arrays, (5) a scanner to read the fluorescent image from the probe arrays, and (6) software to analyze and manage the resulting genetic information.

Our major GeneChip® instrument products include:

Product	Product Description
GeneChip® Scanner 3000	Instrument for scanning higher-density arrays, including SNP arrays with up to 900,000 SNPs, tiling arrays for transcription and all-exon arrays for whole-genome analysis.
GeneChip® Scanner 3000Dx	This instrument is a version of the GeneChip® Scanner 3000 that is cleared by the United States Food and Drug Administration as an *in vitro* diagnostic device ("IVD").
GeneChip® Fluidics Station	Instrument for the wash and stain of GeneChip® arrays.
GeneChip® Hybridization Oven	This instrument provides temperature and rotation control to ensure the successful hybridization of cartridge arrays before scanning.

Our major GeneChip® array and reagent products include:

Product	Product Description
CytoGenetic and Genotyping Catalog Cartridge Arrays	• *CytoScan® HD Array*—This array includes more than 2.6 million copy number markers and provides broad coverage for the detection of human chromosomal aberrations associated with genes related to constitutional and cancer cytogenetics. • *SNP 6.0 Array*—This single chip array is a robust tool for studying variation. It enables genotyping of approximately 906,600 SNPs and assaying of approximately 946,000 non-polymorphic probes for detection of copy number. • *DMET™ Plus*—This array features drug markers in FDA-validated genes and enables discovery and measurement of genetic variation associated with drug response.
Gene Expression Catalog Cartridge Arrays	• *U133*—This array analyzes the expression level of over 47,000 transcripts and variants of the human genome. • *Other Arrays*—We also offer a range of catalog expression arrays for the study of rat, mouse and other mammalian and model organisms.
Custom Arrays	• MyGeneChip™ products are custom expression and sequence arrays designed by our customers to study organisms of interests to them.

GeneTitan® Family of Products

Our GeneTitan® family of products consists of the GeneTitan® instrument system that runs genotyping and gene expression array plates. The GeneTitan® family of products provides a hands-free, automated solution for monitoring gene expression and genome-wide SNP genotyping.

Our GeneTitan® products include:

Product	Product Description
GeneTitan®	The GeneTitan® instrument automates array processing from target hybridization to data generation by combining a hybridization oven, fluidics processing and imaging device into a single bench-top instrument. It runs array plates and supports both gene expression and genotyping studies.

Product	Product Description
Axiom® Genotyping Solution	The Axiom® Genotyping Solution includes array plates with validated genomic content, complete reagent kits, data analysis tools and a fully automated workflow utilizing the GeneTitan®. • *Axiom® Human Array Plates*—these arrays are designed to maximize genomic coverage of common and novel SNPs and insertions and deletions in Caucasian, Asian and African populations. In addition, through our functional genotyping arrays such as the *Axiom Exome Array Plates* and the *BioBank Array plates,* we enable researchers to search for genetic variants in regions of the genome that have potential biological impact. • *Axiom® Custom Arrays*—Customers can make custom arrays utilizing our proprietary database of validated genomic markers or with newly discovered markets. Our ability to make custom arrays in a rapid and reproducible manner is critical to serve the growing needs of both the human and AG Bio market.
Gene Expression Array Plates	We offer a catalog of gene expression array plates similar to our catalog gene expression cartridge arrays to be used on the GeneTitan® instrument. These arrays are available for the study of human, rat, mouse and a broad range of other mammalian and model organisms.

Our GeneAtlas® products include:

Product	Product Description
GeneAtlas® Personal Microarray System	The GeneAtlas® is a lower-priced instrument for low-to-medium throughput. The GeneAtlas® utilizes the array strip format, with four arrays per strip, and provides simplified hybridization and simple array processing with common microwell-based labware.
Gene Expression Array Plates	We offer a catalog of gene expression array plates for the study of human, rat and mouse to be used on our GeneAtlas® system.

QuantiGene® Line of Low—to Mid-plex Products

We also offer our QuantiGene® line of singleplex and multiplex assays to serve customers in the research and translational medicine markets. Multiplex assays measure many different targets from the same sample. These products enable drug target identification through analysis of gene silencing, cell signaling and biomarker validation. Our QuantiGene® line of products is based on bDNA technology and delivers quantitative gene expression analysis. These products are compatible with a wide variety of samples and tissues. We also serve the growing needs of the molecular pathology market by enabling the highly sensitive measurement of RNA molecules in individual cells in tissue samples through our QuantiGene View RNA products.

Life Science Reagents

We offer researchers an extensive line of reagent kits, enzymes and biochemicals. Our reagents are complementary to our array portfolio, thus enabling us to provide our customers with whole product solutions. In addition, they can be applied to a broad variety of emerging technologies. Our reagents include:

- *ExoSAP-IT® For PCR Product Clean-Up,* a reagent for the rapid clean-up of PCR products used in downstream applications, such as DNA sequencing or SNP analysis.
- *HotStart-IT® line of PCR reagents,* reagents that utilize a novel primer binding protein to inhibit primer dimer formation, with results in sensitive and consistent amplification for real-time PCR.

eBioscience Products

eBioscience offers an extensive portfolio of antibodies and reagents for use in flow cytometry and immunoassays. Within the flow cytometry market, through eBioscience, we are a leading provider of multi-color flow cytometry reagents, a growing subsector of the of the global flow cytometry market. The significance of multi-color flow is that it provides the scientist with the ability to characterize a variety of targets simultaneously in a given cell analysis, allowing a much more detailed picture of health and diseased cells than is possible when measuring a single target. Within the immunoassays market, eBioscience offers a broad portfolio of simple, easy-to-use immunoassays kits for the quantitative measurement of either secreted or intracellular protein levels in biological samples, such as cell lysates or serum. These assays are in a variety of single analyte and multiplex formats.

Our Services

We offer high-throughput genotyping services for customers using our genotyping products. Our projects range in size from a few hundred samples to over 10,000 samples. We serve customers requiring quick turnaround times and suitably priced solutions to their large-scale academic and consortia genotyping studies.

Our Collaborative Partners

We collaborate with our partners to expand the applications of our technology and to acquire access to complementary technologies and resources. We collaborate with a number of instrumentation and reagent companies to develop and supply certain components of the user work flow. These companies include Beckman Coulter, Inc., CapitalBio Corporation, Life Technologies Corporation, Genisphere LLC, Hamilton Robotics, Takara Bio Inc., New England Biolabs, Inc., Luminex Corporation and Qiagen GmbH.

Through our Powered by Affymetrix™, or PbA Program, we permit commercial entities to license our technologies to develop custom product solutions based upon our arrays, instrumentation and software. Our PbA partners include F. Hoffman-La Roche Ltd., bioMerieux, Inc., Pathwork Diagnostics, Veridex, LLC, a Johnson & Johnson company, Signature Diagnostics and TessArae. We provide our PbA partners custom arrays. Our partners subsequently package these arrays into kits, seek regulatory approval and reimbursement for their diagnostic use, and sell them into the diagnostic markets using their sales channels. An example is the gene expression array used by our PbA partner Veracyte, Inc., in its Affirma test for thyroid cancer.

We also collaborate with certain academic, government, and commercial research groups to develop and validate new applications of our technologies. These include the Broad Institute of Harvard, the Massachusetts Institute of Technology, Centers for Disease Control and Prevention and the National Genome Research Institute.

Manufacturing and Raw Materials

We manufacture our Affymetrix Core consumables, including our arrays and the majority of our reagents, and contract with third parties to manufacture our instruments. We manufacture our reagents in our Cleveland, Ohio facility. We manufacture our arrays in our Singapore facility, and we expect to begin manufacturing one of our instruments in our Singapore facility in 2013.

Our array manufacturing process involves wafer preparation, probe synthesis, dicing of synthesized wafers into chips, assembly of chips and quality control. We have developed software programs that extensively automate the design of photolithographic masks used in array manufacturing and that control the array manufacturing lines. Glass wafers are prepared for synthesis through the application of chemical coatings. Arrays are synthesized on the wafers using our proprietary, combinatorial photolithographic process. The completed wafers can then be diced into chips. The chips can be packaged individually, in our cartridge format, in our strip format or in our peg format.

Our Singapore and Ohio facilities are fully operational and have been certified to ISO 13485 standards. The Singapore and Ohio facilities operate under the strict standards of our corporate quality plan. Third parties who manufacture our instruments will have to meet our quality standards as part of the qualification process.

eBioscience manufactures its flow cytometry reagents in San Diego, California, and most of its immunoassays in Vienna, Austria.

Key parts of our product lines, such as our GeneTitan® instrument and hybridization ovens, are available from single sources. Likewise, certain raw materials or components used in the synthesis of arrays or the assembly of instrumentation are currently available only from a single source or limited sources. Alternative sources of supply may be time consuming and expensive to qualify. In addition, we are dependent on our vendors to provide components of appropriate quality and reliability, and to meet applicable regulatory requirements. We take what we believe are appropriate measures to prevent the delay or interruption of supplies from these vendors and to ensure the appropriate quality for our customers, since any delay or interruption could delay our ability to deliver our products to our customers.

Research and Development

Our research and development effort is divided into the major areas of basic research, product research and development, and manufacturing technology development. Our product development efforts are focused primarily on the development of new array, assay and reagent products, improving the overall performance of our assays and simplifying highly complex assays. We are also actively engaged in research aimed at enhancing the manufacturing process currently employed in the production of our arrays.

Our research and development expenses for the years ended December 31, 2012, 2011 and 2010 were $57.9 million, $63.6 million and $67.9 million, respectively.

Intellectual Property

We rely on a combination of patent, copyright, and trade secret laws, know-how and licensing opportunities to establish and protect our proprietary technologies and products. Our success depends in part on our ability to obtain patent protection for our products and processes, to preserve our copyrights and trade secrets, to operate without infringing the proprietary rights of third parties and to acquire licenses related to enabling technology or products used with our technology.

We are pursuing a patent strategy designed to facilitate our research and development program and the commercialization of our current and future products. While no one patent is considered essential to our success, we aggressively seek to protect our patent rights as our patent portfolio as a whole is material to the success of the business.

There are a significant number of United States and foreign patents and patent applications in our areas of interest, and we believe that there will continue to be significant litigation in the industry regarding patent and other intellectual property rights. Others have filed, and in the future are likely to file, patent applications that are similar or identical to ours or those of our licensors. It may be necessary for us to enter into litigation to defend against or assert claims of infringement, to enforce patents issued to us, to protect trade secrets or know-how owned by us or to determine the scope and validity of the proprietary rights of others. From time to time, to determine the priority of inventions, it may be necessary for us to participate in interference proceedings declared by the United States Patent and Trademark Office. Litigation or patent administrative proceedings could result in substantial costs to and distraction from our core business and our efforts in respect to such proceedings may not be successful. For further information regarding intellectual property litigation involving us, see "Item 8. Financial Statements and Supplementary Data—Note 15. Legal Proceedings" in this Annual Report on Form 10-K.

We also rely upon copyright and trade secrets to protect our confidential and proprietary information. We seek to protect our proprietary technology and processes by confidentiality agreements with our employees and certain consultants and contractors. These agreements may be breached, we may not have adequate remedies for any breach and our trade secrets may otherwise become known or be independently discovered by competitors. To the extent that our employees or our consultants or contractors use intellectual property owned by others in their work for us, disputes may also arise as to the rights in related or resulting know-how and inventions.

We are party to various option, supply and license agreements with third parties which grant us rights to use certain aspects of our technologies. We take such measures as we believe are appropriate to maintain rights to such technology under these agreements. In addition, our academic collaborators have certain rights to publish data and information in which we have rights. There is considerable pressure on academic institutions to publish discoveries in the genetics and genomics fields. We take such steps as we believe are appropriate to ensure that such publication will not adversely affect our ability to obtain patent protection for information in which we may have a commercial interest.

Competition

The markets for our products are characterized by rapidly changing technology, evolving industry standards, changes in customer needs, emerging competition, new product introductions and strong price competition. We face significant competition as existing companies develop new or improved products, and as companies enter the market with new technologies, such as next-generation sequencing.

In the highly multiplexed genotyping and gene expression markets, existing competitive technologies include DNA sequencing, which we do not offer and is offered by companies such as Illumina, Inc. and Life Technologies Corporation. Other companies developing or marketing competitive DNA array technology include Illumina, Inc., Agilent Technologies, Inc., BD Biosciences, CombiMatrix Corporation, MDS Analytic Technologies/Danaher, Nimblegen/Roche Diagnostics and NuGEN Technologies, Inc, some of which offer products directly competitive with our microarrays or reagents.

In the low to midplex genotyping and gene expression markets, much of the existing low-plex competition comes from the supplier of realtime PCR products, including Life Technologies Corporation, who has a dominant position, Roche Diagnostics, Agilent Technologies, Inc. and BioRad Laboratories, Inc. In addition, there are new midplex technologies being offered by Fluidigm Corporation, Sequenom, Inc., High Throughput Genomics, Inc., Beckman Coulter, NanoString Technologies and Life Technologies Corporation (BioTrove). In order to compete against existing and emerging technologies, we will need to demonstrate that our products have superior throughput, cost and accuracy advantages over competing products.

In the flow cytometry and immunoassay markets, we compete with Becton, Dickinson and Company and Beckman Coulter as well as a number of smaller companies. In order to compete effectively, we have to differentiate ourselves through superior product quality, speed to market and well regarded customer service functions.

In the molecular diagnostic field, competition is likely to come from established diagnostic companies, companies developing and marketing DNA probe tests for genetic and other diseases, and other companies conducting research on new technologies to ascertain and analyze genetic information. The market for molecular diagnostic products derived from gene discovery is highly competitive and has high barriers of entry, with several large corporations already having significant market share. Established diagnostic companies such as Beckman Coulter, Becton, Dickinson and Company, bioMérieux, Johnson & Johnson, Gen-Probe Incorporated and Roche Diagnostics have the strategic commitment to diagnostics, the financial and other resources to invest in new technologies, substantial intellectual property portfolios, substantial experience in new product development, regulatory expertise, manufacturing capabilities and the distribution channels to deliver products to customers. Established diagnostic companies also have an installed base of instruments in several markets,

including clinical and reference laboratories, which are not compatible with our system and could slow acceptance of our products. In addition, these companies have formed alliances with genomics companies which provide them access to genetic information that may be incorporated into their diagnostic tests.

We will face increased competition in existing and potential markets as the cost of new technologies such as sequencing and other technologies improves. In addition, pharmaceutical and biotechnology companies have significant needs for genomic information and may choose to develop or acquire competing technologies to meet these needs themselves. We have significantly expanded our network of approved service providers in America, Japan, Europe, and China. While these companies expand the reach of Affymetrix technology and make its analytical power available to a wider base of users they may act as a substitute for outright purchase of instruments and arrays by those end users. In addition, we have several other third-party licensees that could offer products that compete with our product offerings.

Government Regulation

Many of our products are labeled for research use only. Products intended for research use only are not subject to clearance or approval by the U.S. Food and Drug Administration ("FDA"). However, research use only products may fall under the FDA's jurisdiction if these are used for clinical rather than research purposes. Even where a product is not otherwise subject to clearance or approval by the FDA, the FDA may impose restrictions as to the manner in which we can market and sell our products and/or the types of customers to which we can market and sell our products in order to limit sales to those who use the products for research only.

Our GeneChip® Scanner 3000Dx is cleared by the FDA to be used in conjunction with cleared medical devices such as the Roche Diagnostics AmpliChip CYP450 Test. It is also cleared by China's State Food and Drug Administration for in vitro diagnostic use. We also offer a large panel of Analyte Specific Reagents (ASRs) for leukemia and lymphoma immunophenotyping aimed at the translational medicine and molecular diagnostics market.

We will continue to develop diagnostic products ourselves or with our collaborative partners that may require regulatory clearance or approval by governmental agencies. Commercially available in vitro diagnostic test kits and the reagents and instrumentation used with in vitro diagnostic tests are regulated as medical devices and are generally subject to rigorous testing and other pre-market review procedures by the FDA in the U.S. and by other regulatory agencies in other countries. The FDA's Quality System Regulations also apply in connection with our manufacture of arrays and systems as components for use in diagnostic products distributed outside of the research environment. Obtaining these clearances or approvals and the compliance with these regulations require the expenditure of substantial resources over a significant period of time, and we cannot assure you that any clearances or approvals will be granted on a timely basis, if at all. Once granted, a clearance or approval may place substantial restrictions on how the device is marketed or labeled or to whom it may be sold. In addition, various federal and state statutes and regulations govern or influence the manufacturing, safety, and storage of our products and components of our products as well as our record keeping.

The FDA, the U.S. Department of Health and Human Services, state authorities, and foreign government regulators are increasingly focused on genetic analysis tools, including the use of microarrays, which are labeled for research use only, by clinical laboratories in laboratory-developed tests offered by these laboratories, including labs certified under the Clinical Laboratory Improvement Amendments, or CLIA, or licensed under state laboratory regulations. We cannot predict the nature of future regulatory or policy initiatives with respect to the sale and use of arrays for the development of assays by CLIA-certified, state licensed laboratories, or the extent to which such initiatives will impact our business. If new regulations restrict our customers' development of laboratory-developed tests using products labeled for research use only, or if we otherwise are required to obtain FDA premarket clearance or approval prior to commercializing products labeled as research use only, our ability to generate revenue from the sale of our products may be delayed or otherwise adversely affected.

Moreover, our failure to comply with governmental rules and regulations related to our products could cause us to incur significant adverse publicity, or subject us to investigations and notices of non-compliance or lead to fines or restrictions upon our ability to sell our products. We also may be at risk for liability related to government reimbursement of tests involving the use of our products if it were determined that these tests require FDA-clearance or approval and no such clearance or approval has been obtained.

Medical device laws and regulations are also in effect in many countries, including countries in the European Union, ranging from comprehensive device approval requirements to requests for product data or certifications. The number and scope of these requirements are increasing. We may not be able to obtain regulatory approvals in such countries or may incur significant costs in obtaining or maintaining our foreign regulatory approvals. In addition, the export by us of certain of our products which have not yet been cleared for domestic commercial distribution may be subject to FDA or other export restrictions.

We have agreements relating to the sale of our products to government entities and, as a result, we are subject to various statutes and regulations that apply to companies doing business with the government. A failure to comply with these regulations might result in suspension of these contracts or administrative or other penalties, and could have a material adverse effect on our ability to compete for future government grants, contracts and programs.

Reimbursement

The design of our products and the potential market for their use may be directly or indirectly affected by U.S. and other government regulations governing reimbursement for clinical testing services. The availability of third-party reimbursement for our products and services may be limited or uncertain, particularly with respect to genetic tests and other clinical applications products.

Third-party payers may deny reimbursement if they determine that an ordered health care product or service has not received appropriate FDA or other governmental regulatory clearances, is not used in accordance with cost-effective treatment methods as determined by the payer, or is deemed by the third-party payer to be experimental, unnecessary or inappropriate. Under Medicare rules, diagnostic tests must be ordered by a physician who is treating the beneficiary and who uses the test results in patient management. Under this rule, some Medicare contractors may deny coverage for a test, even if the test has been cleared or approved by the FDA, without proof, as determined sufficient by the contractor, that the test is useful in patient management. Furthermore, third-party payers are increasingly challenging the prices charged for health care products and services.

We are currently developing diagnostic and therapeutic products, including those with our collaborative partners which may be subject to reimbursement issues. The commercialization of such products may depend, in part, on the extent to which reimbursement for these products will be available under U.S. and foreign regulations governing reimbursement for clinical testing services by government authorities, private health insurers and other organizations.

In the United States, third-party payer price resistance, the trend towards managed health care, implementation of the Patient Protection and Affordable Care Act of 2010 and other legislative proposals to reform health care or reduce government insurance programs could reduce payment rates for health care products and services, adversely affect the profits of our customers and collaborative partners and thus reduce our future royalties and product sales.

Environmental Matters

We are dedicated to compliance and protection of the environment and individuals. Our operations require the use of hazardous materials (including biological materials) which subject us to a variety of federal, state and local environmental and safety laws and regulations. Some of the regulations under the current regulatory structure allow for "strict liability," holding a party potentially liable without regard to fault or negligence. We

could be held liable for damages and fines as a result of our, or others', business operations should contamination of the environment or individual exposure to hazardous substances occur. We cannot predict how changes in these laws or development of new regulations will affect our business operations or the cost of compliance.

Employees

As of February 22, 2013, we had 1,100 full-time employees. The employee group includes chemists, engineers, computer scientists, mathematicians and molecular biologists with experience in the diagnostic products, medical products, semiconductor, computer software and electronics industries. None of our employees is represented by a collective bargaining agreement, nor have we experienced work stoppages. Our success depends in large part on our ability to attract and retain skilled and experienced employees.

Seasonality

Customer demand for probe arrays and instrumentation systems is typically highest in the fourth quarter of the calendar year as customers spend unused budget allocations before the end of the year.

Backlog

Because most customer orders are shipped in the quarter in which they are received, we believe that backlog at quarter end is typically not a material indicator of future sales. In addition, backlog may not result in sales because of cancellation of orders or other factors. On a few occasions we have experienced, and made public announcements about, short-term increases in backlog as a result of factors such as new product introductions or supply constraints.

Financial Information About Industry Segments

We operate in two business segments: Affymetrix Core focuses on the development, manufacture, and commercialization of systems for genetic analysis in the life sciences and diagnostic industry, and eBioscience focuses on the development, manufacturing, marketing and distribution of research tools in the areas of flow cytometry, immunoassays, microscopic imaging and other protein-based analyses. Our operations are divided into two reportable operating segments as we report operating information on a business unit level to our chief operating decision-maker. Resource allocations and decision-making processes are also made at the business unit level by our chief operating decision-maker. See "Item 8. Financial Statements and Supplementary Data—Note 17. Segment and Geographic Information" for more information.

Financial Information About Geographic Areas

Our total revenue from customers outside of the United States for the years ended December 31, 2012, 2011 and 2010 was $124.4 million, $125.0 million and $132.7 million, or approximately 42%, 47% and 43%, respectively, of our total revenue. A summary of revenues from external customers attributed to each of our geographic areas for the years ended December 31, 2012, 2011 and 2010 is included in "Item 8. Financial Statements and Supplementary Data—Note 17. Segment and Geographic Information".

Available Information

Our internet address is *www.affymetrix.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. 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 *www.sec.gov*.

ITEM 1A. RISK FACTORS

Risks Related to Our Business

Risks Related to the Growth of Our Business

If we do not continually develop and commercialize new or enhanced products and services, our business may not grow.

Our success depends in large part on our continual, timely development and commercialization of new or enhanced products and services that address evolving market requirements and are attractive to customers. The life science and clinical diagnostic research markets are characterized by rapid and significant technological changes, frequent new product introductions and enhancements, evolving industry standards and changing customer needs. Standardization of tools and systems for genetic research is still ongoing and we cannot assure you that our products will emerge as the standard for genetic research. Other companies may introduce new technologies, techniques, products or services that render our products or services obsolete or uneconomical. If we do not appropriately innovate and invest in new technologies, then our technologies will become dated and our customers could move to new technologies offered by our competitors.

As a result, we are continually looking to develop, license or acquire new or enhanced technologies, products and services to further broaden and deepen our offerings. Some of the factors affecting market acceptance of our products and services include:

- availability, quality and price as compared to competitive technologies, products and services;
- the functionality of new and existing products and services, and whether they address market requirements;
- the timing of introduction of our technologies, products and services as compared to competitive technologies, products and services;
- the existence of product defects;
- scientists' and customers' opinions of the utility of our products and services and our ability to incorporate their feedback into future products and services;
- citation of our products in published research; and
- general trends in life science and clinical diagnostics research and life science informatics software development.

Our new or enhanced technologies, products or services may not be accepted by customers in our target markets. For example, once we have developed or obtained a new technology, we may fail to successfully commercialize new products and services based on that technology, particularly to the extent that our new products and services compete with established technologies or the products and services of more established competitors. Risks relating to product adoptions include the inability to accurately forecast demand and difficulties in managing different sales and support requirements due to the type or complexity of the new products.

Further, many of our current and potential customers have limited budgets. Accordingly, we cannot assure you that the successful introduction of new or enhanced products or services will not adversely affect sales of our current products and services or that customers that currently purchase our products or services will increase their aggregate spending as a result of the introduction of new products and services.

Emerging opportunities in molecular diagnostics may not develop as quickly as we expect and we depend, in part, on the efforts of our partners to be successful.

The clinical applications of our technologies for diagnosing and enabling informed disease management options in the treatment of disease is an emerging opportunity in molecular diagnostics. At this time, we cannot be certain that molecular diagnostic markets will develop as quickly as we expect. Although we believe that there will be clinical applications of our technologies that will be utilized for diagnosing and enabling informed disease management options in the treatment of disease, there can be no certainty of the technical or commercial success our technologies will achieve in such markets.

Our success in the molecular diagnostics market depends, in part, on our collaborative relationships and the ability of our collaborative partners to achieve regulatory approval for such products in the United States and in overseas markets and successfully market and sell products using our technologies.

Our growth depends, in part, on our ability to acquire new businesses and technologies and successfully integrate acquisitions, which may absorb significant resources and may not be successful.

As part of our strategy to develop and identify new technologies, products and services, we have acquired and may continue to acquire new businesses and technologies. Our integration of the operations of acquired businesses requires significant efforts, including the coordination of information technologies, research and development, sales and marketing, operations, manufacturing and finance. In particular, the success of our acquisition of eBioscience will depend, in part, on our ability to successfully integrate eBioscience's business and operations and fully realize the anticipated benefits and synergies from combining our businesses and eBioscience. Such anticipated benefits and synergies of the Acquisition may not be realized fully or at all or may take longer to realize than expected, which could materially adversely affect our business, results of operations and financial condition. Our efforts to successfully integrate acquisitions may result in additional expenses and divert significant amounts of management's time from other projects.

Our failure to manage successfully and coordinate the growth of the combined company could also have an adverse impact on our business. In addition, there is no guarantee that businesses we acquire will become profitable or remain so. If our acquisitions do not meet our initial expectations, we may record impairment charges.

Factors that will affect the success of our acquisitions include:

- our ability to retain key employees of the acquired company;
- the performance of the acquired business, technology, product or service;
- our ability to integrate operations, financial and other systems;
- the ability of the combined company to achieve synergies among its constituent companies, such as increasing sales of the combined company's products and services, achieving expected cost savings and effectively combining technologies to develop new products and services;
- any disruption in order fulfillment or loss of sales due to integration processes, including relationships with suppliers or distributors;
- the presence or absence of adequate internal controls and/or significant fraud in the financial systems of acquired companies;
- any decrease in customer and distributor loyalty and product orders caused by dissatisfaction with the combined companies' product lines and sales and marketing practices, including price increases; and

- our assumption of known contingent liabilities that are realized, known liabilities that prove greater than anticipated, or unknown liabilities that come to light, to the extent that the realization of any of these liabilities increases our expenses or adversely affects our business or financial position.

Any difficulties and costs associated with the integration of eBioscience could negatively affect our results of operations and ability to execute our strategy.

If we experience difficulties in integrating eBioscience with our existing operations or are not able to achieve the anticipated benefits and synergies of the Acquisition, our business and results of operations could be negatively affected. In addition, it is possible that the ongoing integration process could result in the loss of key employees, errors or delays in systems implementation, the disruption of our ongoing business or the acquired business or inconsistencies in standards, controls, procedures and policies that adversely affect our ability to maintain relationships with customers and employees or to achieve the anticipated benefits and synergies of the Acquisition. Integration efforts also may divert management attention and resources. In addition, we will incur transaction fees and costs related to formulating and implementing integration plans. For example, pursuant to certain of our agreements with a collaborative partner, we will be required to migrate certain eBioscience products to incorporate our collaborative partner's technologies. We continue to assess the magnitude of these costs and additional unanticipated costs may be incurred in the integration of eBioscience. Although we expect that the elimination of duplicative costs, as well as the realization of other efficiencies or synergies related to the integration of the businesses, should allow us to offset incremental transaction and acquisition-related costs over time, this net benefit may not be achieved in the near term, or at all.

Risks Related to our Indebtedness

Our indebtedness could materially adversely affect our business, financial condition and results of operations.

We funded the Acquisition, in part, by incurring a substantial amount of indebtedness from the Term Loan provided under our Senior Secured Credit Facility and issuance of the 4.00% Notes. Refer to Note 13. "Long Term Debt Obligations" in this Annual Report on Form 10-K for further information regarding the Term Loan, the Senior Secured Credit Facility and the 4.00% Notes.

This substantial amount of indebtedness could materially adversely affect us, including by decreasing our business flexibility and increasing our borrowing costs. The indebtedness we incurred in connection with the Acquisition is expected to significantly increase our interest expense, leverage and debt service requirements. Increased levels of indebtedness may reduce funds available for our investment in product development as well as capital expenditures and other activities, increase our borrowing costs and create competitive disadvantages for us relative to other companies with lower debt levels. In addition, the agreements governing the Senior Secured Credit Facility contain restrictive covenants imposing operating and financial restrictions on us, including restrictions that may limit our ability to finance future operations or capital needs or to engage in other business activities. See the risk factor below entitled "We may not be able to finance future needs or adapt our business plan to changes because of restrictions placed on us by our Senior Secured Credit Facility and future instruments governing our indebtedness."

In addition, our ability to make scheduled payments of the principal of, to pay interest on or to refinance our indebtedness depends on our future performance, which is subject to economic, financial, competitive and other factors beyond our control. Our business may not continue to generate cash flow from operations in the future sufficient to service our debt. We may also incur expenditures that are outside of our control, such as costs associated with legal proceedings brought by other parties, or costs resulting from compliance with changes in laws. If we are unable to generate such cash flow, we may be required to adopt one or more alternatives, such as selling assets, restructuring debt or obtaining additional equity capital on terms that may be

onerous or highly dilutive. Our ability to refinance our indebtedness will depend on the capital markets and our financial condition at such time. We may not be able to engage in any of these activities or engage in these activities on desirable terms, which could result in a default on our debt obligations.

If an event of default occurs under the Senior Secured Credit Facility, the 4.00% Notes, or any other debt financing agreement, we may be required to immediately repay all outstanding borrowings, together with accrued interest and other fees. We may not be able to repay all amounts due in the event these amounts are declared due upon an event of default.

In addition, despite our current consolidated debt levels, we and our subsidiaries may be able to incur substantial additional debt in the future, subject to the restrictions contained in our debt instruments, including our Senior Secured Credit Facility.

We may not be able to finance future needs or adapt our business plan to changes because of restrictions placed on us by the Senior Secured Credit Facility and future instruments governing our indebtedness.

The terms of our Senior Secured Credit Facility include various covenants that limit our ability, and that of our subsidiaries, to, among other things:

- incur additional debt, including guarantees by us or our subsidiaries;
- make investments, pay dividends on our capital stock, redeem or repurchase our capital stock, redeem or repurchase the notes or any subordinated obligations;
- create liens;
- make capital expenditures;
- dispose of assets;
- make acquisitions;
- create or permit restrictions on the ability of our subsidiaries to pay dividends or make other distributions to us;
- engage in transactions with affiliates;
- engage in sale and leaseback transactions; and
- consolidate or merge with or into other companies or sell all or substantially all of our assets.

Our ability to comply with covenants contained in the Senior Secured Credit Facility and any future agreements governing other indebtedness to which we are or may become a party may be affected by events beyond our control, including prevailing economic, financial and industry conditions. The Senior Secured Credit Facility will require us to comply with financial performance covenants, including, without limitation, a minimum fixed charge coverage ratio, maximum senior leverage multiple and maximum total leverage multiple. Additionally, the Senior Secured Credit Facility contains numerous affirmative covenants, including covenants regarding payment of taxes and other obligations, maintenance of insurance, reporting requirements and compliance with applicable laws and regulations. Any additional indebtedness we incur in the future may subject us to further covenants.

Our failure to comply with these covenants could result in a default under the agreements governing the relevant indebtedness. In addition, unless cured or waived, the default could result in an acceleration under our other instruments that contain cross-acceleration or cross-default provisions, which could require us to repay or

repurchase indebtedness, together with accrued interest, prior to the date it otherwise is due and that could adversely affect our financial condition. If a default occurs under the Senior Secured Credit Facility, the lenders could cause all of the outstanding debt obligations under the facility to become due and payable, which would result in a default under our 3.50% Senior Convertible Notes (the "3.50% Notes") and the 4.00% Notes and could lead to an acceleration of obligations related to such notes. Upon a default or cross-default, the agent, at the direction of some or all of the lenders under the Senior Secured Credit Facility, could foreclose against the collateral. Even if we are able to comply with all of the applicable covenants, the restrictions on our ability to manage our business in our sole discretion could adversely affect our business by, among other things, limiting our ability to take advantage of financings, mergers, acquisitions and other corporate opportunities that we believe would be beneficial to us.

Risks Related to Our Sales

We face significant competition, and our failure to compete effectively could adversely affect our sales and results of operations.

We compete with companies that develop, manufacture and market genetic analysis tools for the life science and clinical healthcare markets. We face significant competition as our competitors and new companies develop new, improved or more economical products, services and technologies.

The market for our products and services is highly competitive, has high barriers to entry and has several other large companies with significant market share. For example, companies such as Illumina, Inc., Agilent Technologies and Life Technologies Corporation have products for genetic analysis that are directly competitive with certain of our products. In addition, Illumina, Inc., Life Technologies Corporation, Roche Diagnostics and Complete Genomics, Inc. also offer DNA sequencing technology which we do not offer. As the costs of DNA sequencing fall, we will face increased competition in certain of our existing and potential markets. We also face competition from established diagnostic companies such as Beckman Coulter, Becton, Dickinson and Company, bioMérieux, Celera Diagnostics, Johnson & Johnson, Gen-Probe Incorporated and Roche Diagnostics, which have made strategic commitments to diagnostics, have financial and other resources to invest in new technologies, and have substantial intellectual property portfolios, substantial experience in new product development and regulatory expertise. In addition, our collaborative partners may compete with us.

Many of our current and potential competitors have significantly greater financial, technical, marketing and other resources than we do. In addition, many current and potential competitors have greater name recognition, more extensive customer bases and access to proprietary genetic content.

Our eBioscience segment competes in the life science research market with companies such as Becton, Dickinson and Company, Abcam plc, Life Technologies Corporation and Danaher Corporation/Beckman Coulter. A number of competitors employ bundled arrangements in which customers pay for consumable products (such as reagent test kits), services and the related instruments under a single arrangement, including arrangements where the customer commits to purchase a minimum volume of consumable products annually. Since we do not currently produce instruments for this market, and bundled arrangements can allow competitors to offer lower prices for competing products, customer demand for these bundled arrangements could lead to loss of market share or force us to supply products at a discount.

Reduction or delay in research and development budgets and government funding may adversely impact our sales.

We expect that our revenue in the foreseeable future, including anticipated revenue from our eBioscience segment, will be derived from products and services provided to pharmaceutical and biotechnology companies, as well as a relatively small number of academic, governmental and other research institutions. Our operating results may fluctuate substantially due to reductions and delays in research and development expenditures by these customers.

Factors that could affect the spending levels of our customers include:

- changes in government programs, including available funding, which support research and development expenditures by companies and research institutions;
- weakness in the global economy and changing market conditions that affect our customers;
- changes in the extent to which the pharmaceutical industry may use genetic information and genetic testing as a methodology for drug discovery and development;
- changes in the regulatory environment affecting life science companies and life science research;
- impact of consolidation within the pharmaceutical industry; and
- cost reduction initiatives of customers.

Budgets in the research-use-only market have been particularly challenged in recent periods, which we believe has had an adverse effect on us, including our eBioscience segment. A significant or prolonged change in research funding, particularly with respect to the U.S. National Institutes of Health, including funding reductions that may result from scheduled automatic federal budget sequestration provisions, could have an adverse impact on future revenues and results of operations.

As we implement our strategy to expand into new markets, the size and structure of our current sales, marketing and technical support organizations may limit our ability to sell our products and services.

As we implement our strategy to expand into new markets, we may not be able to establish a sales, marketing and technical support organization sufficient to sell, market and support all of our new products, or to cover all of the regions that we target globally. To assist our sales and support activities, we have entered into distribution agreements through certain distributors, principally in markets outside of North America and Europe. In addition, we may enter into distribution arrangements with respect to some of our products that we believe will be better served in such arrangements than our current sales and marketing organizations. We have less control over other third parties on whom we rely for sales, marketing and technical support. In addition, these third parties may decide to develop and sell competitive products or otherwise become our competitors, which could harm our business.

Consolidation trends in both our market and many of our customers' markets have increased competition.

There has been a trend toward industry consolidation in our markets for the past several years. We expect this trend toward industry consolidation to continue as companies attempt to strengthen or hold their market positions in an evolving industry and as companies are acquired or are unable to continue operations. We believe that industry consolidation may result in stronger competitors that are better able to compete as sole-source vendors for customers. This could lead to more variability in operating results and could harm our business.

Additionally, there has been a trend toward consolidation in many of the customer markets we sell to, in particular the pharmaceutical industry. Consolidation in our customer markets results in increased competition for important market segments and fewer available accounts, and larger consolidated customers may be able to exert increased pricing pressure on companies in our market.

If we are unable to maintain our relationships with collaborative partners and licensors, we may have difficulty developing and selling our products and services.

Our commercial success depends, in part, on our ability to develop and maintain collaborative relationships and licenses with key companies as well as with key academic researchers. In particular, we depend on third parties for in-licensed technology and components for a variety of our product lines. We collaborate with a number of instrumentation and reagent companies, including Beckman Coulter, CapitalBio Corporation, Genisphere LLC, Hamilton Robotics, Life Technologies Corporation, Luminex Corporation, Siemens Medical Solutions Diagnostics, Takara Bio Inc., New England Biolabs, Inc. and Qiagen GmbH. Some of these collaborators, like Life Technologies Corporation, Takara Bio Inc., New England Biolabs, Inc. and Luminex Corporation, are currently sole suppliers of components of some of our reagent kits but they are also our competitors. Relying on our collaborative relationships is risky to our future success because:

- our partners may develop technologies or components competitive with our products and services;
- our existing collaborations may preclude us from entering into additional future arrangements or impact the integration of acquired businesses and technologies;
- our partners may not obtain regulatory approvals necessary to continue the collaborations in a timely manner;
- some of our agreements may terminate prematurely due to disagreements between us and our partners or licensors;
- our partners may not devote sufficient resources to the development and sale of our products and services;
- our partners may be unable to provide the resources required for us to progress in the collaboration on a timely basis;
- our collaborations may be unsuccessful; or
- some of our agreements have expired and we may not be able to negotiate future collaborative arrangements or renew current licenses on acceptable terms.

In addition, our eBioscience segment relies on licensing as a basis for many of its products and intellectual property, and the ability to maintain and renew current licenses as well as license new technologies from third parties is and will continue to be important such unit's ability to offer and introduce products. The ability to retain and gain access to technologies necessary to develop new products will depend, in part, on our ability to convince third parties that our combined company can successfully commercialize the technologies we seek to license. The inability to maintain or to acquire any third-party licenses, or integrate the related third-party technologies into these products, could result in delays in our product developments and enhancements. There can be no assurance that we will be able to continue to successfully identify new products developed by others in the life science research and clinical healthcare markets or otherwise and, if identified, to negotiate license agreements on commercially reasonable terms, if at all.

Risks Related to the Manufacturing of Our Products

We depend on a limited number of suppliers. We will be unable to launch or commercialize our products in a timely manner if our suppliers are unable to meet our requirements or if shipments from these suppliers are delayed or interrupted.

We outsource the manufacturing of our instruments to a limited number of suppliers. Some of our instruments and other key parts of our product lines, including components of our manufacturing equipment and

certain raw materials used in the manufacture of our products are currently only available from a single supplier. Therefore, we depend on our suppliers to supply our instruments, or components of our products, in required volumes, at appropriate quality and reliability levels, and in compliance with regulatory requirements on a timely basis. If supplies from these vendors do not meet our requirements, or were delayed or interrupted for any reason, we would not be able to commercialize our products successfully or in a timely fashion, and our business could be adversely impacted.

Our business is dependent on our ability to forecast our needs for components and products in our product lines and our suppliers' ability to deliver such components and products in time to meet critical manufacturing and product release schedules. Our business could be adversely affected, for example, if suppliers fail to meet product release schedules, if we experience supply constraints, if we fail to negotiate favorable pricing or if we experience any other interruption or delay in the supply chain which interferes with our ability to manufacture our products or manage our inventory levels.

We may lose customers or sales if we are unable to meet customer demand for our products on a timely and cost-effective basis, or if we are unable to ensure the proper performance and quality of our products.

We produce our products in an innovative and complicated manufacturing process which has the potential for significant variability in manufacturing yields. We have encountered, and may in the future encounter, difficulties in manufacturing our products and, due to the complexity of our products and our manufacturing process, we may experience delays in the manufacture of our products or fail to ensure their proper performance or quality. As we develop new and enhanced products, we must be able to resolve in a timely, cost-effective manner manufacturing issues that may arise from time to time.

We base our manufacturing capabilities on our forecasted product mix for the quarter. If the actual product mix varies significantly from our forecast, we may not be able to fill some orders during that quarter, which could adversely impact our financial results. Difficulties in meeting customer, collaborator and internal demand could also cause us to lose customers or require us to delay new product introductions, which could in turn result in reduced demand for our products.

We rely on internal quality control procedures to verify our manufacturing processes. Due to the complexity of our products and manufacturing process, however, it is possible that products that do not meet all of our performance specifications may not be identified before they are shipped. If our products do not consistently meet our customers' performance expectations, demand for our products will decline. In addition, we do not maintain any backup manufacturing capabilities for the production of our products. Any interruption in our ability to continue operations at our existing manufacturing facilities could delay our ability to develop or sell our products, which could result in lost revenue and seriously harm our business, financial condition and results of operations.

We may need to adjust our manufacturing capacity based on business requirements or improvements made to our technological capabilities and there are risks associated with such adjustment.

If demand for our products is reduced or if we implement technologies that increase the density or yields of our wafers, our manufacturing capacity could be under-utilized and some of our long-lived assets, including facilities and equipment, may be impaired, which would increase our expenses. In addition, factory planning decisions may shorten the useful lives of long-lived assets including facilities and equipment, and cause us to accelerate depreciation. These changes in demand for our products, and changes in our customers' product needs, could have a variety of negative effects on our competitive position and our financial results, and, in certain cases, may reduce our revenue, increase our costs, lower our gross margin percentage or require us to recognize impairments of our assets. In addition, if demand for our products is reduced or we fail to accurately forecast demand, we could be required to write down inventory since certain of our products have a limited shelf life, which would have a negative impact on our gross margin.

We have in the past, and may in the future, adjust our manufacturing capacity based on business requirements, which may include the rationalization of our facilities, including the abandonment of long-lived manufacturing assets and additional charges related to a reduction in capacity. Manufacturing and product quality issues may arise as we launch new products in our Singapore, Ohio, San Diego and Vienna facilities and rely increasingly upon manufacturing by third parties. We may lose customers if we are unable to manufacture products or if we experience delays in the manufacture of our products as a result of this transition.

We may not be able to deliver acceptable products to our customers due to the rapidly evolving nature of genetic sequence information upon which our products are based.

The genetic sequence information upon which we rely to develop and manufacture our products is contained in a variety of databases throughout the world. These databases are rapidly expanding and evolving. In addition, the accuracy of these databases and resulting genetic research is dependent on various scientific interpretations and it is not expected that global genetic research efforts will result in standardized genetic sequence databases for particular genomes in the near future.

Although we have implemented ongoing internal quality control efforts to help ensure the quality and accuracy of our products, the fundamental nature of our products requires us to rely on genetic sequence databases and scientific interpretations which are continuously evolving. As a result, these variables may cause us to develop and manufacture products that incorporate sequence errors or ambiguities. The magnitude and importance of these errors will depend upon multiple and complex factors that would be considered in determining the appropriate actions required to remedy any inaccuracies. Our inability to timely deliver acceptable products as a result of these factors would likely adversely affect our relationship with customers, and could have a material adverse effect on our business, financial condition and results of operations.

Risks Related to Our Operations

We may not achieve sustained profitability.

Prior to 2002, we incurred losses each year since our inception, and we reported losses in 2006 and from 2008 through 2012. As a result, we had an accumulated deficit of approximately $489.4 million as of December 31, 2012. Our ability to achieve sustained profitability will depend, in part, on the rate of growth, if any, of our revenue and on the level of our expenses. In 2011 and 2012, our business was affected by a drop in the volume of sales and consumables to our academic and pharmaceutical customers, particularly in North America, which led to a decrease in revenue as compared to the same prior-year period. There can be no assurance that our revenue will not continue to decrease in future periods. We have initiated a corporate restructuring program to reduce our costs, however, there can be no assurance that the anticipated cost savings will materialize. We expect to continue incurring significant expenses related to research and development, sales and marketing efforts to commercialize our products, litigation and non-cash stock based compensation, and we expect to continue to experience fluctuations in our operating results. If our revenue grows more slowly than we anticipate, or if our operating expenses are above what we expect or cannot be reduced in the event of lower revenue, we may not become profitable on a sustained basis, or at all.

If we do not attract and retain key employees, our business could be impaired.

To be successful, we must attract and retain qualified scientific, engineering, manufacturing, sales, marketing and management personnel. To expand our research, product development and sales efforts we need additional people skilled in areas such as bioinformatics, organic chemistry, information services, regulatory affairs, manufacturing, sales, marketing and technical support. Competition for these people is intense, and our compensation arrangements, such as our equity award programs, may not always be successful in attracting new

employees and retaining and motivating existing employees. For example, our stock price has been volatile in recent years, resulting in a significant number of stock options granted to our employees having a strike price that is higher than the current trading price of our common stock. In addition, following the Acquisition, in order to retain and incentivize key eBioscience employee as we integrate the business, we granted certain employees performance-based restricted stock units ("PRSUs") as further described in Note 14. "Stockholders' Equity and Share-Based Compensation Expense"; we cannot be assured that these equity awards will be successful in retaining and incentivizing such employees. If we are unable to hire, train and retain a sufficient number of qualified employees, we will not be able to expand our business or our business could be adversely affected.

We also rely on our scientific advisors and consultants to assist us in formulating our research, development and commercialization strategy. All of these individuals are engaged by other employers and have commitments to other entities that may limit their availability to us.

Due to the international nature of our business, political or economic changes or other factors could harm our business.

A significant amount of our revenue is currently generated from sales outside the United States. Although such transactions are denominated in both U.S. dollars and foreign currencies, our future revenue, gross margin, expenses and financial condition are still affected by such factors as changes in foreign currency exchange rates; unexpected changes in, or impositions of, legislative or regulatory requirements, including export and trade barriers and taxes; longer payment cycles and greater difficulty in accounts receivable collection.

We also are subject to general geopolitical risks in connection with international operations, such as political, social and economic instability, including austerity measures, potential hostilities, epidemics and changes in diplomatic and trade relationships. We cannot assure investors that one or more of the foregoing 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.

As we expand our development and commercialization activities outside of the United States, we will be subject to an increased risk of inadvertently conducting activities in a manner that violates the U.S. Foreign Corrupt Practices Act and similar laws. If that occurs, we may be subject to civil or criminal penalties which could have a material adverse effect on our business, financial condition, results of operations and growth prospects.

We are subject to the U.S. Foreign Corrupt Practices Act ("FCPA"), which prohibits corporations and individuals from paying, offering to pay, or authorizing the payment of anything of value to any foreign government official, government staff member, political party, or political candidate in an attempt to obtain or retain business or to otherwise influence a person working in an official capacity. We are also subject to the UK Anti-Bribery Act, which prohibits both domestic and international bribery, as well as bribery across both public and private sectors.

In the course of establishing and expanding our commercial operations and seeking regulatory approvals outside of the United States, we will need to establish and expand business relationships with various third parties and we will interact more frequently with foreign officials, including regulatory authorities. Expanded programs to maintain compliance with such laws will be costly and may not be effective. Any interactions with any such parties or individuals where compensation is provided that are found to be in violation of such laws could result in substantial fines and penalties and could materially harm our business. Furthermore, any finding of a violation under one country's laws may increase the likelihood that we will be prosecuted and be found to have violated another country's laws. If our business practices outside the United States are found to be in violation of the FCPA, UK Anti-Bribery Act or other similar law, we may be subject to significant civil and criminal penalties which could have a material adverse effect on our financial condition and results of operations.

Our effective tax rate may vary significantly.

Our operations are subject to income and transaction taxes in the United States and in multiple foreign jurisdictions. Estimates and judgments are required in determining our worldwide provision for income taxes. Some of these estimates are based on interpretations of existing tax laws or regulations. The ultimate amount of tax liability may be uncertain as a result.

Changes in overall levels and the geographic mix of pretax earnings may adversely impact our effective tax rate. Certain jurisdictions have lower tax rates, and the amount of earnings in these jurisdictions may fluctuate. If we do not have profitable operations in these jurisdictions, our effective tax rate could be adversely impacted. Changes in tax laws, regulatory requirements, our treasury plans, and applicability of tax holidays and incentive programs in the countries in which we operate could have a material impact on our tax provision. Tax authorities may challenge the allocation of profits between our subsidiaries and conformance with requirements of tax holidays and incentive programs and we may not prevail in any such challenge. If we were not to prevail, we could be subject to higher tax rates or double tax.

Estimates are required in determining any valuation allowance to be recorded against our net deferred tax assets. Changes in the amount of valuation allowance required may significantly impact our financial results of operations.

Changes in other categories of earnings such as discontinued operations and other comprehensive income may affect our tax provision allocated to continuing operations.

In the normal course of business, we are subject to examination by taxing authorities in the U.S. and multiple foreign jurisdictions.

Failure in our information technology systems could disrupt our operations and cause the loss of customers or business opportunities.

Information technology ("IT") systems are used extensively in virtually all aspects of our business, including sales forecast, order fulfillment and billing, customer service, logistics and management of data from running samples on our products. Our success depends, in part, on the continued and uninterrupted performance of our IT systems. IT systems may be vulnerable to damage from a variety of sources, including telecommunications or network failures, human acts and natural disasters. Moreover, despite the security measures we have implemented, our IT systems may be subject to physical or electronic break-ins, computer viruses and similar disruptive problems. We also have taken precautionary measures to prevent unanticipated problems that could affect our IT systems. Nevertheless, we may experience damages to our systems, and system failures and interruptions.

If we experience systems problems, they may interrupt our ability to operate and adversely affect our reputation and result in a loss of customers and revenues.

Risks Related to Our Investments

Our strategic equity investments may result in losses.

We periodically make strategic equity investments in various public and private companies with businesses or technologies that may complement our business. The market values of these strategic equity investments may fluctuate due to market conditions and other conditions over which we have no control. Other-than-temporary declines in the market price and valuations of the securities that we hold in other companies have required us to record losses relative to our ownership interest. This could result in future charges to our earnings. It is uncertain whether or not we will realize any long-term benefits associated with these strategic investments.

Global credit and financial market conditions could negatively impact the value of our current portfolio of cash equivalents or investments and our ability to meet our financing objectives.

Our cash and cash equivalents are maintained in highly liquid investments with remaining maturities of 90 days or less at the time of purchase. Our investments consist primarily of readily marketable debt securities with remaining maturities of more than 90 days at the time of purchase. While as of the date of this filing we are not aware of any downgrades, material losses, or other significant deterioration in the fair value of our cash equivalents or investments since December 31, 2012, any significant deterioration in conditions of the global credit and financial markets may negatively impact our current portfolio of cash equivalents or investments or our ability to meet our financing objectives. Other-than-temporary declines in the market price and valuation of any of our investments would require us to adjust the carrying value of the investment through an impairment charge.

Risks Related to Government Regulation and Litigation

We and our customers are subject to various government regulations, and we may incur significant expenses to comply with, and experience delays in our product commercialization as a result of, these regulations.

The FDA has jurisdiction over the commercialization of medical devices, including in vitro diagnostic test kits and the reagents and instrumentation used in these tests. In vitro diagnostic tests, reagents, and instruments may be subject to pre-market review and post-market controls by the FDA. Certain in vitro diagnostic products must also be approved by the regulatory agencies of foreign governments or jurisdictions before the product can be sold outside the United States. Commercialization of our and our collaborative partners' in vitro diagnostic products outside of the research environment may depend upon successful completion of clinical trials. Clinical development is a long, expensive and uncertain process and we do not know whether we, or any of our collaborative partners, will be permitted to undertake clinical trials of any potential in vitro diagnostic products. It may take us or our collaborative partners many years to complete any such testing, and failure can occur at any stage. Delays or rejections of potential products may be encountered based on changes in regulatory policy during the period of product development and regulatory agency review. Moreover, if and when our projects reach clinical trials, we, or our collaborative partners, may decide to discontinue development of any or all of these projects at any time for commercial, scientific or other reasons. Any of the foregoing matters could have a material adverse effect on our business, financial condition and results of operations.

Many of our products are labeled for "research use only." Products intended for research use only are not subject to clearance or approval by the FDA. However, research use only products may fall under the FDA's jurisdiction if these are used for clinical rather than research purposes. Even when a product is exempted from FDA clearance or approval, the FDA may impose restrictions as to the types of customers to which we can market and sell our products. Such restrictions may materially and adversely affect our business, financial condition and results of operations.

The FDA, the U.S. Department of Health and Human Services and foreign government regulators are increasingly focused on genetic analysis tools, including the use of arrays, which are labeled for research use only, by clinical laboratories in laboratory-developed tests ("LDTs") offered by these laboratories, including labs certified under the Clinical Laboratory Improvement Amendments ("CLIA"). We cannot predict the extent of the FDA's future efforts in regulation and enforcement policies with respect to the sale and use of arrays for the development of LDTs by CLIA-certified laboratories. If regulations or enforcement policies restrict our customers' development of LDTs using our products labeled for research use only, or if we otherwise are required to obtain FDA premarket clearance or approval prior to commercializing these products, our ability to generate revenue from the sale of our products may be delayed or otherwise adversely affected. Moreover, our failure to comply with governmental rules and regulations related to our products could cause us to incur significant adverse publicity, subject us to investigations and notices of non-compliance or lead to fines or

restrictions upon our ability to sell our products. We also may be at risk for liability related to government reimbursement of tests involving the use of our products if it is determined that these tests require FDA-clearance or approval and no such clearance or approval has been obtained.

Medical device laws and regulations are also in effect in many countries, ranging from comprehensive device approval requirements to requests for product data or certifications. The number and scope of these requirements are increasing. We may not be able to obtain regulatory approvals in such countries or may incur significant costs in obtaining or maintaining our foreign regulatory approvals. In addition, the export by us of certain of our products which have not yet been cleared for domestic commercial distribution may be subject to FDA or other export restrictions.

We have agreements relating to the sale of our products to government entities and, as a result, we are subject to various statutes and regulations that apply to companies doing business with the government. A failure to comply with these regulations might result in suspension of these contracts or administrative or other penalties, and could have a material adverse effect on our ability to compete for future government grants, contracts and programs.

Healthcare reform and restrictions on reimbursements may limit our returns on molecular diagnostic products that we may develop independently or with our collaborators.

We are currently collaborating with our partners to develop diagnostic and therapeutic products. The ability of our collaborators to commercialize such products may depend, in part, on the extent to which reimbursement for these products will be available under U.S. and foreign regulations that govern reimbursement for clinical testing services by government authorities, private health insurers and other organizations. In the United States, third-party payer price resistance, the trend towards managed health care and the implementation of the Patient Protection and Affordable Care Act of 2010 could reduce payment rates for health care products and services, adversely affecting the profits of our customers and collaborative partners and reducing our future royalties. Under Medicare rules, diagnostic tests must be ordered by a physician who is treating the beneficiary and who uses the test results in patient management. Under this rule, some Medicare contractors may deny coverage for a test, even if the test has been cleared or approved by the FDA, without proof, as determined sufficient by the contractor, that the test is useful in patient management.

We face risks related to handling of hazardous materials and other regulations governing environmental safety.

Our operations are subject to complex and stringent environmental, health, safety and other governmental laws and regulations that both public officials and private individuals may seek to enforce. Our activities that are subject to these regulations include, among other things, our use of hazardous and radioactive materials and the generation, transportation and storage of waste. We could discover that we or an acquired business is not in material compliance. Existing laws and regulations may also be revised or reinterpreted, or new laws and regulations may become applicable to us, whether retroactively or prospectively, that may have a negative effect on our business and results of operations. It is also impossible to eliminate completely the risk of accidental environmental contamination or injury to individuals. In such an event, we could be liable for any damages that result, which could adversely affect our business.

We may be exposed to liability due to product defects.

The risk of product liability claims is inherent in the testing, manufacturing, marketing and sale of human diagnostic and therapeutic products and we may be subjected to such claims. We have voluntarily recalled products in the past. We may seek to acquire additional insurance for clinical or product liability risks. We may not be able to obtain such insurance or general product liability insurance on acceptable terms or in sufficient amounts. A product liability claim or recall could have a serious adverse effect on our business, financial condition and results of operations.

Ethical, legal and social concerns surrounding the use of genetic information could reduce demand for our products.

Genetic testing has raised ethical issues regarding privacy and the appropriate uses of the resulting information. For these reasons, governmental authorities may call for limits on or regulation of the use of genetic testing or prohibit testing for genetic predisposition to certain conditions, particularly for those that have no known cure. Similarly, such concerns may lead individuals to refuse to use genetics tests even if permissible. Any of these scenarios could reduce the potential markets for our molecular diagnostic products, which could have a material adverse effect on our business, financial condition and results of operations.

Risks Related to Our Intellectual Property

We may be unable to effectively protect or enforce our intellectual property, which could harm our competitive position.

Maintaining a strong patent position is critical to our business. Patent law relating to the scope of claims in the technology fields in which we operate is uncertain, so we cannot be assured the patent rights we have or may obtain will be valuable. Others have filed, and in the future are likely to file, patent applications that are similar or identical to ours or those of our licensors. To determine the priority of inventions, we may have to participate in interference proceedings declared by the United States Patent and Trademark Office that could result in substantial costs in legal fees and could substantially affect the scope of our patent protection. We cannot be assured our patent applications will have priority over those filed by others. Also, our intellectual property may be subject to significant administrative and litigation proceedings. In addition, we may acquire businesses, which may not have developed or maintained a similarly robust patent position. For example, our eBioscience does not have a patent portfolio at the current time, so we must rely on non-patent rights, including third-party licenses that relate to such business operations.

Legal actions to enforce our patent rights can be expensive and may involve the diversion of significant management time. In addition, these legal actions could be unsuccessful and could also result in the invalidation of our patents or a finding that they are unenforceable. We may or may not choose to pursue litigation or interferences against those that have infringed on our patents, or used them without authorization, due to the associated expense and time commitment of monitoring these activities. If we fail to protect or to enforce our intellectual property rights successfully, our competitive position could suffer, which could harm our results of operations.

In addition to patent protection, we also rely upon copyright and trade secret protection, as well as non-disclosure agreements with our employees, consultants and third-parties, to protect our confidential and proprietary information. Such measures may not provide adequate protection for our proprietary information.

Litigation or other proceedings or third-party claims of intellectual property infringement could require us to spend significant time and money and could prevent us from selling our products or services or impact our stock price.

Third parties have asserted and may in the future assert that we are employing their proprietary technology without authorization. As we launch new products and enter new markets, we expect that competitors will claim that our products infringe their intellectual property rights as part of business strategies designed to impede our successful commercialization and entry into new markets. We are currently engaged in litigation with third parties who allege that we have infringed their intellectual property rights. See Note 15. "Legal Proceedings" found in this Annual Report on 10-K for further information. In addition, we are aware of third-party patents that may relate to our technology. We routinely receive notices claiming infringement from third parties as well as invitations to take licenses under third-party patents. Third parties may have obtained, and may in the future obtain, patents allowing them to claim that the use of our technologies infringes these patents.

We could incur substantial costs and divert the attention of our management and technical personnel in defending ourselves against any of these claims. Any adverse ruling or perception of an adverse ruling in defending ourselves against these claims could have a material adverse impact on our cash position and stock price. Furthermore, parties making claims against us may be able to obtain injunctive or other relief, which could block our ability to develop, commercialize and sell products, and could result in the award of substantial damages against us. In the event of a successful claim of infringement against us, we may be required to pay damages and obtain one or more licenses from third parties, or be prohibited from selling certain products, all of which will have a material adverse impact on our cash position and business and financial condition.

In addition, we may be unable to obtain these licenses at a reasonable cost, if at all. We could therefore incur substantial costs related to royalty payments for licenses obtained from third parties, which could negatively affect our gross margins. Moreover, we could encounter delays in product introductions while we attempt to develop alternative methods or products. Defense of any lawsuit or failure to obtain any of these licenses on favorable terms could prevent us from commercializing products, and the prohibition of sale of any of our products could materially affect our ability to grow and maintain profitability.

Risks Related to Our Common Stock

The price of our common stock historically has been volatile. This volatility may affect the price at which you could sell the common stock you receive upon conversion, and the sale of substantial amounts of our common stock could adversely affect the price of our common stock.

The market price for our common stock has varied between a high of $5.50 on June 18, 2012, and a low of $2.96 on November 16, 2012 in the twelve-month period ending on December 31, 2012. Our stock price is likely to continue to be volatile and subject to significant price and volume fluctuations in response to market and other factors, including those listed in this "Risk Factors" section and other, unknown factors. Our stock price also may be affected by comments by securities analysts regarding our business or prospects, our issuance of common stock or other equity securities, our inability to meet analysts' expectations, general fluctuations in the stock market or in the stock prices of our industry peers or our customers and general conditions and publicity regarding the genomics, biotechnology, pharmaceutical or life science industries. This volatility may affect the price at which you could sell the common stock you receive upon conversion of your notes.

In addition, the sale of substantial amounts of our common stock could adversely impact its price. As of December 31, 2012, we had outstanding approximately 71.0 million shares of our common stock and options to purchase approximately 6.2 million shares of our common stock (of which approximately 3.2 million were exercisable as of that date). We also had outstanding approximately 3.7 million shares underlying restricted stock awards and restricted stock units as of December 31, 2012. As of December 31, 2012, we also had outstanding $105.0 million aggregate principal amount of our 4.00% Notes and $3.9 million aggregate principal amount of our 3.50% Notes, which are convertible into shares of our common stock. We have reserved a total of approximately 14.4 million shares of our common stock to satisfy the settlement obligations of such notes. The sale or the availability for sale of a large number of shares of our common stock in the public market could cause the price of our common stock to decline.

Volatility in the stock price of other companies often has led to securities class action litigation against those companies. Any future securities litigation against us could result in substantial costs and divert management's attention and resources, which could seriously harm our business, financial condition and results of operations.

Our quarterly results have historically fluctuated significantly and may continue to do so. Failure to meet financial expectations may disappoint securities analysts or investors and result in a decline in our stock price.

Our revenue and operating results may fluctuate significantly due, in part, to factors that are beyond our control and which we cannot predict. The timing of our customers' orders may fluctuate from quarter to quarter. Historically, we have experienced customer ordering patterns for instrumentation and consumables in which the majority of the shipments occur in the last month of the quarter. These ordering patterns limit management's ability to accurately forecast our future revenue or product mix. Additionally, license revenue may also be unpredictable and fluctuates due to the timing of payments of non-recurring licensing fees. Because our expenses are largely fixed in the short to medium term, any material shortfall in revenue may cause us to experience material losses.

Because of this difficulty in predicting future performance, our operating results may fall below our own expectations and the expectations of securities analysts or investors in some future quarter or quarters. Our failure in the past to meet these expectations has adversely affected the market price of our common stock and may continue to do so.

In addition to factors that affect the spending levels of our customers described above, additional factors could cause our operating results to fluctuate, including:

- competition;
- our inability to produce products in sufficient quantities and with appropriate quality;
- the frequency of experiments conducted by our customers;
- our customers' inventory of products;
- the receipt of relatively large orders with short lead times; and
- our customers' expectations as to how long it takes us to fill future orders.

In addition, integrating operations, financial and other systems of acquired businesses, including those in connection with our acquisition of eBioscience, may compound the difficulty of predicting our future performance, for example by decreasing our ability to forecast customer demand and manage our inventory levels, and may therefore increase the fluctuation of our operating results.

Delaware law and our charter documents may impede or discourage a takeover, which could cause the market price of our common stock to decline.

We are a Delaware corporation, and the anti-takeover provisions of Delaware law impose various impediments to the ability of a third party to acquire control of us, even if a change in control would be beneficial to our existing stockholders. Our charter and bylaws contain provisions relating to issuance of preferred stock, limitations on written consents, special meetings of stockholders and advance notification procedures for stockholder proposals. In addition, we are subject to Section 203 of the Delaware General Corporation Law, which prohibits a Delaware corporation from engaging in any business combination with any interested stockholder for a period of three years after the date that such stockholder became an interested stockholder, unless certain conditions are met.

These and other provisions of our charter documents and Delaware law could prevent or deter mergers, takeovers or other business combinations involving us, discourage potential acquirers from making tender offers for our common stock, or discourage proxy contests for changes in our management, any of which, under certain circumstances, could depress the market price of our common stock and the value of the notes.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

Our corporate headquarters is located in Santa Clara, California, where we lease approximately 200,000 square feet and we have manufacturing facilities located in Singapore and Cleveland, Ohio, where we lease approximately 150,000 square feet and 18,000 square feet, respectively. We lease approximately 140,000 square feet of administrative and research and development space in California (Emeryville and Sunnyvale), Ohio (Cleveland and Maumee), China (Beijing and Shanghai), Germany (Freiburg), Japan (Osaka and Tokyo), United Kingdom (Wooburn Green), Brazil (San Paulo) and Dubai. We have also entered into agreements to sublease to third parties approximately 80,000 square feet of administrative and research and development space in Massachusetts (Bedford).

As part of our acquisition of eBioscience, we now have locations in San Diego, California and Austria (Vienna). We lease approximately 100,000 square feet in San Diego of office property and a 25,000 square foot research and development facility in Vienna, Austria.

In 2012, we sold our 170,000 square foot facility in West Sacramento, California for $5.8 million, which included $0.3 million in commissions and closing costs paid by us, and recognized a net impairment of $3.5 million.

We believe that our existing properties are in good condition and are suitable for the conduct of our business.

ITEM 3. LEGAL PROCEEDINGS

Information pertaining to legal proceedings can be found in "Item 8. Financial Statements and Supplementary Data—Note 15. Legal Proceedings" of this Annual Report on Form 10-K, and is incorporated by reference herein.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II

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

Our common stock is traded on The Nasdaq Global Select Market under the symbol of AFFX. The following table sets forth on a per share basis, for the periods indicated, the low and high closing prices of our common stock as reported by The Nasdaq Global Select Market.

	Low	High
2012		
First Quarter	$4.11	$5.21
Second Quarter	$3.99	$5.39
Third Quarter	$3.60	$4.69
Fourth Quarter	$3.01	$3.75
2011		
First Quarter	$4.45	$5.53
Second Quarter	$5.01	$7.93
Third Quarter	$4.14	$8.06
Fourth Quarter	$3.70	$5.83

As of February 22, 2013, there were approximately 277 holders of record of our common stock, one of which is Cede & Co., a nominee for Depository Trust Company ("DTC"). All of the shares of common stock held by brokerage firms, banks and other financial institutions as nominees for beneficial owners are deposited into participant accounts at DTC and therefore are considered to be held of record by Cede & Co. as one shareholder.

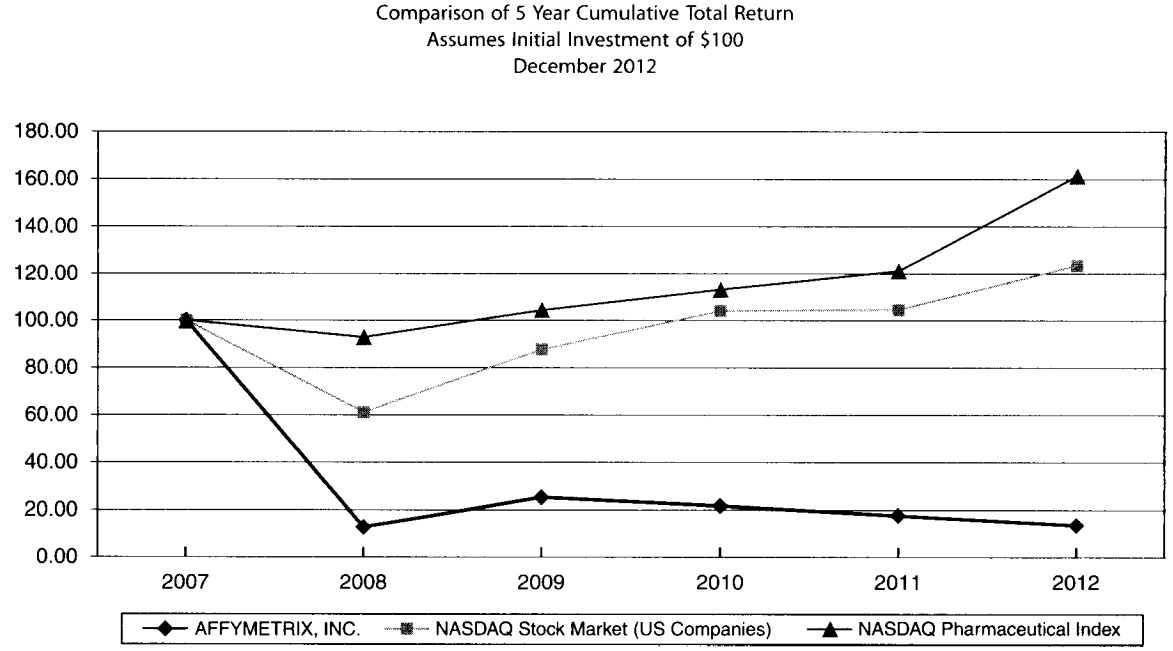
No cash dividends have been paid on our common stock. We currently intend to retain all future earnings, if any, for use in our business and do not anticipate paying any cash dividends on our common stock in the foreseeable future.

No equity securities were sold during 2012 that were not registered under the Securities Act of 1933, as amended (the "Securities Act"). We did not repurchase any shares of our common stock during the fourth quarter of 2012.

For information regarding compensation plans under which equity securities were authorized for issuance, see the section of the Proxy Statement to be filed in connection with our 2013 Annual Meeting of Shareholders entitled "Equity Compensation Plan Information," incorporated by reference into Item 12 of this Annual Report on Form 10-K.

Performance Graph

The graph below compares the cumulative total return* on our common stock for the period commencing on December 31, 2007 and ending December 31, 2012 compared to the CRSP Total Return Index for the Nasdaq National Market (U.S. companies) and the CRSP Total Return Index for the Nasdaq Pharmaceutical Stocks (SIC 283). The stock price performance shown on the graph below is not necessarily indicative of future price performance.



* Assumes $100 invested on December 31, 2007 in our common stock and in each index listed above. The total return for our common stock and the indices used assumes the reinvestment of dividends, even though dividends have never been declared on our common stock.

The information under the caption "Performance Graph" is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference in any filing of Affymetrix under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended (the "Exchange Act"), whether made before or after the date of this Annual Report on Form 10-K and irrespective of any general incorporation language in such filings.

ITEM 6. SELECTED FINANCIAL DATA

The following selected financial data has been derived from our audited consolidated financial statements. The information below is not necessarily indicative of our future results of operations and should be read in conjunction with Item 1A, "Risk Factors," Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations," and Item 8, "Financial Statements and Supplementary Data" in this Annual Report on Form 10-K in order to fully understand the factors that may affect the comparability of the information presented below:

	Year Ended December 31,				
	2012	2011	2010	2009	2008
	(in thousands, except per share amounts)				
Consolidated Statement of Operations Data:					
Total revenue (1)	$295,623	$267,474	$310,746	$327,094	$ 410,249
Loss from operations (2)	(39,091)	(16,641)	(5,167)	(33,158)	(242,539)
Net loss (3)	$(10,696)	$(28,161)	$(10,233)	$(23,909)	$(307,919)
Basic and diluted net loss per common share	$ (0.15)	$ (0.40)	$ (0.15)	$ (0.35)	$ (4.49)
Consolidated Balance Sheet Data:					
Cash, cash equivalents, and available-for-sale securities (4)	$ 35,736	$265,067	$237,184	$346,574	$ 397,739
Working capital	97,384	259,961	159,932	345,486	420,768
Total assets (4)	544,294	438,015	460,785	630,950	713,310
Long-term obligations (5)	204,820	104,596	107,220	257,496	327,313

(1) Included in the total revenue for the year ended December 31, 2012 was $37.0 million from eBioscience, which we acquired on June 25, 2012.
In 2008, we received a non-recurring $90 million payment related to an intellectual property settlement.

(2) Included in loss from operations for the year ended December 31, 2012 was $8.8 million from eBioscience and the following items related to the acquisition of eBioscience:

- $8.2 million in acquisition—and integration-related costs, and
- $8.3 million in share-based compensation charges.

Additionally, we recognized $1.8 million, $2.2 million and $43.7 million in 2012, 2009 and 2008, respectively, of expense related to our restructuring plans that was presented in a single line item labeled "Restructuring charges" in our accompanying Consolidated Statements of Operations.

In 2008, we recognized a goodwill impairment charge of $239.1 million.

(3) As part of our repurchases of our 3.50% Notes, we recognized the following gains (see (5) for further details):

- In 2010, we recognized a net gain of $6.3 million on repurchases totaling $151.7 million in aggregate principal amount; and
- In 2009, we recognized a net gain of $17.4 million on the repurchase of $69.1 million in aggregate principal amount.

In 2008, we recognized an income tax provision of $65.9 million primarily resulting from a full valuation allowance recorded against all U.S. deferred tax assets

(4) In 2012, we completed the acquisition of eBioscience for aggregate cash consideration of $307.8 million and in 2008, we completed the acquisitions of USB Corporation ("USB"), True Materials, Inc. ("TMI"), and Panomics, Inc. for aggregate cash consideration of $163.0 million.

(5) In 2012, as part of our acquisition of eBioscience, we obtained a Term Loan of $85.0 million under our Senior Secured Credit Facility and issued $105.0 million aggregate principal amount of 4.00% Notes.

We repurchased and redeemed our 3.50% Notes:

- In 2012, a total of $91.6 million aggregate principal amount was purchased for cash consideration of $92.1 million, including accrued interest and transaction costs of $0.5 million;
- In 2010, a total of $151.7 million aggregate principal amount was purchased for cash consideration of $143.6 million, including accrued interest and transaction costs; and
- In 2009, $69.1 million aggregate principal amount was purchased for cash consideration of $50.6 million, including accrued interest and transactions costs.
- Subsequent to December 31, 2012 results reflected above, we redeemed the remaining outstanding 3.50% Notes for cash considerations of $3.9 million, including accrued interest and transaction costs.

In 2008, a total of $119.9 million aggregate principal amount of our 0.75% senior convertible notes was redeemed for cash as investors exercised their put right. We repurchased the remaining $0.1 million aggregate principal amount of such notes in 2009.

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

The following discussion should be read in conjunction with the consolidated financial statements and the related notes that appear elsewhere in this document.

All statements in this annual report that are not historical are "forward-looking statements" within the meaning of Section 21E of the Securities Exchange Act as amended, including statements regarding our strategic initiatives, anticipated cost savings, return to profitability and integration of and synergies related to eBioscience, as well as all other statements regarding our "goals," "expectations," "beliefs," "intentions," "strategies" or the like. Such statements are based on our current expectations and are subject to a number of factors and uncertainties that could cause actual results to differ materially from those described in the forward-looking statements. Actual results or business conditions may differ materially from those projected or suggested in such forward-looking statements as a result of various factors, including, but not limited to, our capacity to identify and capitalize upon emerging market opportunities; risks relating to our ability to acquire new businesses and technologies and successfully integrate and realize the anticipated strategic benefits and cost savings or other synergies thereof, including our acquisition of eBioscience, in a cost-effective manner while minimizing the disruption to our business; risks that eBioscience's future performance may not be consistent with its historical performance; risks relating to our ability to make scheduled payments of the principal of, to pay interest on or to refinance our indebtedness; risks relating to our ability to develop and successfully commercialize new products and services; uncertainties related to cost and pricing of Affymetrix products; fluctuations in overall capital spending in the academic and biotechnology sectors; changes in government funding policies; our dependence on collaborative partners; the size and structure of our current sales, technology and technical support organizations; uncertainties relating to our suppliers and manufacturing processes; risks relating to our ability to achieve and sustain higher levels of revenue, higher gross margins and reduced operating expenses; uncertainties relating to technological approaches; global credit and financial market conditions; personnel retention; uncertainties relating to the FDA and other regulatory approvals; competition; risks relating to intellectual property of others and the uncertainties of patent protection and litigation; volatility of the market price of our common stock; unpredictable fluctuations in quarterly revenues;

and the risk factors disclosed under Part I, Item 1A of this Annual Report on Form 10-K for the year ended December 31, 2012. We expressly disclaim any obligation or undertaking to release publicly any updates or revisions to any forward-looking statements contained herein to reflect any change in our expectations with regard thereto or any change in events, conditions or circumstances on which any such statements are based, except as required by law.

Overview

We are a leading provider of life science tools and molecular diagnostic products that enable parallel analysis of biological systems at the gene, protein and cell level. We sell our products to genomic research centers, academic institutions, government and private laboratories, as well as pharmaceutical, diagnostic and biotechnology companies. Over 48,000 peer-reviewed papers have been published based on work using our products. We have approximately 1,100 employees worldwide and maintain sales and distribution operations across the United States, Europe, Latin America and Asia.

Our operations consist of two reportable segments, Affymetrix Core and eBioscience. Affymetrix Core accounted for approximately 80% of total revenue and eBioscience accounted for approximately 13% of total revenue during the year ended December 31, 2012. The remaining 7% of total revenue came from our Corporate business unit which was not deemed an operating segment.

Affymetrix Core is divided into three business units with each business unit having its own research and marketing groups to better serve customers and respond quickly to the market needs. In addition, the business units share common corporate services that provide capital, infrastructure, resources and functional support, allowing them to focus on core technological strengths to compete and innovate in their markets. The following describes the three business units that form Affymetrix Core:

- *Expression:* This business unit develops and markets the Company's GeneChip gene expression products and services, and the QuantiGene® line of low-to-mid-plex RNA measurement products.
- *Genetic Analysis and Clinical Applications:* This business unit develops and markets the Company's genotyping, such as the Axiom® product line, and arrays with clinical research applications, such as the CytoScan® cytogenetics arrays.
- *Life Science Reagents:* This business unit develops and sells reagents, enzymes, purification kits and biochemicals used by life science researchers.

eBioscience is operated as a separate business unit after the acquisition with its own research and marketing and manufacturing groups, but shares common corporation services with Affymetrix Core:

- *eBioscience:* This reportable segment specializes in the development, manufacturing, marketing and distribution of research tools in the areas of flow cytometry, immunoassays, microscopic imaging and other protein-based analyses.

We have one additional business unit, the Corporate business unit, which is comprised primarily of revenue from royalty arrangements, and field revenue from services provided to customers by the Company. Its manufacturing operations are based on platforms that are used to produce various products that serve multiple applications and markets. The Corporate business unit is not deemed to be an operating segment.

All of our business units sell their products through our Global Commercial Organization comprised of sales, field application and engineering support, and marketing personnel. We market and distribute our products directly to customers in North America, Japan and major European markets. In these markets, we have our own sales, service and application support personnel responsible for expanding and managing their respective customer bases. In other markets, such as Mexico, India, the Middle East and Asia Pacific, including the People's Republic of China, we sell our products principally through third party distributors that specialize in

life science supply. For molecular diagnostic and industrial applications market opportunities, we supply our partners with arrays and instruments, which they incorporate into diagnostic products and assume the primary commercialization responsibilities.

Acquisition of eBioscience Holding Company, Inc.

On June 25, 2012, we completed our acquisition of eBioscience, a privately-held company based in San Diego, California engaged in the development, manufacture and sale of flow cytometry and immunoassay reagents for immunology and oncology research and diagnostics (the "Acquisition") pursuant to an Amended and Restated Agreement and Plan of Merger dated May 3, 2012 (the "Acquisition Agreement").

We believe the Acquisition is a good strategic fit for Affymetrix, allowing us to expand our addressable markets and continue to diversify our business beyond genomics discovery into cell and protein analysis. We believe eBioscience will enable us to further expand into downstream markets where validation and testing activity leverages the results of basic discovery research to achieve a more thorough understanding of disease states, and ultimately, new and/or improved diagnostics and therapeutics.

We intend to operate eBioscience as a separate business unit to minimize or avoid any disruption of services, while taking advantage of immediate opportunities to create efficiencies. We expect to achieve certain commercial synergies between the two companies, including cross-selling opportunities and complementary distribution channels, as well as realize benefits from certain research and development synergies.

The Acquisition purchase price totaled $314.9 million, plus $17.5 million in other fees and expenses incurred since the transaction began, including $8.5 million of underwriting and financing fees, and was financed through a combination of cash on hand, the liquidation of available-for-sale securities, proceeds from the Term Loan of aggregate principal amount of $85.0 million provided under our Senior Secured Credit Facility and the issuance of $105.0 million principal amount of our 4.00% Notes.

Reportable Operating Segments

To better serve our markets subsequent to our acquisition of eBioscience, during the year ended December 31, 2012, we have organized our business units into two reportable operating segments: Affymetrix Core and eBioscience.

Affymetrix Core represents the aggregate of the Expression, Genetic Analysis and Clinical Applications and Life Science Reagents business units with each having its own development, manufacturing and marketing groups. The business units will share common corporate services that provide capital, infrastructure, resources and functional support. These corporate services will be included in the Corporate business unit.

eBioscience is organized as a separate business unit in order to minimize disruption of its existing operations, and we evaluate the performance of eBioscience separately from Affymetrix Core's performance based on its revenue and income (loss) from operations. For the year ended December 31, 2012, the eBioscience reportable operating segment had $37.0 million in net revenue and $8.8 million in operating loss, from the Acquisition Date.

The Corporate business unit is not aggregated into either of the two operating segments and will be disclosed in the "other" category. See "Item 8. Financial Statements and Supplementary Data—Note 17. Segment and Geographic Information" for more information on our reportable operating segments.

Overview of Fiscal Year 2012 and Strategic Initiatives

We have faced declining financial performance over the past several years. Traditionally, a significant portion of our business was in the well-established gene expression business where our GeneChip® Expression product line comprised of at least 50% of our revenue as we concentrated on selling these products in the basic

research market focused on discovery research. Declining sales and intense competition from newer technologies such next generation sequencing in this business has led to decreasing revenue annually since 2007.

Since Frank Witney became our President and Chief Executive Officer in July 2011, we have begun shifting our resources and focus areas from a dependency on our Expression business unit to a more diversified portfolio with broader revenue stream capabilities that can reach into the growing markets for translational medicine and molecular diagnostics. In 2012, Affymetrix Core reported lower overall revenue of $7.2 million as compared to 2011, primarily due to a $17.4 million decrease in our Expression business unit resulting from a lower volume of sales. Revenue from this business unit was approximately 40% of our business in 2012 as compared to over 50% in 2011. This decrease was partially offset by an $11.8 million increase in our Genetic Analysis and Clinical Applications business unit due to an increased volume of sales in our Cytogenetics line of products which more than doubled in 2012 from 2011.

As we enter 2013, we continue to execute on a strategy developed by Dr. Witney and our management team where we will realign our product portfolio, stabilize our core business and position our company for growth and increasing profitability. We expect this transformation to take several years, and have categorized this plan into three phases.

- *Phase I (2011-2012)—Portfolio Realignment.* During this phase, we reorganized ourselves into business units to sharpen our business focus based on target markets. We also launched CytoScan®, our growing cytogenetic microarray product line, grew our Axiom genotyping platform aggressively and acquired eBioscience. We believe these actions will lead to a stabilization of our core business and the realignment of our product portfolio will position us for growth.

- *Phase II (2013-2014)—Profitability, Strengthen Balance Sheet, Development of Newer Product Lines.* In the beginning of 2013, we implemented a corporate restructuring with a goal of accelerating our path to profitability. We expect the corporate restructuring is expected to result in annualized savings of approximately $25 million based on 2013 run rates, of which $5 million is expected to be in cost of goods sold. Our priorities for this phase will be to achieve profitability, repay our senior secured debt, successfully commercialize our newer product lines (CytoScan®, Axiom® and QuantiGene® lines, as well as our eBioscience products) and invest in new product offerings. In addition, we will train and refocus our global commercial organization to expand our reach to customers in the translational medicine, molecular diagnostics and applied markets.

- *Phase III (2015-2016)—Strategic Flexibility, Expansion of Product Lines; Growth.* Our goal is to have a strong balance sheet in this phase that will provide us with the flexibility to make strategic acquisitions. In addition, we aim to grow revenues with developed product lines and new product offerings in the translational medicine and molecular diagnostic markets.

CRITICAL ACCOUNTING POLICIES & ESTIMATES

General

The following section of Management's Discussion and Analysis of Financial Condition and Results of Operations is based upon our consolidated financial statements, which have been prepared in accordance with U.S. Generally Accepted Accounting Principles ("US GAAP"). The preparation of these financial statements requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenue and expenses, and related disclosure of contingent assets and liabilities. Management bases its estimates on historical experience and on various other assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

Our significant accounting policies are fully described in "Item 8. Financial Statements and Supplementary Data—Note 2. Summary of Significant Accounting Policies." However, certain accounting policies are particularly important to the reporting of our financial position and results of operations and require the application of significant judgment by our management. An accounting policy is deemed to be critical if it requires an accounting estimate to be made based on assumptions about matters that are highly uncertain at the time the estimate is made, and if different estimates that reasonably could have been used, or changes in the accounting estimates that are reasonably likely to occur periodically, could materially impact the financial statements. Management believes the following critical accounting policies reflect its more significant estimates and assumptions used in the preparation of the consolidated financial statements.

REVENUE RECOGNITION

We enter into contracts to sell our products and, while the majority of our sales agreements contain standard terms and conditions, there are agreements that contain multiple elements or non-standard terms and conditions. As a result, significant contract interpretation is sometimes required to determine the appropriate accounting, including whether the deliverables specified in a multiple element arrangement should be treated as separate units of accounting for revenue recognition purposes, and if so, how the value of the arrangement should be allocated among the deliverable elements, when and how to recognize revenue for each element, and the period over which revenue should be recognized.

INVENTORIES

We enter into inventory purchases and commitments so that we can meet future shipment schedules based on forecasted demand for our products. The business environment in which we operate is subject to rapid changes in technology and customer demand. We perform a detailed assessment of inventory each period, which includes a review of, among other factors, demand requirements, product life cycle and development plans, component cost trends, product pricing, product expiration and quality issues. Based on this analysis, we record adjustments to inventory for potentially excess, obsolete or impaired goods, when appropriate, in order to report inventory at net realizable value. These inventory adjustments may be required if actual demand, component costs, supplier arrangements, or product life cycles differ from our estimates. Any such adjustments would result in a charge to our results of operations.

BUSINESS COMBINATIONS

To account for our acquisition of eBioscience, we used the acquisition method of accounting which requires us to allocate the fair value of the total consideration transferred to tangible and identifiable intangible assets acquired and liabilities assumed based on their estimated fair values on the date of the acquisition, with the difference between the net assets acquired and the total consideration transferred recorded as goodwill. The fair values assigned, defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between willing market participants, are based on significant estimates and assumptions determined by management. These estimates and assumptions are inherently uncertain and subject to refinement, as a result, during the adjustment period, which may be up to one year from the acquisition date, we may record adjustments to the assets acquired or liabilities assumed with any corresponding offset to goodwill. Upon conclusion of the measurement period or final determination of the values of assets acquired or liabilities assumed, whichever comes first, any subsequent adjustments are recorded to our Consolidated Statements of Operations.

We used a discounted cash flow method to assign fair values to acquired identifiable intangible assets. This method requires significant management judgment to forecast future operating results and establish residual growth rates and discount factors. These models are based on reasonable estimates and assumptions given available facts and circumstances, including industry estimates and averages, as of the acquisition dates and are consistent with the plans and estimates that we use to manage our business. If the subsequent actual results and

updated projections of the underlying business activity change compared with the estimates and assumptions used to develop these values, we could experience impairment charges. In addition, we have estimated the economic lives of certain acquired assets and these lives are used to calculate depreciation and amortization expense. If our estimates of the economic lives change, depreciation or amortization expenses could be accelerated or slowed.

GOODWILL, INTANGIBLE ASSETS AND OTHER LONG-LIVED ASSETS – IMPAIRMENT ASSESSMENTS

We review goodwill for impairment on an annual basis and whenever events or changes in circumstances indicate that its carrying value may not be recoverable. We first conduct an assessment of qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount. If we determine that it is more likely than not that the fair value of a reporting unit is less than its carrying amount, we then conduct a two-step test for impairment of goodwill. In the first step, the fair value of our reporting units is compared to their carrying values. If the fair values of the reporting units exceed the carrying value of the net assets, goodwill is not considered impaired and no further analysis is required. If the carrying values of the net assets exceed the fair values of the reporting units, then the second step of the impairment test must be performed in order to determine the implied fair value of the goodwill. If the carrying value of the goodwill exceeds the implied fair value, then an impairment loss equal to the difference would be recorded. For 2012, we conducted our annual goodwill impairment analysis during the fourth quarter of 2012 and concluded that it is not more likely than not that the fair value of the applicable reporting unit is less than its carrying amount.

We regularly review our finite-lived intangible assets and other long-lived assets to determine if the carrying values are impaired. A review is performed when an event occurs that may indicate the potential for impairment. If indicators of impairment exist, we assess the recoverability of the affected finite-lived intangible assets and other long-lived assets by determining whether the carrying amount of such assets exceeds the undiscounted expected future cash flows associated with such assets. If so, an impairment charge is recorded for the excess.

NON-MARKETABLE EQUITY SECURITIES

As part of our strategic efforts to gain access to potential new products and technologies, we invest in a limited partnership investment fund that is accounted for under the equity method. We periodically review our investment for impairment; however, the impairment analysis requires significant judgment in identifying events or circumstances that would likely have significant adverse effect on the fair value of the investment. The analysis may include assessment of the investee's (i) revenue and earnings trend, (ii) business outlook for its products and technologies, (iii) liquidity position and the rate at which it is using its cash, and (iv) likelihood of obtaining subsequent rounds of financing. If an investee obtains additional funding at a valuation lower than our carrying value, we presume that the investment is other than temporarily impaired. We have experienced impairments due to the decline in the value of certain of our non-marketable investments over the past few years.

INCOME TAXES

Income tax expense is based on pretax financial accounting income. Under the asset and liability method, deferred tax assets and liabilities are determined based on the difference between the financial statement and tax basis of assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to reverse. We must assess the likelihood that the resulting deferred tax assets will be realized. To the extent we believe that realization is not more likely than not, we establish a valuation allowance. Significant estimates are required in determining our provision for income taxes, our deferred tax assets and liabilities, any valuation allowance to be recorded against our deferred tax assets, and reserves for income tax related uncertainties. Some of these estimates are based on interpretations of existing tax laws or regulations. Various internal and external

factors may have favorable or unfavorable effects on our future effective tax rate. These factors include, but are not limited to, changes in overall levels, character, or geographical mix of pretax earnings, changes in tax laws, regulations and/or rates, changing interpretations of existing tax laws or regulations, changes in the valuation of our deferred tax assets or liabilities, levels of research and development spending, nondeductible expenses, applicability of tax holidays, ultimate outcomes of income tax audits, and income tax impacts of any business combination transactions or changes in our equity structure.

The total amount of unrecognized tax benefits as of December 31, 2012 was approximately $20.4 million. If recognized, the amount of unrecognized tax benefits that would impact income tax expense is $5.3 million. As of December 31, 2012, we do not anticipate any material changes to the amount of unrecognized tax benefit during the next twelve months.

We classify interest and penalties related to tax positions as components of income tax expense. For the year ended December 31, 2012, the amount of accrued interest and penalties related to tax uncertainties was approximately $0.2 million for a total cumulative amount of $1.1 million of non-current income taxes payable as of December 31, 2012.

We file U.S. federal, state, and foreign income tax returns in jurisdictions with varying statutes of limitations. In significant foreign jurisdictions, the 2007 through 2012 tax years generally remain subject to examination by their respective tax authorities.

CONTINGENCIES

We are subject to legal proceedings principally related to intellectual property matters. Based on the information available at the balance sheet dates, we assess the likelihood of any adverse judgments or outcomes to these matters, as well as potential ranges of probable losses. If losses are probable and reasonably estimable, we will record a reserve which may change in the future due to new developments in each matter.

ACCOUNTING FOR SHARE-BASED COMPENSATION

We account for employee share-based compensation by estimating the fair value of our employee stock awards, employee stock purchase plan awards and performance-based restricted stock units at the date of grant using the Black-Scholes option-pricing model, which requires the use of certain subjective assumptions. The most significant of these assumptions are our estimates of the expected term, volatility and forfeiture rates of the awards. The expected stock price volatility assumption was determined using a combination of historical and implied volatility of our common stock. We determined that blended volatility is more reflective of market conditions and a better indicator of expected volatility than historical volatility. The estimate of these key assumptions is based on historical information and judgment regarding market factors and trends. As required under the accounting rules, we review our valuation assumptions at each grant date and, as a result, we are likely to change our valuation assumptions used to value employee share-based awards granted in future periods.

US GAAP requires that employee share-based compensation costs be recognized over the requisite service period, or the vesting period, in a manner similar to all other forms of compensation paid to employees.

RESULTS OF OPERATIONS

The following discussion compares the historical results of operations for the years ended December 31, 2012, 2011 and 2010.

PRODUCT SALES

The components of product sales are as follows:

Dollars in thousands	Year ended December 31,			Dollar change from		Percentage change from	
	2012	2011	2010	2011	2010	2011	2010
Consumables	$247,687	$224,972	$252,165	$22,715	$(27,193)	10%	(11)%
Instruments	18,376	16,301	25,578	2,075	(9,277)	13	(36)
Total product sales	$266,063	$241,273	$277,743	$24,790	$(36,470)	10	(13)

Excluding eBioscience revenue of $37.0 million, product revenue for 2012 decreased by $12.2 million or 5% primarily due to lower Genechip® chips and reagents sales as a result of lower volume. This decrease was partially offset by higher instrument revenue from clinical GeneChip® Scanner 3000Dx sales due to greater volumes partially offset by lower overall average selling price.

Total product sales decreased in 2011 as compared to 2010 primarily due to volume decreases. Chip volumes shipped were lower across all products while overall average selling price remained flat. Reagent revenue decreased primarily due to lower volume Genechip® shipments combined with lower average selling price caused by a shift in product mix. Instruments were lower due to fewer GeneTitan® sales partially offset by increased sales of the lower-priced GeneAtlas™.

SERVICES AND OTHER

Dollars in thousands	Year ended December 31,			Dollar change from		Percentage change from	
	2012	2011	2010	2011	2010	2011	2010
Services and other	$29,560	$26,201	$33,003	$3,359	$(6,802)	13%	(21)%

Services and other increased in 2012 as compared to 2011 primarily due to higher revenue from scientific services, partially offset by lower royalties revenue due to decreased royalties and research activities.

In 2011, services and other was lower as compared to 2010 primarily due to a non-recurring $4.8 million license payment received in 2010, as well as having lower overall royalties and research activities.

TOTAL REVENUE BY BUSINESS UNIT

The following table summarizes total revenue by business unit:

Dollars in thousands	Year ended December 31,		Dollar change from	Percentage change from
	2012	2011	2011	2011
Affymetrix Core reportable operating segment				
Expression	$119,831	$137,253	$(17,422)	(13)%
Genetic analysis and clinical applications	83,225	71,435	11,790	17
Life science reagents	32,049	33,619	(1,570)	(5)
eBioscience reportable operating segment				
eBioscience	37,011	—	37,011	—
Other				
Corporate	23,507	25,167	(1,660)	(7)
Total revenue	$295,623	$267,474	$ 28,149	11

	Year ended December 31,	
	2012	2011
Affymetrix Core reportable operating segment		
Expression	41%	51%
Genetic analysis and clinical applications	28%	27%
Life science reagents	11%	13%
eBioscience reportable operating segment		
eBioscience	12%	0%
Other		
Corporate	8%	9%
Total revenue	100%	100%

Expression For the year ended December 31, 2012, Expression revenue decreased by $17.4 million primarily due to a decline in Genechip revenue of $18.3 million, which was driven by a lower volume of sales on our *in vitro* transcription (IVT) arrays. The decline in Expression revenue was partially offset by higher revenue from our QuantiGene and ProCarta line of products. We expect Expression to continue to decline as a percentage of our revenue portfolio in 2013.

Genetic Analysis and Clinical Applications Genetic Analysis and Clinical Applications revenue increased $11.8 million for the year ended December 31, 2012 as compared to the same period in 2011, primarily due to increases in our CytoGenetics products of $21.5 million, Axiom products of $6.1 million and instruments of $2.3 million. These increases were partially offset by a decline in sales of our SNP 6.0 arrays of $13.5 million. Revenue from clinical applications as a percentage of Genetic Analysis and Clinical Applications will continue to increase in 2013.

Life Science Reagents For the year ended December 31, 2012, Life Science Reagents revenue decreased due to lower volume of sales.

Corporate For the year ended December 31, 2012, Corporate revenue decreased by $1.7 million due to lower subscription revenue of $2.0 million and royalties of $0.3 million, partially offset by a net realized gain of $1.2 million from designated cash flow hedges.

PRODUCT AND SERVICES GROSS MARGINS

Dollars in thousands

	Year ended December 31,			Dollar/Point change from	
	2012	2011	2010	2011	2010
Total gross margin on product sales	$149,802	$143,458	$160,359	$6,344	$(16,901)
Total gross margin on services and other	13,686	13,064	17,181	622	(4,117)
Product gross margin as a percentage of product sales	56 %	59 %	58 %	(3)	1
Service gross margin as a percentage of services and other	46 %	50 %	52 %	(4)	(2)

Product gross margin increased $6.3 million for the year ended December 31, 2012 as compared to the same period in 2011 primarily due to the inclusion of eBioscience product margins. Excluding eBioscience, product margin decreased due to lower product sales partially offset by decreased warranty, excess and obsolescence costs and favorable cost absorption in 2012 as compared to 2011.

Despite lower product sales in 2011, product gross margin as a percentage of product sales increased during the year as compared to 2010 primarily due to a mix shift to higher margin products along with lower material,

warranty and excess and obsolescence costs in 2011 as well as plant consolidation costs that occurred in 2010. These cost improvements were partially offset by lower cost absorption due to higher production levels in 2010.

Service and other gross margin as a percentage of services and other revenue decreased in 2012 as compared to 2011 primarily due to lower revenue from high margin royalties, partially offset by increased scientific services revenue. 2011 was lower as compared to 2010 primarily due to lower revenue from royalties as a result of a non-recurring license payment of $4.8 million received in 2010.

RESEARCH AND DEVELOPMENT EXPENSES

Dollars in thousands

	Year ended December 31,			Dollar change from		Percentage change from	
	2012	2011	2010	2011	2010	2011	2010
Research and development	$57,881	$63,591	$67,934	$(5,710)	$(4,343)	(9)%	(6)%

Research and development expenses decreased in 2012 and 2011 primarily due to savings in headcount-related expenses and variable compensation of $7.7 million and $3.2 million, respectively. The overall decrease in 2012 as compared to 2011 was partially offset by increased spending on chips, supplies and consulting and purchasing services totaling $2.0 million. Results for 2012 also included $3.8 million from eBioscience.

The overall decrease in 2011 as compared to 2010 was also due to decreased spending on supplies of $2.6 million as a result of cost-control measures, partially offset by an increase in facilities expenses primarily due to a one-time expense of $1.2 million related to the plant consolidation activities of our Oakmead facility in Santa Clara during 2011.

SELLING, GENERAL AND ADMINISTRATIVE EXPENSES

Dollars in thousands

	Year ended December 31,			Dollar change from		Percentage change from	
	2012	2011	2010	2011	2010	2011	2010
Selling, general and administrative	$142,853	$109,572	$114,773	$33,281	$(5,201)	30%	(5)%

Selling, general and administrative expenses increased in 2012 as compared to 2011 due primarily to the acquisition of eBioscience which added an additional $18.2 million in expenses and acquisition-related costs totaling $16.5 million in 2012 as compared to no expenses from eBioscience and $2.9 million in acquisition-related costs in 2011. Excluding these costs, selling, general and administrative expenses increased by $1.5 million, primarily due to higher headcount-related expenses of $0.8 million due to shift from the use of temporary employees to full-time employees; consulting and purchased services $1.3 million due to greater use of consulting services, travel-related expenses of $1.6 million and advertising costs of $0.6 million. These increases were partially offset by lower spending on chips of $0.6 million, decreased depreciation and amortization expenses due to assets becoming fully amortized of $1.8 million and lower rent expenses of $1.8 million.

Selling, general and administrative expenses decreased in 2011 as compared to 2010 primarily due to lower legal expenses of $4.2 million as a result of a litigation settlement at the end of 2010. Other cost savings include variable compensation adjustments of $1.6 million, lower spending on consulting and other services of $1.5 million and advertising expenses of $0.8 million. These savings were partially offset by one-time severance benefits provided to our former chief executive officer of $1.4 million, rent expense of $1.8 million primarily due to the acceleration of future lease payments as a result of the plant consolidation activities of our Oakmead facility in Santa Clara and acquisition costs of $2.9 million incurred on the anticipated eBioscience transaction.

RESTRUCTURING EXPENSES

During the year ended December 31, 2012, we initiated a cost reduction action that included workforce, resulting in a charge of $1.8 million related to employees who were notified prior to the end of 2012. We estimate that the total restructuring charge associated with the plan will be approximately $6.8 million, substantially all of which is compensation and benefits afforded to terminated employees. The remaining amount is expected to be recognized during the first quarter of 2013.

INTEREST INCOME AND OTHER, NET

The components of interest income and other, net, are as follows:

Dollars in thousands	Year ended December 31,			Dollar change from		Percentage change from	
	2012	2011	2010	2011	2010	2011	2010
Interest income	$ 643	$ 2,627	$ 2,845	$(1,984)	$ (218)	(76)%	(8)%
Realized income (loss) on equity investments, net	616	(2,251)	(4,342)	2,867	2,091	127	48
Currency loss, net	(1,259)	(2,483)	(48)	1,224	(2,435)	49	(5,073)
Other	(265)	(4,195)	58	3,930	(4,253)	(94)	(7,333)
Total interest income and other, net	$ (265)	$(6,302)	$(1,487)	$ 6,037	$(4,815)	(96)	324

Interest income and other, net decreased in 2012 as compared to 2011 due to the following:

- Interest income decreased as we sold the majority of our available-for-sale securities in conjunction with the Acquisition in the second quarter of 2012;
- Realized income (loss) on equity investments increased in 2012 as we recognized a net gain on sale of $0.5 million on the liquidation of our available-for-sale securities while in 2011, we recognized a total of $2.1 million in other-than-temporary impairment ("OTTI") on our non-marketable investment in a limited partnership fund, a non-marketable investment in a private biotechnology company and an investment classified as available-for-sale in a publicly-traded company;
- Currency loss, net, improved primarily due to the weakening of the U.S. dollar against other foreign currency in 2012 as compared to 2011; and
- In 2012, Other included a net $3.5 million impairment loss on our West Sacramento facility partially offset by the receipt of $2.2 million for a note receivable from a private biotechnology company that was previously fully reserved for in 2011 and a gain of $0.7 million on a disposal of an eBioscience product line. We also recognized a $1.7 million impairment charge against our West Sacramento facility in 2011.

Interest income and other, net decreased in 2011 as compared to 2010 due to the following:

- Realized loss on equity investments decreased in 2011 as compared to 2010 as we recognized lower OTTI. In 2011, we recorded $2.1 million in OTTI discussed above while in 2010, we had $5.6 million in OTTI on two non-marketable investments;
- Currency loss, net, increased primarily due to the weakening of the U.S. dollar against the Euro in 2011 as compared to 2010; and
- Other changed in 2011 due to the $2.2 million provision against a note receivable and the $1.7 million impairment charge recorded against our West Sacramento facility discussed above.

INTEREST EXPENSE

Dollars in thousands

	Year ended December 31,			Dollar change from		Percentage change from	
	2012	2011	2010	2011	2010	2011	2010
Interest expense	$7,193	$3,813	$7,706	$3,380	$(3,893)	89%	(51)%

Interest expense increased in 2012 as compared to 2011 due to the long-term debt obligations entered into as part of the Acquisition. The increase was partially offset by the repurchase of approximately $91.6 million in aggregate principal amount of the 3.50% Notes during the first quarter of 2012.

Interest expense decreased in 2011 as compared to 2010 primarily due to a lower aggregate principal balance of our 3.50 % Notes as a result of our repurchases totaling $151.7 million in aggregate principal amount during 2010.

INCOME TAX (BENEFIT) PROVISION

Dollars in thousands

	Year ended December 31,			Dollar change from		Percentage change from	
	2012	2011	2010	2011	2010	2011	2010
Income tax (benefit) provision	$(35,853)	$1,405	$2,170	$(37,258)	$(765)	(2,652)%	(35)%

The following discussion compares the historical results of operations for the years ended December 31, 2012, 2011 and 2010.

The income tax benefit was approximately $35.9 million in 2012 and consisted primarily of a $37.1 million one-time benefit resulting from a change in valuation allowance for our previously existing deferred tax assets as a result of the Acquisition, offset by an income tax provision for foreign taxes. The income tax provision was $1.4 million and $2.2 million in 2011 and 2010, respectively, which consisted primarily of foreign taxes.

Deferred tax assets are recognized if realization of such assets is more likely than not. As of December 31, 2012, we provided for a valuation allowance of $131.0 million against our net deferred tax assets. As a result of negative evidence based on our cumulative net loss position, we have placed a full valuation allowance on U.S. and certain foreign deferred tax assets. We intend to maintain the valuation allowance until sufficient positive evidence exists to assure realization of these tax benefits through future taxable income.

As of December 31, 2012, we had total net operating loss carryforwards of $356.1 million, comprised of $210.4 million for U.S. federal purposes, which expire in the years 2021 through 2032 if not utilized, and $145.7 million for state purposes, the majority of which expire in the years 2013 through 2032 if not utilized. Certain of the net operating loss and tax credit carryforwards are subject to annual limitations due to the ownership change provisions under Internal Revenue Code Section 382 and similar state provisions. We do not expect the limitations to result in significant expirations of the net operating loss carryforwards before utilization.

LIQUIDITY AND CAPITAL RESOURCES

Liquidity

Historically, we have financed our operations primarily through product sales; borrowings under credit arrangements; sales of equity and debt securities such as our 3.50% and 4.00% Notes, collaborative agreements; interest income; and licensing of our technology.

Our cash outflows have generally been as follows: cash used in operating activities such as research and development programs, sales and marketing activity, compensation and benefits of our employees and other

working capital needs; cash paid for acquisitions; cash paid for litigation activity and settlements; and cash used for the payment of principal on debt obligations and repurchases of our convertible notes as well as interest payments on our long-term debt obligations.

As of December 31, 2012, we had cash, cash equivalents, and available-for-sale securities of approximately $35.7 million. We also have access, subject to compliance with certain covenants, to an additional $15.0 million revolving credit facility, provided under our Senior Secured Credit Facility. We anticipate that our existing capital resources along with the cash to be generated from operations will enable us to maintain currently planned operations, debt repayments or convertible notes repurchases, and capital expenditures for the foreseeable future. These expectations are based on our current operating and financing plans, which are subject to change, and therefore we could require further funding. Factors that may cause us to require additional funding may include, but are not limited to: costs associated with defending third party claims; adverse ruling in any of our current litigation proceedings; investments required to commercialize our products; investments required to upgrade our older product lines; a decline in cash generated by sales of our products and services; our ability to maintain existing collaborative and customer arrangements and establish and maintain new collaboration and customer arrangements; arrangements that we may enter into in connection with future acquisitions; the progress of our research and development programs; initiation or expansion of research programs and collaborations; the costs involved in preparing, filing, prosecuting and enforcing intellectual property rights; the purchase of patent licenses; and other factors.

On June 25, 2012, we completed our acquisition of eBioscience for approximately $307.8 million, representing the purchase price of $314.9 million less $7.1 million cash transferred from eBioscience. The Acquisition was financed through a combination of cash on hand, the liquidation of available-for-sale securities, the proceeds, net of debt issuance costs, from our Term Loan of $80.5 million provided under our Senior Secured Credit Facility and the proceeds from the issuance, net of underwriting fees, of our 4.00% Notes of $101.1 million. During the year ended December 31, 2012, we made $8.2 million of cash payments for legal, advisory and other costs related to the Acquisition. As part of the terms of the Senior Secured Credit Facility, we are required to meet certain financial and other negative covenants. As of December 31, 2012, we were in compliance with the covenants and currently anticipate that we will be in compliance through the foreseeable future. Refer to Note 13. "Long-Term Debt Obligations" for further details regarding the Term Loan, our Senior Secured Credit Facility and the 4.00% Notes.

From time to time, we may seek to retire, repurchase or exchange common stock or convertible notes in open market purchases, privately negotiated transactions dependent on market conditions, liquidity, and contractual obligations and other factors. We did not retire, repurchase or exchange any of our common stock during the year ended December 31, 2012. During the first quarter of 2012, we repurchased approximately $91.6 million of aggregate principal amount of our 3.50% Notes at par plus accrued and unpaid interest for total cash consideration of $92.1 million, including accrued interest of $0.5 million. In January 2013, we redeemed the remaining $3.9 million of outstanding aggregate principal amount of our 3.50% Notes at par plus accrued and unpaid interest of $0.1 million.

Cashflow (in thousands)

	Year Ended December 31,		
	2012	2011	2010
Net cash provided by operating activities	$ 3,731	$ 39,337	$ 47,975
Net cash (used in) provided by investing activities	(258,933)	127,634	66,211
Net cash provided by (used in) financing activities	78,500	(486)	(144,759)
Effect of foreign currency translation on cash and cash equivalents	436	(32)	415
Net (decrease) increase in cash and cash equivalents	$(176,266)	$166,453	$ (30,158)

Operating Activities

Net cash provided by operating activities for the year ended December 31, 2012 was comprised of net loss of $10.7 million, non-cash charges of $34.0 million and a decrease in operating assets of $19.4 million. Adjustments for non-cash expenses include depreciation and amortization expense of $45.5 million, including $9.4 million of amortization on the fair value step-up of inventory, share-based compensation expense of $17.2 million that includes a non-recurring share-based compensation expense of $8.3 million related to the accelerated vesting of eBioscience stock options, an income tax benefit of $34.0 million that includes the release of valuation allowance of $37.1 million related to the Acquisition and a $3.5 million impairment on our West Sacramento facility that was sold during the year. Cash used in Accounts payable and accrued liabilities include certain non-recurring activity relating to the Acquisition, including $8.2 million cash payments for legal, advisory and other costs related to the Acquisition.

Investing Activities

As discussed above, during the second quarter of 2012, we completed our acquisition of eBioscience for $307.8 million in cash considerations. The Acquisition was partially funded through the proceeds from sales of available-for-sale securities of $52.0 million. Other investing activities for the year ended December 31, 2012 included capital expenditures of $8.2 million and purchases of technology rights of $2.4 million. We monitor the level of cash and cash equivalents as compared to available-for-sale securities to manage the return on funds. Management of our portfolio and sale of securities for purposes of funding the Acquisition resulted in net sales of available-for-sale securities during 2012. The investments were partially offset by $5.5 million in proceeds from the sale of our West Sacramento facility.

In late 2012, the Company initiated a cost reduction action that included workforce. In January 2013, approximately 100 employees were notified of their involuntary termination. The Company estimates that the total restructuring charge associated with the plan will be approximately $6.8 million, substantially all of which is compensation and benefits afforded to terminated employees. The restructuring charges will be recognized during the first quarter of 2013 in Selling, general and administrative expenses except for $1.8 million related to employees who were notified prior to December 31, 2012 and recognized in the accompanying Consolidated Statements of Operations for the year ended December 31, 2012. The Company anticipates substantially all of the cash expenditures will be released during the first quarter of 2013. See "Item 8. Financial Statements and Supplementary Data—Note 21. Restructuring" in this Annual Report on Form 10-K.

We classified our available-for-sale securities as current as we expect to incur cash expenditures associated with the restructuring and did incur such cash expenditures in connection with the redemption of the remaining outstanding 3.50% Notes due on January 15, 2013 for $3.9 million in total cash consideration as described in the Financing Activities below.

Financing Activities

To fund the Acquisition, we obtained a Term Loan of an aggregate principal amount of $85.0 million provided under our Senior Secured Credit Facility and issued $105.0 million in principal amount of our 4.00% Notes. Proceeds net of debt issuance costs from our Term Loan were $80.5 million and proceeds net of underwriting fees from the issuance of our 4.00% Notes were $101.1 million. The Term Loan is subject to certain financing and operating covenants and amortizes over a 5 year period. Refer to Note 13. "Long-Term Debt Obligations" in this Annual Report on Form 10-K for further details regarding the Term Loan, our Senior Secured Credit Facility and our 4.00% Notes. In addition to certain mandatory payments, from time to time, we also may make early payments on the outstanding principal amount of our Term Loan. As of December 31, 2012, we paid a total of $11.7 million of quarterly installments representing both fiscal 2012 and 2013

installments under the Credit Agreement. The Company intends to continue to make quarterly payments during fiscal 2013 and has classified $12.7 million of the Term Loan as current debt on the accompanying Consolidated Balance Sheets.

During the first quarter of 2012, we completed the repurchase of approximately $91.6 million in aggregate principal amount of the 3.50% Notes and paid to the holders of the 3.50% Notes aggregate consideration of $92.1 million, including accrued interest of $0.5 million.

Other financing activities generally consist of stock option exercise activity under our employee stock plan. Cash used in the issuance of stock under our employee stock plan, net of treasury shares withheld for taxes, was $0.3 million for the year ended December 31, 2012. In addition, during the first quarter of 2013, we redeemed the remaining outstanding 3.50% Notes for $3.9 million in total cash consideration, including accrued interest of $0.1 million. The 3.50% Notes were purchased at par and the related deferred financing costs written off. See "Item 8. Financial Statements and Supplementary Data—Note 22. Subsequent Events" in this Annual Report on Form 10-K.

Off-Balance Sheet Arrangements and Aggregate Contractual Obligations

As of December 31, 2012, we had no off-balance sheet arrangements. The impact that our contractual obligations as of December 31, 2012 are expected to have on our liquidity and cash flow in future periods is as follows (in thousands):

	Total	2013	2014-2015	2016-2017	After 2017
Convertible notes (1)	$108,855	$ 3,855	$ —	$ —	$105,000
Senior secured credit facility (2)	73,276	12,713	30,813	29,750	—
Interest payments	38,588	8,555	14,369	9,364	6,300
Operating leases	64,438	10,465	16,254	10,248	27,471
Purchase commitments (3)	2,539	2,539	—	—	—
Total contractual obligations	$287,696	$38,127	$61,436	$49,362	$138,771

(1) Our 3.50% Notes are no longer outstanding due to redemption made in full during the first quarter of 2013. See "Item 8. Financial Statements and Supplementary Data—Note 22. Subsequent Events" in this Annual Report on Form 10-K.

(2) Reflects anticipated principal payment obligations that will be made each year

(3) Purchase commitments include agreements to purchase goods or services that are enforceable and legally binding on Affymetrix and that specify all significant terms, including: fixed or minimum quantities to be purchased; fixed, minimum or variable price provisions; and the approximate timing of the transaction. Purchase obligations exclude agreements that are cancelable without penalty.

The above table does not reflect unrecognized tax benefits of approximately $20.4 million, the timing of which is uncertain. Refer to "Item 8. Financial Statements and Supplementary Data—Note 16. Income Taxes" for additional discussion on unrecognized tax benefits.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

In the normal course of business, we are exposed to foreign currency exchange rate, interest rate and equity price risks that could impact our financial position and results of operations. Our risk management strategy with respect to these three market risks may include the use of derivative financial instruments. We use derivative

contracts only to manage existing underlying exposures of Affymetrix. Accordingly, we do not use derivative contracts for speculative purposes. Our risks, risk management strategy and a sensitivity analysis estimating the effects of changes in fair values for each of these exposures are outlined below.

Actual gains and losses in the future may differ materially from the sensitivity analyses based on changes in the timing and amount of interest rate, foreign currency exchange rate and equity price movements and our actual exposures and hedges.

Interest Rate Risk

Our exposure to interest rate risk relates primarily to our investment portfolio. Fixed rate securities may have their fair market value adversely impacted due to fluctuations in interest rates, while floating rate securities may produce less income than expected if interest rates fall. Due in part to these factors, our future investment income may fall short of expectations due to changes in interest rates or we may suffer losses in principal if forced to sell securities which have declined in market value due to changes in interest rates.

The primary objective of our investment activities is to preserve principal while at the same time maximize yields without significantly increasing risk. To achieve this objective, we invest our excess cash in debt instruments of the U.S. Government and its agencies and high-quality corporate issuers, and, by policy, restrict our exposure to any single corporate issuer by imposing concentration limits. To minimize the exposure due to adverse shifts in interest rates, we maintain investments at an average maturity of less than three years.

	Periods of Maturity					Fair Value at December 31,
	2013	2014	2015	Thereafter	Total	2012
ASSETS:						
Available-for-sale securities	$ 7,039	$ 652	$ 1,572	$ —	$ 9,263	$ 9,366
Average interest rate	1.9%	2.6%	2.5%	0.0%		
LIABILITIES:						
3.50% senior convertible notes due 2038	$ 3,855	$ —	$ —	$ —	$ 3,855	$ 3,855
Average interest rate	3.50%					
4.00% convertible senior notes due 2019	$ —	$ —	$ —	$ 105,000	$105,000	$87,297
Average interest rate				4.00%		
Senior secured credit facility	$ 12,713	$ 13,813	$ 17,000	$ 29,750	$ 73,276	$73,276
Average interest rate	Variable	Variable	Variable	Variable		

Foreign Currency Exchange Rate Risk

We transact business in various foreign currencies and have significant international revenues, as well as costs denominated in foreign currencies. This exposes us to the risk of fluctuations in foreign currency exchange rates. We purchase foreign exchange option contracts to reduce the volatility of cash flows related to forecasted revenues denominated in certain foreign currencies. The objective of the foreign exchange contracts is to better ensure that the U.S. dollar-equivalent cash flows are not adversely affected by changes in the U.S. dollar or foreign currency exchange rates. These contracts are designated as cash flow hedges. The gain or loss on the effective portion of a cash flow hedge is initially reported as a component of accumulated Other Comprehensive Income ("OCI") and subsequently reclassified into revenues when the hedged revenues are recorded or as interest and other income, net, if the hedged transaction becomes probable of not occurring. Any gain or loss after a hedge is de-designated or related to an ineffective portion of a hedge is recognized as interest and other income, net, immediately.

The following table summarizes the notional amounts, weighted-average currency exchange rates and fair values of our unsettled foreign currency exchange forward contracts at December 31, 2012 and 2011. All contracts have maturities of 12 months or less. Weighted-average rates are stated in terms of the amount of U.S. dollars per foreign currency. Fair values represent estimated settlement amounts at December 31, 2012 and 2011 (notional amounts and fair values in U.S. dollars and in thousands):

	Notional Amount	Weighted-Average Settlement Price	Fair Value
December 31, 2012			
Currency			
Euro	$16,933	1.27	$(637)
Japanese Yen	10,542	79.34	832
British Pound	4,278	1.59	(105)
Interest rate swap	27,519		(77)
Total	$59,272		$ 13
December 31, 2011			
Currency			
Euro	$11,851	1.39	$ 816
Japanese Yen	7,008	79.62	(216)
British Pound	4,459	1.59	123
Total	$23,318		$ 723

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS
AFFYMETRIX, INC.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of Affymetrix, Inc.

We have audited the accompanying consolidated balance sheets of Affymetrix, Inc. as of December 31, 2012 and 2011, and the related consolidated statements of operations, comprehensive loss, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2012. Our audits also included the financial statement schedule listed in the Index at Item 15(a). These financial statements and schedule are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements and schedule 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 financial statements referred to above present fairly, in all material respects, the consolidated financial position of Affymetrix, Inc. at December 31, 2012 and 2011, and the consolidated results of its operations and its cash flows for each of the three years in the period ended December 31, 2012, in conformity with U.S. generally accepted accounting principles. Also, in our opinion, the related financial statement schedule, when considered in relation to the basic financial statements taken as a whole, presents fairly in all material respects the information set forth therein.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), Affymetrix, Inc.'s 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 and our report dated March 1, 2013 expressed an unqualified opinion thereon.

/s/ ERNST & YOUNG LLP

Redwood City, California
March 1, 2013

AFFYMETRIX, INC.

CONSOLIDATED BALANCE SHEETS

(In thousands, except per share amounts)

	December 31, 2012	December 31, 2011
ASSETS:		
Current assets:		
Cash and cash equivalents	$ 25,671	$ 201,937
Restricted cash	699	692
Available-for-sale securities—short-term portion	9,366	7,937
Accounts receivable, net	53,893	44,021
Inventories—short-term portion	72,691	42,851
Deferred tax assets—short-term portion	359	364
Property and equipment, net—held for sale	—	9,000
Prepaid expenses and other current assets	10,126	7,785
Total current assets	172,805	314,587
Available-for-sale securities—long-term portion	—	54,501
Property and equipment, net	28,663	30,583
Inventories—long-term portion	11,772	—
Goodwill	159,736	—
Intangible assets, net	152,718	29,525
Deferred tax assets—long-term portion	3,394	450
Other long-term assets	15,206	8,369
Total assets	$ 544,294	$ 438,015
LIABILITIES AND STOCKHOLDERS' EQUITY:		
Current liabilities:		
Accounts payable and accrued liabilities	$ 50,355	$ 44,774
Convertible notes—short-term portion	3,855	—
Term loan—short-term portion	12,713	—
Deferred revenue—short-term portion	8,498	9,852
Total current liabilities	75,421	54,626
Deferred revenue—long-term portion	3,450	3,959
Convertible notes	105,000	95,469
Term loan—long-term portion	60,563	—
Other long-term liabilities	22,689	9,127
Stockholders' equity:		
Convertible preferred stock, $0.01 par value; 5,000 shares authorized; no shares issued and outstanding at December 31, 2012 and 2011	—	—
Common stock, $0.01 par value; 200,000 shares authorized; 71,030 and 70,454 shares issued and outstanding at December 31, 2012 and 2011, respectively	710	704
Additional paid-in capital	759,549	750,332
Accumulated other comprehensive income	6,302	2,492
Accumulated deficit	(489,390)	(478,694)
Total stockholders' equity	277,171	274,834
Total liabilities and stockholders' equity	$ 544,294	$ 438,015

See Accompanying Notes

AFFYMETRIX, INC.

CONSOLIDATED STATEMENTS OF OPERATIONS

(In thousands, except per share amounts)

	Year Ended December 31,		
	2012	2011	2010
REVENUE:			
Product sales	$266,063	$241,273	$277,743
Services and other	29,560	26,201	33,003
Total revenue	295,623	267,474	310,746
COSTS AND EXPENSES:			
Cost of product sales	116,261	97,815	117,384
Cost of services and other	15,874	13,137	15,822
Research and development	57,881	63,591	67,934
Selling, general and administrative	142,853	109,572	114,773
Restructuring charges	1,845	—	—
Total costs and expenses	334,714	284,115	315,913
Loss from operations	(39,091)	(16,641)	(5,167)
Interest income and other, net	(265)	(6,302)	(1,487)
Interest expense	7,193	3,813	7,706
Gain from repurchase of convertible notes	—	—	6,297
Loss before income taxes	(46,549)	(26,756)	(8,063)
Income tax (benefit) provision	(35,853)	1,405	2,170
Net loss	$(10,696)	$(28,161)	$(10,233)
Basic and diluted net loss per common share	$ (0.15)	$ (0.40)	$ (0.15)
Shares used in computing basic and diluted net loss per common share	70,300	70,877	68,856

See Accompanying Notes

AFFYMETRIX, INC.

CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS

(In thousands)

	Year Ended December 31,		
	2012	2011	2010
Net loss	$(10,696)	$(28,161)	$(10,233)
Other comprehensive income (loss), net of tax:			
Foreign currency translation adjustment	4,553	79	415
Unrealized (losses) gains on available-for-sale and non-marketable securities	(486)	2,271	(4,093)
Reclassification adjustment for realized gains (losses) on available-for-sale securities and non-marketable securities recognized in net loss	537	(2,060)	1,003
Unrealized (losses) gains on cash flow hedges	(2,020)	826	—
Reclassification adjustment for realized gains on cash flow hedges recognized into income	1,226	—	—
Net change in other comprehensive income (loss), net of tax	3,810	1,116	(2,675)
Comprehensive loss	$ (6,886)	$(27,045)	$(12,908)

See Accompanying Notes

AFFYMETRIX, INC.

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

(In thousands)

	Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Income	Accumulated Deficit	Total
	Shares	Amount				
Balance as of December 31, 2009	71,000	$710	$733,378	$ 4,051	$(440,300)	$297,839
Issuance of common stock in connection with employee stock plans and other	(422)	(4)	(1,178)	—	—	(1,182)
Share-based compensation expense	—	—	9,910	—	—	9,910
Income tax benefit from share-based compensation	—	—	96	—	—	96
Net change in other comprehensive income (loss), net of tax	—	—	—	(2,675)	—	(2,675)
Net loss	—	—	—	—	(10,233)	(10,233)
Balance as of December 31, 2010	70,578	706	742,206	1,376	(450,533)	293,755
Issuance of common stock in connection with employee stock plans and other	(124)	(2)	(681)	—	—	(683)
Share-based compensation expense	—	—	8,771	—	—	8,771
Income tax benefit from share-based compensation	—	—	36	—	—	36
Net change in other comprehensive income (loss), net of tax	—	—	—	1,116	—	1,116
Net loss	—	—	—	—	(28,161)	(28,161)
Balance as of December 31, 2011	70,454	704	750,332	2,492	(478,694)	274,834
Issuance of common stock in connection with employee stock plans and other	271	5	(756)	—	—	(751)
Employee stock purchase plan	305	1	1,026	—	—	1,027
Share-based compensation expense	—	—	8,947	—	—	8,947
Income tax benefit from share-based compensation	—	—	—	—	—	—
Net change in other comprehensive income (loss), net of tax	—	—	—	3,810	—	3,810
Net loss	—	—	—	—	(10,696)	(10,696)
Balance as of December 31, 2012	71,030	$710	$759,549	$ 6,302	$(489,390)	$277,171

See Accompanying Notes

AFFYMETRIX, INC.

CONSOLIDATED STATEMENTS OF CASH FLOWS

(In thousands)

	Year Ended December 31,		
	2012	2011	2010
CASH FLOWS FROM OPERATING ACTIVITIES:			
Net loss	$ (10,696)	$ (28,161)	$ (10,233)
Adjustments to reconcile net loss to net cash provided by operating activities:			
Depreciation and amortization	36,068	32,309	35,460
Amortization of inventory step-up in fair value	9,444	—	—
Excess tax benefits for share-based compensation	—	(200)	(416)
Share-based compensation	17,207	8,771	9,910
Deferred tax assets	(34,003)	415	(73)
Impairment of property and equipment, net—held for sale	3,491	1,710	—
Other non-cash transactions	1,348	6,702	323
Changes in operating assets and liabilities:			
Accounts receivable, net	(514)	8,260	12,599
Inventories	12	6,522	5,117
Prepaid expenses and other assets	6,338	3,297	10,802
Accounts payable and accrued liabilities	(21,655)	(448)	(12,801)
Deferred revenue	(2,023)	(1,740)	(2,881)
Other long-term liabilities	(1,286)	1,900	168
Net cash provided by operating activities	3,731	39,337	47,975
CASH FLOWS FROM INVESTING ACTIVITIES:			
Acquisition of businesses, net of cash acquired	(307,796)	—	—
Purchases of available-for-sale securities	—	(86,252)	(453,138)
Proceeds from sales of available-for-sale securities	52,063	189,440	417,981
Proceeds from maturities of available-for-sale securities	1,138	32,982	110,477
Proceeds from sale of property and equipment	5,509	493	—
Capital expenditures	(8,166)	(5,779)	(7,726)
Capital distribution from non-marketable investments	681	—	—
Purchase of technology rights	(2,362)	(3,250)	(1,383)
Net cash (used in) provided by investing activities	(258,933)	127,634	66,211
CASH FLOWS FROM FINANCING ACTIVITIES:			
Issuance of common stock, net	276	(683)	(1,182)
Proceeds from term loan	80,500	—	—
Payments of term loan	(11,724)	—	—
Proceeds from issuance of 4.00% convertible senior notes	101,062	—	—
Repurchase of 3.50% senior convertible notes	(91,614)	(3)	(143,993)
Excess tax benefits for share-based compensation	—	200	416
Net cash provided by (used in) financing activities	78,500	(486)	(144,759)
Effect of exchange rate changes on cash and cash equivalents	436	(32)	415
Net (decrease) increase in cash and cash equivalents	(176,266)	166,453	(30,158)
Cash and cash equivalents at beginning of period	201,937	35,484	65,642
Cash and cash equivalents at end of period	$ 25,671	$201,937	$ 35,484
SUPPLEMENTAL DISCLOSURE OF CASH FLOW INFORMATION:			
Cash paid for interest	$ (6,968)	$ (3,341)	$ (9,284)
Cash received (paid) for income taxes, net of refunds	$ 3,905	$ (633)	$ (1,450)

See Accompanying Notes

AFFYMETRIX, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

DECEMBER 31, 2012

NOTE 1—NATURE OF OPERATIONS

Affymetrix, Inc. ("Affymetrix" or the "Company") is a provider of life science tools and molecular diagnostic products that enable multiplex and parallel analysis of biological systems at the gene, protein and cell level. The Company sells products to genomic research centers, academic institutions, government and private laboratories, as well as pharmaceutical, diagnostic and biotechnology companies. The Company also sells some of its products through life science supply specialists acting as authorized distributors in Latin America, India, the Middle East and Asia Pacific regions, including China.

In June 2012, the Company acquired eBioscience Holdings, Inc. ("eBioscience") for approximately $315 million (the "Acquisition"). eBioscience is based in San Diego, California, and engaged in the development, manufacture and sale of flow cytometry and immunoassay reagents for life science research and diagnostics. Refer to Note 3. "Acquisition" for further information.

NOTE 2—SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

BASIS OF PRESENTATION

The consolidated financial statements include the accounts of Affymetrix and its wholly-owned subsidiaries. All significant intercompany accounts and transactions have been eliminated. The consolidated financial statements include the results of companies acquired by us from the date of each acquisition for the applicable reporting periods.

Certain prior year amounts on the accompanying Consolidated Statements of Cash Flows have been reclassified to conform to the current period presentation.

USE OF ESTIMATES

The preparation of the consolidated financial statements is in conformity with U.S. generally accepted accounting principles ("US GAAP") which require management to make estimates and assumptions that affect amounts reported in the financial statements and accompanying notes. Actual results could differ materially from those estimates.

BUSINESS COMBINATIONS

The Company's condensed consolidated financial statements include the operations of an acquired business after the completion of the acquisition. The Company accounts for acquired businesses using the acquisition method of accounting which requires, among other things, that assets acquired and liabilities assumed be recognized at their estimated fair values as of the acquisition date, while transaction costs are expensed as incurred, except for any debt and equity issuance costs. The measurement of the fair value of assets acquired and liabilities assumed requires significant judgment. Any excess of the purchase price over the fair value of the net assets acquired is recorded as goodwill.

FOREIGN CURRENCY

Certain operations from foreign subsidiaries of the Company have a functional currency other than the U.S. dollar. All other subsidiaries have the U.S. dollar as their functional currency.

NOTE 2—SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

Assets and liabilities of non-U.S. subsidiaries that use the local currency as their functional currency are translated to U.S. dollars at exchange rates in effect at the balance sheet date with the resulting translation adjustments directly recorded to a separate component of accumulated other comprehensive income (loss) within stockholders' equity. Income and expense accounts are translated at average exchange rates during the year. Foreign currency transaction gains and losses are recognized, net of hedging activity, in interest income and other, net and were comprised of net losses of $1.3 million, $2.5 million and less than $0.1 million for the years ended December 31, 2012, 2011 and 2010, respectively.

The Company's subsidiaries that use the U.S. dollar as their functional currency remeasure monetary assets and liabilities at exchange rates in effect at the end of each period, and inventories, property and nonmonetary assets and liabilities at historical rates. Gains and losses from these remeasurements were insignificant and have been included in the Company's results of operations.

CASH EQUIVALENTS, AVAILABLE-FOR-SALE SECURITIES AND INVESTMENTS

Restricted Cash

The Company's restricted cash balances consist primarily of outstanding letters of credits that are fully cash collateralized and reserves for value added tax in foreign locations.

Marketable Securities

The Company's investments consist of marketable equity and debt securities, including U.S. government notes and bonds; corporate notes, bonds and asset-backed securities; mortgage-backed securities, municipal notes and bonds; and publicly traded equity securities. The Company reports all securities with maturities at the date of purchase of 90 days or less that are readily convertible into cash and have insignificant interest rate risk as cash equivalents. The Company's investments are carried at fair value with unrealized gains and losses reported in accumulated other comprehensive income (loss) in stockholders' equity. The cost of its marketable securities is adjusted for the amortization of premiums and discounts to maturity. This amortization is included in interest income and other, net. Realized gains and losses, as well as interest income, on available-for-sale securities are also included in interest income and other, net. The cost of securities sold is based on the specific identification method. The fair values of securities are based on quoted market prices. The Company has classified its available-for-sale securities in current assets on the accompanying Consolidated Balance Sheets as it expects to liquidate the securities within the next twelve months.

Non-marketable Securities

As part of the Company's strategic efforts to gain access to potential new products and technologies, the Company owns an approximately 6% interest in a limited partnership investment fund that is accounted for under the equity method and included in other long-term assets in the accompanying Consolidated Balance Sheets.

NOTE 2—SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

Other-than-temporary Impairment

All of the Company's marketable and non-marketable securities are subject to quarterly reviews for impairment that is deemed to be other-than-temporary ("OTTI"). An investment is considered other-than-temporarily impaired when its fair value is below its amortized cost and (1) the Company intends to sell the security; (2) it is "more likely than not" that the Company will be required to sell the security before recovery of its amortized cost basis; or (3) the present value of expected cash flows is not expected to recover the entire amortized cost basis. Below is a summary of the Company's analysis:

- *Marketable securities*—As part of its review, the Company is required to take into consideration current market conditions, extent and nature of change in fair value, issuer rating changes and trends, volatility of earnings, current analysts' evaluations, all available information relevant to the collectability of debt securities and other factors when evaluating for the existence of OTTI in its securities portfolio. OTTI is separated into credit-related losses, which exist when amortized cost basis is not expected to be fully recovered, and non-credit related losses, which are the result of all other factors, such as illiquidity. Any credit-related OTTI is recognized in earnings while noncredit-related OTTI is recorded in other comprehensive income (loss) ("OCI"). No impairment charges were recognized on its marketable securities during the year ended December 31, 2012. During the year ended December 31, 2011, the Company recorded an impairment charge of $0.8 million due to OTTI of its investment in a publicly-traded company. Refer to Note 6. "Financial Instruments—Investments in Debt and Equity Securities" for further information.

- *Non-marketable securities*—The Company periodically monitors the liquidity and financing activities of its non-marketable securities to determine if any impairment exists and accordingly writes down, to the extent necessary, the carrying value of the non-marketable equity securities to their estimated fair values. In order to determine whether a decline in value is other-than-temporary, the Company evaluates, among other factors: the duration and extent to which the fair value has been less than the carrying value; the financial condition of and business outlook of the issuer, including key operational and cash flow metrics, current market conditions; and the Company's intent and ability to retain the investment for a period of time sufficient to allow for any anticipated recovery in estimated fair value. No impairment charges were recognized on its non-marketable securities during the year ended December 31, 2012. During the year ended December 31, 2011, the Company recorded impairment charges totaling $1.3 million, primarily related to its investment in a limited partnership investment fund. Refer to Note 6. "Financial Instruments—Non-Marketable Securities" for further information.

ACCOUNTS RECEIVABLE

Trade accounts receivable are recorded at net invoice value. The Company considers amounts past due based on the related terms of the invoice. The Company reviews its exposure to amounts receivable and provides an allowance for specific amounts if collectability is no longer reasonably assured. The Company also provides an allowance for a percentage of the gross trade receivable balance (excluding any specifically reserved amounts) based on its collection history. The allowance for doubtful accounts was not material at December 31, 2012 and 2011.

NOTE 2—SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

DERIVATIVE INSTRUMENTS

The Company accounts for its derivative instruments as either assets or liabilities and carries them at fair value. Derivatives that are not defined as hedges must be adjusted to fair value through earnings at each reporting date.

For derivative instruments that hedge the exposure to variability in expected future cash flows that are designated as cash flow hedges, the Company measures the effectiveness of the derivative instruments by comparing the cumulative change in the hedge contract with the cumulative change in the hedged item. The effective portion of the gain or loss on the derivative instrument is reported as a component of OCI in stockholders' equity and reclassified into earnings in the same period or periods during which the hedged transaction affects earnings. The ineffective portion of the gain or loss on the derivative instrument is recognized in current earnings. To receive hedge accounting treatment, cash flow hedges must be highly effective in offsetting changes to expected future cash flows on hedged transactions. The net gain or loss on the effective portion of a derivative instrument that is designated as an economic hedge of the foreign currency translation exposure of the net investment in a foreign operation is reported in the same manner as a foreign currency translation adjustment. Refer to Note 6. "Financial Instruments – Derivative Financial Instruments" for further information.

INVENTORIES

Inventory cost is computed on an adjusted standard basis (which approximates actual cost on a first-in, first-out basis). Provisions for slow moving, potentially excess and obsolete inventories are provided based on estimated demand requirements, product life cycle and development plans, component cost trends, product pricing, product expiration and quality issues.

Inventory that is not expected to be utilized until more than 12 months from the balance sheet date is classified as long-term. Estimating the level of inventory utilization for the upcoming 12 months requires management to exercise significant judgment. The Company maintains inventory levels in excess of 12 months for certain components of work-in-progress that have useful lives of up to 10 years. Carrying such levels of inventory impacts the Company's liquidity and cash flows since the inventory will not be converted to cash for more than one year.

PROPERTY AND EQUIPMENT

Property and equipment are recorded at cost and are depreciated using the straight-line method over the estimated useful lives of the assets or the lease term, whichever is shorter. Equipment and furniture is depreciated over useful lives generally ranging from 3 to 7 years and leasehold improvements are depreciated over the shorter of the expected life of the asset or lease terms generally ranging from 3 to 15 years. Maintenance and repair costs are expensed as incurred. The Company reassesses the useful life on its property and equipment on a periodic basis and may adjust the lives accordingly.

NOTE 2—SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

In the fourth quarter of 2012, the Company sold its facility located in West Sacramento, California to a third-party for $5.8 million, which included $0.3 million of commissions and closing costs paid by the Company, and received $5.5 million in cash.

GOODWILL, INTANGIBLE ASSETS AND OTHER LONG-LIVED ASSETS

Goodwill represents the excess of the fair value of the acquired entity over the fair value of the net tangible and identifiable intangible assets acquired and liabilities assumed in a business combination. Finite-lived intangible assets are amortized on a straight-line basis over their estimated useful lives which range from one to twelve years with the amortization recognized in either cost of revenue or operating expenses, as appropriate.

Goodwill is not subject to amortization, but is tested for impairment on an annual basis during the fourth quarter or whenever events or changes in circumstances indicate the carrying amount of these assets may not be recoverable. Goodwill impairment testing is a two-step process and performed on a reporting unit level. In the first step, the Company conducts an assessment of qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount. If the Company determines that it is more likely than not that the fair value of its reporting unit is less than its carrying amount, it then conducts the second step, a two-part test for impairment of goodwill. The Company first compares the fair value of its reporting units to their carrying values. If the fair values of the reporting units exceed the carrying value of the net assets, goodwill is not considered impaired and no further analysis is required. If the carrying values of the net assets exceed the fair values of the reporting units, then the second part of the impairment test must be performed in order to determine the implied fair value of the goodwill. If the carrying value of the goodwill exceeds the implied fair value, then an impairment loss equal to the difference would be recorded. For 2012, the Company performed its annual goodwill impairment analysis during the fourth quarter of 2012 and concluded that goodwill is not impaired.

Finite-lived intangible assets and other long-lived assets are reviewed for impairment when facts or circumstances suggest that the carrying value of such assets may not be recoverable. Determination of recoverability is based on an estimate of undiscounted future cash flows resulting from the use of the asset and its eventual disposition. In the event that such cash flows are not expected to be sufficient to recover the carrying amount of the assets, the assets are written down to their estimated fair values. Additionally, during each period, the Company evaluates the estimated remaining useful lives of purchased finite-lived intangible assets and other long-lived assets to determine whether events or changes in circumstances warrant a revision to the remaining period of amortization. For the year ended December 31, 2012, no impairment charges were recognized. For the years ended December 31, 2011 and 2010, the Company recognized $1.7 million and $0.3 million, respectively, of impairment charges on its long-lived assets.

INCOME TAXES

Income tax expense is based on pre-tax financial accounting income. Under the liability method, deferred tax assets and liabilities are determined based on the difference between the financial statement and tax basis of assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to

NOTE 2—SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

reverse. The Company must then assess the likelihood that the resulting deferred tax assets will be realized. To the extent the Company believes that realization of the deferred tax assets is not more likely than not, the Company establishes a valuation allowance. Significant estimates are required in determining the Company's provision for income taxes, deferred tax assets and liabilities, any valuation allowance to be recorded against net deferred tax assets, and reserves for income tax related uncertainties. Some of these estimates are based on interpretations of existing tax laws or regulations. Various internal and external factors may have favorable or unfavorable effects on the Company's future effective tax rate. These factors include, but are not limited to, changes in overall levels of characterization and geographical mix of pretax earnings (losses), changes in tax laws, regulations and/or rates, changing interpretations of existing tax laws or regulations, changes in the valuation of deferred tax assets or liabilities, levels of research and development spending, nondeductible expenses, applicability of tax holidays, ultimate outcomes of income tax audits, and income tax impacts of any business combination transactions or changes in our equity structure. Relative to uncertain tax positions, the Company only recognizes the tax benefit if it is more likely than not that the tax position will be sustained on examination by the taxing authorities, based on the technical merits of the position. The tax benefits recognized in the Company's financial statements from such positions are then measured based on the largest benefit that has a greater than 50% likelihood of being realized upon ultimate settlement.

CONTINGENCIES

The Company is subject to various legal proceedings principally related to intellectual property matters. Based on the information available at the most recent balance sheet date, the Company assesses the likelihood of any material adverse judgments or outcomes that may result from these matters, as well as the range of possible or probable loss, if any. If losses are probable and reasonably estimable, the Company will record a reserve. Any reserves recorded may change in the future due to new developments in each matter.

REVENUE RECOGNITION

Overview

The Company recognizes revenue when persuasive evidence of an arrangement exists, delivery has occurred, the fee is fixed or determinable, and collectability is reasonably assured. In instances where final acceptance of the product or system is required or performance obligations remain, revenue is deferred until all the acceptance criteria or performance obligations have been met.

The Company derives the majority of its revenue from product sales of probe arrays, reagents, and related instrumentation that may be sold individually or combined with any of the Company's products, services or other sources of revenue. When a sale combines multiple elements upon delivery or performance of multiple products, services and/or rights to use assets, the Company allocates revenue for transactions or collaborations that include multiple elements to each unit of accounting based on its relative fair value or best estimate selling price, and recognizes revenue for each unit of accounting when the revenue recognition criteria have been met. The price charged when the element is sold separately generally determines fair value.

Effective January 1, 2010, the Company adopted Auditing Standards Update ("ASU") No. 2009-13, *Revenue Recognition (ASC Topic 605)—Multiple-Deliverable Revenue Arrangements* on a prospective basis,

NOTE 2—SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

which establishes the relative selling price method whereby the Company is required to allocate consideration to all deliverables at the inception of the arrangement based on their relative selling prices. This change in accounting principle did not have a material impact on the Company's financial results.

Product Sales

Product sales include sales of probe arrays, reagents and related instrumentation. Probe array, reagent and instrumentation revenue is recognized when earned, which is generally upon shipment and transfer of title to the customer and fulfillment of any significant post-delivery obligations. Accruals are provided for anticipated warranty expenses at the time the associated revenue is recognized.

Services

Services revenue includes equipment service revenue; scientific services revenue, which includes associated consumables; and revenue from custom probe array design fees. Revenue from equipment service contracts are recognized ratably over the life of the contract.

Revenue from scientific and DNA analysis services are recognized upon shipment of the required data to the customer.

Revenue from custom probe array design fees associated with the Company's GeneChip® CustomExpress™ and CustomSeq™ products are recognized when the associated products are shipped.

Royalties and Other Revenue

Royalties and other revenue include license revenue; royalties earned from third party license agreements; milestones and royalties earned from collaborative product development and supply agreements; subscription fees earned under GeneChip® array access programs; and research revenue, which mainly consists of amounts earned under government grants.

License revenue is generally recognized upon the execution of an agreement or is recognized ratably over the period of expected performance.

Revenue from royalties is recognized under the terms of the related agreement.

The Company enters into collaborative arrangements which generally include a research and product development phase and a manufacturing and product supply phase. These arrangements may include up-front nonrefundable license fees, milestones, the rights to royalties based on the sale of final product by the partner, product supply agreements and distribution arrangements.

Any up-front, nonrefundable payments from collaborative product development agreements are recognized ratably over the research and product development period, and at-risk substantive based milestones are recognized when earned. Any payments received which are not yet earned are included in deferred revenue.

NOTE 2—SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

Transactions with Distributors

The Company recognizes revenue from transactions with distributors when persuasive evidence of an arrangement exists, delivery has occurred or services have been rendered, the seller's price is fixed or determinable, and collectability is reasonably assured. The Company's agreements with distributors do not include rights of return.

RESEARCH AND DEVELOPMENT EXPENSES

Research and development expenses consist of costs incurred for internal, collaborative and grant-sponsored research and development. Research and development expenses include salaries, contractor fees, building costs, utilities and allocations of shared corporate services. In addition, the Company funds research and development at other companies and research institutions under agreements which are generally cancelable. All such costs are charged to research and development expense as incurred.

SOFTWARE DEVELOPMENT COSTS

Development Costs of Software to Be Sold, Leased or Marketed

Certain software development costs subsequent to the establishment of technological feasibility are capitalized. The Company's software is deemed to have achieved technological feasibility at the point a working model of the software product is developed. For the years ended December 31, 2012 and 2011, the Company did not capitalize any software development costs. Amortization of such costs was $0.5 million for the year ended December 31, 2012 and $0.7 million for each of the years ended December 31, 2011 and 2010. The costs of developing routine software enhancements are expensed as research and development when incurred because of the short time between the determination of technological feasibility and the date of general release of the related products.

Internal-Use Software

For the year ended December 31, 2012, the Company capitalized $0.4 million of costs associated with internal-use software. There was nothing capitalized for the year ended December 31, 2011. All costs associated with software developed for internal use will be amortized from the time at which the software is ready for its intended use. As of December 31, 2012, the Company had recognized total cumulative amortization costs related to internal-use software of $0.8 million.

ADVERTISING COSTS

The Company expenses advertising costs as incurred. Advertising costs recorded for the years ended December 31, 2012, 2011 and 2010 were $2.0 million, $0.6 million and $1.2 million, respectively.

SHARE-BASED COMPENSATION

The Company estimates the fair value of its option grants and shares sold under its Employee Stock Purchase Plan using the Black-Scholes-Merton ("BSM") option pricing model. This model requires the use of certain estimates and assumptions such as the expected term of options, estimated forfeitures, expected volatility

NOTE 2—SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

of the Company's stock price, expected dividends and the risk-free interest rate at the grant date to determine the fair value of the stock options. The fair value of its restricted stock, restricted stock units and performance based restricted stock units, collectively referred to as restricted stock awards ("RSAs"), is based on the market price of the Company's common stock on the grant date. The Company recognizes the fair value of its share-based compensation as expense on a straight-line basis over the requisite service period of each award, generally four years. Refer to Note 14. "Stockholders' Equity and Share-Based Compensation Expense" for further information.

COMPREHENSIVE INCOME (LOSS)

Comprehensive income (loss) is comprised of net loss and other comprehensive income (loss). Other comprehensive income (loss) includes foreign currency translation adjustments, unrealized gains and losses on the Company's available-for-sale securities that are excluded from net loss and unrealized gains and losses on cash flow hedges. Total comprehensive income (loss) has been disclosed in the Company's Consolidated Statements of Comprehensive Loss.

At December 31, 2012 and 2011, the components of accumulated other comprehensive income, net of tax, are as follows (in thousands):

	Year Ended December 31,	
	2012	2011
Foreign currency translation adjustment	$5,374	$ 821
Unrealized gains on available-for-sale and non-marketable securities	896	845
Unrealized gains on cash flow hedges	32	826
Accumulated other comprehensive income	$6,302	$2,492

NET LOSS PER COMMON SHARE

Basic net loss per common share is calculated using the weighted-average number of common shares outstanding during the period less the weighted-average shares subject to repurchase. Diluted net loss per common share gives effect to dilutive common stock subject to repurchase, stock options (calculated based on the treasury stock method), shares purchased under the employee stock purchase plan and convertible debt (calculated using an as-if-converted method).

NOTE 2—SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

Diluted earnings per share, if any, include certain potential dilutive securities from common stock subject to repurchase, outstanding stock options (on the treasury stock method), shares purchased under the employee stock purchase plan and convertible notes (on the as-if-converted basis). The potentially dilutive securities excluded from diluted earnings per common share on an actual outstanding basis, were as follows (in thousands):

	Year Ended December 31,		
	2012	2011	2010
Employee stock options	6,101	6,276	6,636
Employee stock purchase plan	210	64	—
Restricted stock and restricted stock units	3,734	2,597	1,953
Convertible notes	9,899	3,169	3,169
Total	19,944	12,106	11,758

RECENT ACCOUNTING PRONOUNCEMENTS

In June 2011, the FASB issued an amendment to an existing accounting standard which requires companies to present net income and other comprehensive income in one continuous statement or in two separate, but consecutive, statements. In addition, in December 2011, the FASB issued an amendment to an existing accounting standard which defers the requirement to present components of reclassifications of other comprehensive income on the face of the income statement. The Company adopted this guidance on January 1, 2012 on a retrospective basis and the adoption did not have a material effect on its consolidated financial statements.

In May 2011, the FASB issued a new accounting standard update, which amends the fair value measurement guidance and includes some enhanced disclosure requirements. The most significant change in disclosures is an expansion of the information required for Level 3 measurements based on unobservable inputs. The standard is effective for fiscal years beginning after December 15, 2011. The Company adopted this standard in the first quarter of 2012 and the adoption did not have a material impact on its financial statements and disclosures.

In September 2011, the FASB issued new guidance on testing goodwill for impairment. The new guidance allows an entity to first assess qualitative factors to determine whether it is necessary to perform the two-step quantitative goodwill impairment test. An entity is no longer required to calculate the fair value of a reporting unit unless the entity determines, based on a qualitative assessment, that it is more likely than not that its fair value is less than its carrying amount. The Company adopted this accounting standard in the fourth quarter of 2012 and completed its 2012 goodwill impairment analysis based on this guidance. The adoption of this guidance did not have a material impact on the accompanying Consolidated Financial Statements.

NOTE 3—ACQUISITION

On June 25, 2012 (the "Acquisition Date"), pursuant to the terms of an Amended and Restated Agreement and Plan of Merger (the "Acquisition Agreement"), a wholly-owned subsidiary of the Company merged with and into eBioscience, with eBioscience surviving as a wholly-owned subsidiary of the Company (the

NOTE 3—ACQUISITION (Continued)

"Acquisition"). eBioscience specializes in the development, manufacturing, marketing and distribution of research tools in the areas of flow cytometry, immunoassays, microscopic imaging and other protein-based analyses.

At the Acquisition Date, each share of eBioscience issued and outstanding common stock immediately prior to the Acquisition Date was cancelled and converted into the right to receive cash of $38.18 per each such previously issued and outstanding common share. Further, all options to purchase shares of eBioscience common stock that were outstanding immediately prior to the Acquisition Date became exercisable to the extent not fully vested and were cancelled and retired immediately prior to the Acquisition Date in exchange for cash of $38.18 per each such previously outstanding option, less the exercise price of such option.

The Acquisition was accounted for using the acquisition method of accounting. Under the acquisition method of accounting, the tangible and identifiable intangible assets and liabilities of eBioscience were recorded at their respective fair values as of the Acquisition Date, including an amount for goodwill representing the difference between the Acquisition consideration and the fair value of the identifiable net assets.

At June 30, 2012, the Company had provisionally estimated fair values for the assets acquired and liabilities assumed at the Acquisition Date. The amounts reported were considered provisional as the Company was completing the valuation work to determine the fair value of assets acquired and liabilities assumed and finalize the working capital adjustments as required by the Acquisition Agreement. With the help of third-party specialists, the valuation was finished during the fourth quarter of 2012 and the determination of the fair value of acquired inventory, property and equipment, and intangible assets was completed. In addition, the Company's review of tax accounts was also completed during the fourth quarter of 2012. This resulted in adjustments to the determination of the fair value of assets acquired and liabilities assumed (also referred to as "measurement period adjustments") to the accompanying Condensed Consolidated Financial Statements as of and for the six months ended June 30, 2012. Under US GAAP, changes to the fair value of the assets acquired and liabilities assumed during the measurement period are recognized as of the date of acquisition. The Company considers the fair value analysis to be final as of December 31, 2012.

The results of operations of the acquired eBioscience business and the fair values of the assets acquired and liabilities assumed have been included in the accompanying Consolidated Financial Statements since the Acquisition. For the year ended December 31, 2012, the Company recorded $37.0 million in revenue and recognized a net loss of $8.9 million from eBioscience.

Purchase price

The total purchase price for the Acquisition was $314.9 million, of which $8.3 million was accounted for as share-based compensation expense as a result of the accelerated vesting of certain eBioscience employee options immediately prior to the Acquisition and has been recognized in the accompanying Consolidated Statement of Operations under Selling, general and administrative expenses. The remaining $306.6 million was related to the fair value of the net assets acquired from eBioscience. The Acquisition was financed through a combination of cash on hand, the liquidation of available-for-sale securities, proceeds from third-party financing (the "Term Loan") and the issuance of 4.00% Convertible Senior Notes (the "4.00% Notes"). Refer to Note 13. "Long-Term Debt Obligations" for further information.

NOTE 3—ACQUISITION (Continued)

The following table summarizes the accounting treatment of the purchase price paid (in thousands):

	Before Adjustment of Final Determination of Fair Value	Measurement Period Adjustments	After Adjustment of Final Determination of Fair Value
Purchase consideration	$306,841	(215)	$ 306,626
Share-based compensation expense	8,265	—	8,265
Total purchase price	$315,106	(215)	$ 314,891

Fair value of assets acquired and liabilities assumed

The following table summarizes the fair values of assets acquired, liabilities assumed and goodwill (in thousands), as well as retrospective measurement period adjustments made during the year ended December 31, 2012:

	Before Adjustment of Final Determination of Fair Value (1)	Measurement Period Adjustments (2)	After Adjustment of Final Determination of Fair Value
Cash and cash equivalents	$ 7,095	$ —	$ 7,095
Accounts receivable, net	9,488	(8)	9,480
Inventories	52,060	(1,380)	50,680
Prepaid expenses and other assets	7,844	575	8,419
Property and equipment	5,969	551	6,520
Intangible assets	159,755	(22,155)	137,600
Other non-current assets	1,769	(328)	1,441
Identifiable assets acquired	243,980	(22,745)	221,235
Accounts payable and accrued liabilities	(18,681)	(2,691)	(21,372)
Deferred tax liability	(55,542)	8,658	(46,884)
Other non-current liabilities	(3,241)	(225)	(3,466)
Identifiable liabilities acquired	(77,464)	5,742	(71,722)
Goodwill	140,325	16,788	157,113
Purchase consideration	$ 306,841	$ (215)	$ 306,626

(1) As previously reported in the notes to the Condensed Consolidated Financial Statements included in the Company's Quarterly Report on Form 10-Q as of June 30, 2012 and for the three and six months then ended.

(2) During the second half of 2012, the Company finalized the valuations of the fair value of certain asset and liabilities included in the Acquisition resulting in the measurement period adjustments detailed above, including reducing the fair value of certain intangible assets by $22.2 million to better reflect market participant assumptions about the facts and circumstances existing as of the Acquisition Date.

NOTE 3—ACQUISITION (Continued)

The above change in domestic deferred tax liabilities resulted in a $7.6 million increase in the Company's domestic deferred tax asset valuation allowance. Adjustments to valuation allowances are further discussed in Note 16. "Income Taxes."

The above measurement period adjustments did not result from events that occurred after the Acquisition Date.

Inventories

The inventories acquired include an adjusted step-up in basis of approximately $29.0 million, which represents the fair value of the inventory less a reasonable profit margin on costs to complete and sell. The step-up in basis will be recognized as the inventory is sold, which is expected to be over a period of 12 to 23 months from the Acquisition Date.

Intangible Assets

The following table summarizes the fair value of definite-lived intangible assets acquired at the Acquisition Date and their estimated useful lives (in thousands, except for estimated useful lives):

	Fair Value	Estimated Useful Life
Purchased intangible assets:		
Customer base	$ 61,100	12 years
Developed technologies	58,000	12 years
Trademarks and tradenames	15,500	5 years
Other contractual agreements	3,000	2 years
Total	$137,600	

Purchased intangible assets were recorded at fair value determined using an income approach, which recognizes that the fair value of an asset is premised upon the expected receipt of future economic benefits such as earnings and cash inflows based on current sales projections and estimated direct costs. Indications of value are developed by discounting these benefits to their present worth at a discount rate that reflects the current return requirements of market participants.

Purchased intangible assets are finite-lived intangible assets and are being amortized over their estimated useful lives.

Deferred tax liabilities

Deferred tax liabilities assumed are primarily comprised of the tax impact of the temporary difference between the fair values of assets acquired and the historical tax basis of those assets. These temporary differences will reverse as the assets are amortized.

NOTE 3—ACQUISITION (Continued)

Goodwill

The excess of Acquisition consideration over the fair value of assets acquired and liabilities assumed represents goodwill. The Company believes the factors that contributed to goodwill include synergies that are specific to the Company's consolidated business, and not available to market participants, and the acquisition of a talented workforce that expands the Company's expertise in business development and the commercialization of cell and protein analysis products. The Company does not expect any portion of this goodwill to be deductible for tax purposes.

Liabilities

The above determination of fair value excludes amounts related to certain litigation in which eBioscience is currently involved. The Acquisition Agreement provides that eBioscience security holders shall, subject to certain limitations, indemnify Affymetrix against damages arising out of or resulting from intellectual property litigation brought against eBioscience by Life Technologies Corporation. The net assets acquired and results of operations do not reflect the outcome of this litigation, which was unable to be estimated at December 31, 2012. Under the terms of the Acquisition Agreement, $25.2 million of the purchase price was placed into escrow to secure eBioscience security holders' indemnification obligations to the Company. During January 2013, the litigation was settled and $2.3 million was reimbursed to the Company out of escrow.

Transaction costs

The Company cumulatively incurred approximately $9.1 million of Acquisition-related costs that are recognized as Selling, general and administrative expense in the accompanying Consolidated Statements of Operations, of which $6.2 million and $2.9 million was recognized during the years ended December 31, 2012 and 2011, respectively.

Total underwriting and financing fees of approximately $8.5 million associated with the Term Loan and 4.00% Notes were also incurred and are discussed in Note 13. "Long-Term Debt Obligations."

Share-based compensation costs

The share-based compensation expense of $8.3 million recognized for the accelerated vesting of certain eBioscience options immediately vested prior to the Acquisition was recognized in the accompanying Consolidated Statements of Operations as Selling, general and administrative expense in during the year ended December 31, 2012.

NOTE 3—ACQUISITION (Continued)

Unaudited Pro Forma Financial Information

The following unaudited pro forma financial information presents the combined results of operations for the years ended December 31, 2012 and 2011 as if the Acquisition had been completed on January 1, 2011, with adjustments to give effect to pro forma events that are directly attributable to the Acquisition. The unaudited pro forma results do not reflect any operating efficiencies or potential cost savings that may result from the consolidation of the operations of the Company and eBioscience. Accordingly, these unaudited pro forma results are presented for informational purposes only and are not necessarily indicative of what the actual results of operations of the combined company would have been if the Acquisition had occurred at the beginning of the period presented, nor are they indicative of future results of operations (in thousands, except per share data):

	Years Ended December 31,	
	2012	2011
Revenue	$331,370	$338,416
Net loss	(35,500)	(24,529)
Basic and diluted net loss per share	(0.50)	(0.35)

The unaudited pro forma financial information exclude non-recurring share-based compensation expense of $8.3 million recognized for the accelerated vesting of certain eBioscience stock options immediately prior to the Acquisition, and an income tax benefit of $37.1 million for the years ended December 31, 2012 and 2011.

The unaudited pro forma financial information for the year ended December 31, 2012 exclude non-recurring Acquisition-related transaction costs incurred by the Company of $6.2 million and by eBioscience of $5.5 million. For the year ended December 31, 2011, excluded non-recurring Acquisition costs incurred by the Company was $2.9 million and by eBioscience was $0.6 million.

NOTE 4—CONCENTRATIONS OF RISK

Cash equivalents and investments are financial instruments that potentially subject Affymetrix to concentrations of risk to the extent of amounts recorded in the accompanying Consolidated Balance Sheets. Company policy restricts the amount of credit exposure to any one issuer and to any one type of investment, other than securities issued by the United States Government.

The Company has not experienced significant credit losses from its accounts receivable. Affymetrix performs a regular review of its customer activity and associated credit risks and does not require collateral from its customers. The Company maintains an allowance for doubtful accounts receivable based upon the expected collectability of accounts receivable.

Certain raw materials or components used in the synthesis of probe arrays or the assembly of instrumentation are currently available only from a single source or limited sources. No assurance can be given that these raw materials or other components of the GeneChip® system will be available in commercial quantities at acceptable costs from other vendors should the need arise. If the Company is required to seek alternative sources of supply, it could be time consuming and expensive.

NOTE 4—CONCENTRATIONS OF RISK (Continued)

In addition, the Company is dependent on its vendors to provide components of appropriate quality and reliability and to meet applicable regulatory requirements. Consequently, in the event that supplies from these vendors are delayed or interrupted for any reason, the Company's ability to develop and supply its products could be impaired, which could have a material adverse effect on the Company's business, financial condition and results of operations.

For the years ended December 31, 2012, 2011 and 2010, approximately 42%, 47% and 43%, respectively, of the Company's total revenue was generated from sales outside the United States. The Company's results of operations are affected by such factors as changes in foreign currency exchange rates, trade protection measures, longer accounts receivable collection patterns and changes in regional or worldwide economic or political conditions. The risks of the Company's international operations are mitigated in part by the extent to which its sales are geographically distributed.

NOTE 5—FAIR VALUE MEASUREMENTS

Fair value is defined as the price that would be received from selling an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. When determining the fair value measurements for assets and liabilities required to be recorded at fair value, the Company considers the principal or most advantageous market in which it would transact and consider assumptions that market participants would use when pricing the asset or liability, such as inherent risk, transfer restrictions and risk of nonperformance.

A fair value hierarchy was established which requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. A financial instrument's categorization within the fair value hierarchy is based upon the lowest level of input that is significant to the fair value measurement. The three levels of inputs that may be used to measure fair value are as follows:

Level 1: quoted prices in active markets for identical assets or liabilities;

Level 2: inputs other than Level 1 that are observable, either directly or indirectly, such as quoted prices in active markets for similar assets or liabilities, quoted prices for identical or similar assets or liabilities 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 assets or liabilities; or

Level 3: unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

The Company considers an active market to be one in which transactions for the asset or liability occur with sufficient frequency and volume to provide pricing information on an ongoing basis, and views an inactive market as one in which there are few transactions for the asset or liability, the prices are not current, or price quotations vary substantially either over time or among market makers. Where appropriate the Company's or the counterparty's non-performance risk is considered in determining the fair values of liabilities and assets, respectively.

NOTE 5—FAIR VALUE MEASUREMENTS (Continued)

Financial Assets and Liabilities Measured at Fair Value on a Recurring Basis

The following table represents the Company's fair value hierarchy for its financial assets and liabilities measured at fair value on a recurring basis as of December 31, 2012 and 2011 (in thousands):

	Quoted Prices In Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Total
December 31, 2012			
Assets:			
U.S. government obligations and agency securities	$ —	$ 6,829	$ 6,829
U.S. corporate debt	—	664	664
Foreign corporate debt and equity securities	—	1,873	1,873
Total	$ —	$ 9,366	$ 9,366
Derivative assets	$ —	$ 842	$ 842
Liabilities:			
Derivative liabilities	$ —	$ 829	$ 829
December 31, 2011:			
Assets:			
U.S. government obligations and agency securities	$ —	$19,598	$19,598
U.S. corporate debt	—	25,100	25,100
Foreign government obligations and agency securities	—	2,810	2,810
Foreign corporate debt and equity securities	105	14,825	14,930
Total	$105	$62,333	$62,438
Derivative assets	$ —	$ 940	$ 940
Liabilities:			
Derivative liabilities	$ —	$ 217	$ 217

The Company's Level 2 input assumptions are determined based on review of third-party sources.

The fair values of the Company's available-for-sale securities are based on quoted market prices and are included in cash and cash equivalents, available-for-sale securities—short-term and available-for-sale securities—long-term on the accompanying Consolidated Balance Sheets based on each respective security's maturity.

NOTE 5—FAIR VALUE MEASUREMENTS (Continued)

The fair value of the Company's derivative assets and liabilities is determined based on the estimated consideration the Company would pay or receive to terminate these agreements on the reporting date. The derivative assets and liabilities are located in Other current assets and Accrued expenses, respectively, in the accompanying Consolidated Balance Sheets.

As of December 31, 2012 and 2011, the Company had no financial assets or liabilities requiring Level 3 classification, including those that have unobservable inputs that are supported by little or no market activity and are significant to the fair value of the assets and liabilities.

Debt Obligations

Debt obligations are not recorded at fair value on a recurring basis and are carried at amortized cost.

The fair values of the Company's 3.50% Senior Convertible Notes due 2039 (the "3.50% Notes") and 4.00% Notes are based on quoted market prices at the balance sheet date. At December 31, 2012, the fair value of the Company's remaining 3.50% Notes was $3.9 million and the fair value of the Company's 4.00% Notes was $87.3 million.

On June 25, 2012, the Company entered into a Credit Agreement and borrowed $85.0 million under the Term Loan. As of December 31, 2012, the fair value of the Term Loan approximated its carrying value of $73.3 million, as this was a recent transaction.

NOTE 6—FINANCIAL INSTRUMENTS

Investments in Debt and Equity Securities

As described in further detail in Note 3. "Acquisition", the Company liquidated the majority of its available-for-sale securities as part of the Acquisition in 2012.

The following is a summary of available-for-sale securities as of December 31, 2012 (in thousands):

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
U.S. government obligations and agency securities	$6,775	$ 54	$—	$6,829
U.S. corporate debt	651	13	—	664
Foreign corporate debt and equity securities	1,837	36	—	1,873
Total available-for-sale securities	$9,263	$103	$—	$9,366

NOTE 6—FINANCIAL INSTRUMENTS (Continued)

The following is a summary of available-for-sale securities as of December 31, 2011 (in thousands):

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
U.S. government obligations and agency securities	$19,421	$177	$ —	$19,598
U.S. corporate debt	24,942	259	(101)	25,100
Foreign government obligations and agency securities	2,805	6	(1)	2,810
Foreign corporate debt and equity securities	15,157	41	(268)	14,930
Total available-for-sale securities	$62,325	$483	$(370)	$62,438

Contractual maturities of available-for-sale securities as of December 31, 2012 and 2011 are as follows (in thousands):

	December 31, 2012	December 31, 2011
Less than one year	$7,083	$ 7,937
One to two years	664	25,785
More than two years	1,619	28,716
Total available-for-sale securities	$9,366	$62,438

Realized gains for the years ended December 31, 2012 and 2011 were $0.5 million and $0.6 million, respectively. Realized losses for the years ended December 31, 2012 and 2011 were $0.1 million and $1.6 million, respectively. Realized gains and losses are included in Interest income and other, net in the accompanying Consolidated Statements of Operations. During the year ended December 31, 2011, an equity security that experienced a decline in fair value was deemed other-than-temporarily impaired and impairment charges totaling $0.8 million were recorded. No significant facts or circumstances have arisen to indicate that there has been any deterioration in the creditworthiness of the issuers of the Company's other securities as of December 31, 2012.

Non-Marketable Securities

Non-marketable securities represents an investment in a limited partnership investment fund accounted for on the equity method. As of December 31, 2012 and 2011, the carrying amounts of the Company's non-marketable securities, totaling $4.4 million and $5.0 million, respectively, equaled their estimated fair values. The investments held by the limited partnership investment fund are in the life science industry and located in the United States. The investments are initially valued at the purchase price and subsequently on the basis of inputs that market participants would use in pricing such investments. The portfolio of investments includes Level 1 publicly traded equity securities and Level 3 equity securities and notes. During the year ended December 31, 2011, the Company recorded impairment charges on its non-marketable securities totaling $1.3 million. Net investment losses are included in Interest income and other, net in the accompanying Consolidated Statements of Operations. Depending on market conditions, the Company may incur additional charges on this investment in the future.

NOTE 6—FINANCIAL INSTRUMENTS (Continued)

Derivative Financial Instruments

The Company derives a portion of its revenues in foreign currencies, predominantly in Europe and Japan, as part of its ongoing business operations. In addition, a portion of its assets are held in the nonfunctional currencies of its subsidiaries. The Company enters into foreign currency forward contracts to manage a portion of the volatility related to transactions that are denominated in foreign currencies. The Company's foreign currency forward contracts are entered into for periods consistent with the related underlying exposures and do not constitute positions that are independent of those exposures. The Company's accounting policies for these instruments are based on whether the instruments are classified as designated or non-designated hedging instruments. The Company records all derivatives on the accompanying Consolidated Balance Sheets at fair value. The effective portions of designated cash flow hedges are recorded in OCI until the hedged item is recognized in operations. As of December 31, 2012, the Company's existing foreign currency forward exchange contracts mature within 12 months. The deferred amount related to the Company's derivatives currently recorded in OCI and expected to be recognized into earnings over the next 12 months is a net gain of less than $0.1 million. Derivatives that are not designated as hedging instruments and the ineffective portions of cash flow hedges are adjusted to fair value through earnings.

Derivative instruments designated as cash flow hedges must be de-designated as hedges when it is probable the forecasted hedged transaction will not occur in the initially identified time period or within a subsequent two-month time period. Deferred gains and losses in other comprehensive income (loss) associated with such derivative instruments are reclassified immediately into operations through other income and expense. Any subsequent changes in fair value of such derivative instruments are reflected in Interest income and other, net unless they are re-designated as hedges of other transactions. The Company did not recognize any net gains or losses related to the loss of hedge designation on discontinued cash flow hedges during the years ended December 31, 2012 and 2011.

Under the Credit Agreement as defined in Note 13. "Long-Term Debt Obligations", the Company is required to maintain derivative contracts to protect against fluctuations in interest rates with respect to at least 35% of the aggregate principal amount of the Term Loan then outstanding, with such derivative contracts being required to have at least a three-year term. Accordingly, the Company has entered into an interest rate swap (the "Interest Rate Swap") for which the notional amount was originally set at $27.5 million, with quarterly reduction to the notional amount consistent with the mandatory amortization schedule of the Term Loan. The Interest Rate Swap calls for fixed rate quarterly payments of 1.70% of the notional amount in exchange for a variable rate quarterly receipt equal to a 3 month LIBOR rate with a floor of 1.50%. The Interest Rate Swap terminates on June 25, 2015.

The Company did not designate the Interest Rate Swap as a hedging instrument and will recognize adjustments to fair value through Interest income and other, net on the accompanying Consolidated Statements of Operations at each reporting date. As of December 31, 2012, the fair value of the Interest Rate Swap was $0.1 million.

NOTE 6—FINANCIAL INSTRUMENTS (Continued)

As of December 31, 2012 and 2011, the total notional values of the Company's derivative assets and liabilities that mature within 12 months are as follows (in thousands):

	December 31, 2012	December 31, 2011
Euro	$16,933	$11,851
Japanese yen	10,542	7,008
British pound	4,278	4,459
Interest rate swap	27,519	—
Total	$59,272	$23,318

Other than the Interest Rate Swap, the Company did not have any derivative assets or liabilities that were not designated or qualifying as hedges as of December 31, 2012. As of December 31, 2011, the Company did not have any derivative assets or liabilities that were not designated or qualifying as hedges.

As a result of the use of derivative instruments, the Company is exposed to the risk that the counterparties may be unable to meet the terms of the agreements. To mitigate the risk, only contracts with carefully selected highly-rated major financial institutions are entered into. In the event of non-performance by these counterparties, the asset position carrying values of the financial instruments represent the maximum amount of loss that can be incurred, however, no losses as a result of counterparty defaults are expected. The Company does not require and is not required to pledge collateral for these financial instruments. The Company does not enter into foreign currency forward contracts for trading or speculative purposes and is not party to any leveraged derivative instruments.

The following table shows the Company's foreign currency derivatives measured at fair value as reflected on the accompanying Consolidated Balance Sheets as of December 31, 2012 and 2011 (in thousands):

	December 31, 2012	December 31, 2011	Balance Sheet Classification
Derivative assets:			
Foreign exchange contracts	$842	$940	Other current assets
Derivative liabilities:			
Foreign exchange contracts	752	217	Accrued liabilities
Interest rate swap	77	—	Accrued liabilities

NOTE 6—FINANCIAL INSTRUMENTS (Continued)

The following table shows the effect, net of tax, of the Company's derivative instruments on the accompanying Consolidated Statements of Operations and OCI for the years ended December 31, 2012, 2011 and 2010 (in thousands):

	Year ended December 31,		
	2012	2011	2010
Derivatives in cash flow hedging relationships:			
Net (loss) gain recognized in OCI, net of tax (1)	$ (794)	$ 826	$ —
Net gain reclassified from accumulated OCI into income, net of tax (2)	1,226	—	—
Net gain (loss) recognized in other income and expense (3)	109	(103)	—
Derivatives not designated as hedging relationships:			
Net (loss) gain recognized in income (4)	(539)	(1,720)	957

(1) Net change in the fair value of the effective portion classified in OCI
(2) Effective portion classified as revenue
(3) Ineffective portion and amount excluded from effectiveness testing classified as Interest and other, net
(4) Classified in Interest and other, net

NOTE 7—INVENTORIES

Inventories, net of reserves, consist of the following at December 31, 2012 and 2011 (in thousands):

	December 31,	
	2012	2011
Raw materials	$11,167	$ 8,635
Work-in-process	35,562	10,554
Finished goods	37,734	23,662
Total	$84,463	$42,851
Short-term portion	$72,691	$42,851
Long-term portion	$11,772	$ —

Inventory at December 31, 2012 includes $41.4 million of inventory acquired from eBioscience that includes the unamortized balance of the fair value step-up in basis of $19.5 million discussed in Note 3. "Acquisition." Amortization expense on the fair value step-up during the year ended December 31, 2012 was $9.4 million.

NOTE 8—PROPERTY AND EQUIPMENT

Property and equipment consists of the following as of December 31, 2012 and 2011 (in thousands):

	December 31,	
	2012	2011(1)
Property and equipment:		
Construction-in-progress	$ 1,790	$ 838
Equipment and furniture	126,790	113,690
Building and leasehold improvements	54,579	96,390
Land	—	1,310
	183,159	212,228
Less: accumulated depreciation and amortization	(154,496)	(172,645)
Net property and equipment	$ 28,663	$ 39,583

(1) Included in the balance as of December 31, 2011 was the Company's West Sacramento facility that was reclassified to held-for-sale on the accompanying Consolidated Balance Sheets at an estimated fair value of $9.0 million at December 31, 2011. During the third quarter of 2012, the Company recognized an impairment of $4.0 million on the facility based on offers to purchase the property. During the fourth quarter of 2012, the Company sold the facility for gross proceeds of $5.8 million, which included $0.3 million in commissions and closing costs paid by the Company, and reduced the total impairment recognized in 2012 to $3.5 million.

For the years ended December 31, 2012, 2011 and 2010, the Company recorded depreciation expense of $15.8 million, $19.0 million and $22.2 million, respectively.

NOTE 9—GOODWILL AND INTANGIBLE ASSETS

The gross carrying amounts and net book values of the Company's definite-lived intangible assets are as follows (in thousands):

	Carrying Value, Gross			Accumulated Amortization			Intangible Assets, Net		Weighted Average
	December 31, 2011	Additions	December 31, 2012	December 31, 2011	Additions	December 31, 2012	December 31, 2011	December 31, 2012	Useful Life
Customer relationships	$ 14,600	$ 62,274	$ 76,874	$ (9,510)	$ (4,836)	$ (14,346)	$ 5,090	$ 62,528	12 years
Developed technologies	17,653	59,161	76,814	(13,179)	(5,310)	(18,489)	4,474	58,325	12 years
Trademarks and tradenames	2,300	15,518	17,818	(1,126)	(1,883)	(3,009)	1,174	14,809	5 years
Other contractual agreements	—	3,055	3,055	—	(785)	(785)	—	2,270	2 years
Licenses	79,142	2,014	81,156	(60,355)	(6,015)	(66,370)	18,787	14,786	Variable
Total definite-lived intangible assets	$113,695	$142,022	$255,717	$(84,170)	$(18,829)	$(102,999)	$29,525	$152,718	

NOTE 9—GOODWILL AND INTANGIBLE ASSETS (Continued)

The expected future annual amortization expense of the Company's intangible assets is as follows (in thousands):

For the Year Ending December 31,	Amortization Expense
2013	$ 23,600
2014	20,867
2015	14,715
2016	13,861
2017	12,186
Thereafter	67,489
Total	$152,718

The Company recognized goodwill of $157.1 million in connection with the Acquisition. Refer to Note 2. "Acquisition" for further details. Information in regards to changes in the Company's goodwill at December 31, 2012 is as follows (in thousands):

Balance at December 31, 2011	$ —
Additions:	
Acquisition of eBioscience	157,113
Effects of foreign currency change	2,623
Balance at December 31, 2012	$159,736

During the year ended December 31, 2012, the Company concluded that there were no indicators of impairment during its annual impairment test of goodwill and the balance at December 31, 2012 is expected to be recoverable.

NOTE 10—ACCOUNTS PAYABLE AND ACCRUED LIABILITIES

Accounts payable and accrued liabilities as of December 31, 2012 and 2011 consist of the following (in thousands):

	December 31,	
	2012	2011
Accounts payable	$13,716	$15,629
Accrued compensation and related liabilities	15,760	12,169
Accrued interest	324	1,531
Accrued taxes	8,135	5,067
Accrued legal	594	1,808
Accrued audit and tax	1,106	963
Accrued warranties	802	1,500
Accrued royalties	1,608	1,206
Other	8,310	4,901
Total	$50,355	$44,774

NOTE 11—COMMITMENTS

Operating Leases

The Company leases laboratory, office and manufacturing facilities under non-cancelable operating leases that expire at various times through 2023. Some of these leases contain renewal options ranging from two to five years and escalation clauses. Rent expense related to operating leases for the years ended December 31, 2012, 2011 and 2010 was approximately $11.3 million, $11.0 million and $9.7 million, respectively. In connection with some of these facility leases, the Company has made security deposits totaling $3.6 million, which are included in other long-term assets in the accompanying Consolidated Balance Sheets.

Future minimum lease obligations, net of sublease income, at December 31, 2012 under all non-cancelable operating leases are as follows (in thousands):

For the Year Ending December 31,	Amount
2013	$10,465
2014	8,429
2015	7,825
2016	5,128
2017	5,120
Thereafter	27,471
Total	$64,438

Sublease income is expected to be approximately $0.5 million for the year ended December 31, 2013 and none thereafter.

Non-Cancelable Supply Agreements

As of December 31, 2012, the Company had approximately $0.9 million of non-cancelable inventory supply agreements that are in effect through 2013.

Indemnifications

From time to time the Company has entered into indemnification provisions under certain of its agreements with other companies in the ordinary course of business, typically with business partners, customers, and suppliers. Pursuant to these agreements, the Company generally indemnifies, holds harmless, and agrees to reimburse the indemnified parties on a case by case basis for losses suffered or incurred by the indemnified parties in connection with any U.S. patent or other intellectual property infringement claim by any third party with respect to its products. The term of these indemnification provisions is generally perpetual from the time of the execution of the agreement. The maximum potential amount of future payments the Company could be required to make under these indemnification provisions is unlimited. In addition, the Company has entered into indemnification agreements with its officers and directors. The Company has not incurred material costs to defend lawsuits or settle claims related to these indemnification provisions. As of December 31, 2012, the Company had not accrued a liability for this guarantee, because the likelihood of incurring a payment obligation in connection with this guarantee is remote.

NOTE 12—WARRANTIES

The Company provides for anticipated warranty costs at the time the associated revenue is recognized. Product warranty costs are estimated based upon the Company's historical experience and the warranty period. The Company periodically reviews the adequacy of its warranty reserve and adjusts, if necessary, the warranty percentage and accrual based on actual experience and estimated costs to be incurred. Information regarding the changes in the Company's product warranty liability for the years ended December 31, 2012 and 2011 is as follows (in thousands):

	Amount
Balance at December 31, 2010	$ 1,493
Additions charged to cost of product sales	879
Repairs and replacements	(872)
Balance at December 31, 2011	$ 1,500
Additions charged to cost of product sales	611
Repairs and replacements	(1,309)
Balance at December 31, 2012	$ 802

NOTE 13—LONG-TERM DEBT OBLIGATIONS

Term Loan

On June 25, 2012, the Company entered into a credit agreement (the "Credit Agreement") by, and among, Affymetrix and its domestic subsidiaries, and General Electric Capital Corporation ("GE Capital"), Silicon Valley Bank and other financial institutions party thereto from time to time (collectively, the "Lenders"), as well as certain securities affiliates of the Lenders. The Credit Agreement provides for the Term Loan in an aggregate principal amount of $85.0 million and a revolving credit facility in an aggregate principal amount of $15.0 million (the "Revolving Credit Facility" and, together with the Term Loan, the "Senior Secured Credit Facility"), each with a term of five years. As of December 31, 2012, the Company borrowed a total of $85.0 million under the Term Loan which was used to finance a portion of the Acquisition.

At the option of the Company (subject to certain limitations), borrowings under the Credit Agreement bear interest at either a base rate or at the London Interbank Offered Rate ("LIBOR"), plus, in each case, an applicable margin. Under the Base Rate Option, interest will be at the base rate plus 4.00% per annum, calculated on the basis of the actual number of days elapsed in a year of 365 or 366 days (as applicable) and payable quarterly in arrears. The base rate will be equal to the greatest of (a) the rate last quoted by The Wall Street Journal (or another national publication selected by GE Capital) as the U.S. "Prime Rate," (b) the federal funds rate, plus 0.50% per annum and (c) LIBOR for an interest period of one month, plus 1.00% per annum. However, the base rate will not be less than a floor of 2.50% per annum. Under the LIBOR Option, interest will be determined based on interest periods to be selected by Affymetrix of one, two, three or six months (and, to the extent available to all relevant lenders, nine or 12 months) and will be equal to LIBOR, plus 5.00%, calculated based on the actual number of days elapsed in a 360-day year. However, LIBOR will be deemed not to be less than a floor of 1.50% per annum. Interest will be paid at the end of each interest period or, in the case

NOTE 13—LONG-TERM DEBT OBLIGATIONS (Continued)

of interest periods longer than three months, quarterly. During the year ended December 31, 2012, the Company entered into its Interest Rate Swap as required by the terms of the Credit Agreement with a third-party lending institution. Refer to Note 6. "Financial Instruments–Derivative Financial Instruments" for further information. At December 31, 2012, the applicable interest rate was approximately 6.50%.

The loans and other obligations under the Senior Secured Credit Facility are (i) guaranteed by substantially all of the Company's domestic subsidiaries (subject to certain exceptions and limitations) and (ii) secured by substantially all of the assets of Affymetrix and each guarantor (subject to certain exceptions and limitations).

The Credit Agreement requires the Company to maintain a fixed charge coverage ratio of at least 1.5 to 1.0, a senior leverage multiple not exceeding initially 2.00 to 1.00 and stepping down to 1.50 to 1.00 and a total leverage multiple not exceeding initially 4.75 to 1.00 and stepping down to 3.50 to 1.00. The Credit Agreement also includes other covenants, including negative covenants that, subject to certain exceptions, limit Affymetrix', and that of certain of its subsidiaries', ability to, among other things: (i) incur additional debt, including guarantees by the Company or its subsidiaries, (ii) make investments, pay dividends on capital stock, redeem or repurchase capital stock, redeem or repurchase the Company's senior convertible notes or any subordinated obligations, (iii) create liens and negative pledges, (iv) make capital expenditures, (v) dispose of assets, (vi) make acquisitions, (vii) create or permit restrictions on the ability of Affymetrix' subsidiaries to pay dividends or make distributions to Affymetrix, (viii) engage in transactions with affiliates, (ix) engage in sale and leaseback transactions, (x) consolidate or merge with or into other companies or sell all or substantially all the Company's assets and (xi) change their nature of business, their organizational documents or their accounting policies. As of December 31, 2012, the Company was in compliance with these covenants.

The Company is required to make the following mandatory prepayments: (a) annual prepayments in an amount equal to 50% of excess cash flow (as defined in the Credit Agreement), subject to a leverage-based stepdown, (b) prepayments in an amount equal to 100% of the net cash proceeds of issuances or incurrences of debt obligations of Affymetrix and its subsidiaries (other than debt incurrences expressly permitted by the Credit Agreement), (c) prepayments in an amount equal to 100% of the net proceeds of asset sales in excess of $2.5 million annually (subject to certain reinvestment rights) and (d) prepayments in an amount equal to any indemnification payments or similar payments received under the Acquisition Agreement, subject to certain exclusions. During the year ended December 31, 2012, the Company was not obligated to make aforementioned mandatory prepayments.

The Credit Agreement also contains events of default, including payment defaults, breaches of representations and warranties, covenant defaults, cross-default and cross-acceleration to other indebtedness in excess of specified amounts, monetary judgment defaults in excess of specified amounts, bankruptcy or insolvency, actual or asserted invalidity or impairment of any part of the credit documentation (including the failure of any lien on a material portion of the collateral to remain perfected) and change of ownership or control defaults. In addition, the occurrence of a "fundamental change" under the indenture governing the 4.00% Notes would be an event of default under the Credit Agreement. As of December 31, 2012, there have been no events of default under the Credit Agreement.

Additionally, the proceeds from the Term Loan are net of debt issuance costs of approximately $4.5 million that are being amortized over the 5-year term of the Senior Secured Credit Facility beginning on June 25, 2012.

NOTE 13—LONG-TERM DEBT OBLIGATIONS (Continued)

As of December 31, 2012, the Company had an outstanding principal balance of $73.3 million and incurred $3.6 million in interest under the Senior Secured Credit Facility for the year ended December 31, 2012.

The Term Loan will amortize in quarterly installments in amounts resulting in an annual amortization of 10% during the first year, 15% during the second year, 15% during the third year, 20% during the fourth year and 40% during the fifth year after June 25, 2012. The principal amount of unpaid maturities per the Credit Agreement is as follows (in thousands):

For the Year Ending December 31,	
2013	$ —
2014	12,713
2015	13,813
2016	17,000
2017	29,750
Total	$73,276

The Company paid $11.7 million of quarterly installments representing both fiscal 2012 and 2013 installments under the Credit Agreement. The Company intends to continue to make quarterly payments during fiscal 2013 and has classified $12.7 million as current on the accompanying Consolidated Balance Sheet for the year ended December 31, 2012.

4.00% Convertible Senior Notes

On June 25, 2012, the Company issued $105.0 million principal amount of 4.00% Convertible Senior Notes due July 1, 2019. The net proceeds, after debt issuance costs totaling $3.9 million from the 4.00% Notes offering, were $101.1 million. The 4.00% Notes bear interest of 4.00% per year payable semi-annually in arrears on January 1 and July 1 of each year, beginning on January 1, 2013 until the maturity date of July 1, 2019, unless converted, redeemed or repurchased earlier. The debt issuance costs are being amortized over the effective life of the 4.00% Notes, which is 7 years.

Holders of the 4.00% Notes may convert their 4.00% Notes into shares of the Company's stock at their option any time prior to the close of business on the business day immediately preceding the maturity date. The 4.00% Notes are initially convertible into approximately 170.0319 shares of the Company's common stock per $1,000 principal amount of notes, which equates to 17,857,143 shares of common stock, or an initial conversion price of $5.88 per share of common stock. The conversion rate is subject to certain customary anti-dilution adjustments. In addition, following certain corporate events that occur prior to the maturity date, the Company will increase the conversion rate for a holder who elects to convert its notes in connection with such a corporate event in certain circumstances. Holders may also require the Company to repurchase for cash their notes upon certain fundamental changes.

On or after July 1, 2017, the Company can redeem for cash all or part of the 4.00% Notes if the last reported sale price per share of the Company's common stock has been at least 130% of the conversion price

NOTE 13—LONG-TERM DEBT OBLIGATIONS (Continued)

then in effect for at least 20 trading days during any 30 consecutive trading day period ending within 5 trading days prior to the date on which the Company provides notice of redemption. The redemption price will be equal to 100% of the principal amount of the 4.00% Notes to be redeemed, plus accrued and unpaid interest to, but excluding, the redemption date.

As of December 31, 2012, the outstanding balance on the 4.00% Notes was $105.0 million and interest incurred for the year ended December 31, 2012 was $2.5 million.

3.50% Senior Convertible Notes

During the first quarter of 2012, the Company repurchased approximately $91.6 million of aggregate principal amount of its 3.50% Notes in private transactions for total cash consideration of $92.1 million, including accrued interest of $0.5 million. Such notes were purchased at par and accelerated amortization of deferred financing costs of $0.3 million was recognized. The remaining $3.9 million aggregate principal amount of the 3.50% Notes was redeemed during the first quarter of 2013 as further discussed in Note 22. "Subsequent Events."

NOTE 14—STOCKHOLDERS' EQUITY AND SHARE-BASED COMPENSATION EXPENSE

Convertible Preferred Stock

The Company's Board of Directors has authorized 5.0 million shares of convertible preferred stock, $0.01 par value. At December 31, 2012 and 2011, there were no such shares issued or outstanding.

Share-based Compensation Plans

The Company has a share-based compensation program that provides the Board of Directors broad discretion in creating equity incentives for employees, officers, directors and consultants. This program includes incentive and non-qualified stock options and RSAs, granted under various stock plans. Stock options are issued at a price of at least 100% of the fair value of the Company's common stock on the date of grant (110% in certain circumstances), as determined by the Board of Directors. Options generally expire 7 to 10 years from the grant date and may be granted with different vesting terms from time to time as determined by the Board of Directors, usually over a period of four years on each anniversary of the grant date. In general, RSAs vest on an annual basis over a period of four years on each anniversary of the grant date, are subject to the employees' continued employment and are paid upon vesting in shares of the Company's common stock on a one-for-one basis. As of December 31, 2012, the Company had approximately 5.3 million shares of common stock reserved for future issuance under its share-based compensation plans. A more detailed description of the Company's current share-based compensation plans follows below:

In 1998, the Board of Directors adopted the Affymetrix 1998 Stock Incentive Plan (the "1998 Stock Plan") under which nonqualified stock options and restricted stock may be granted to employees and outside consultants, except that members of the Board of Directors and individuals who are considered officers of the

NOTE 14—STOCKHOLDERS' EQUITY AND SHARE-BASED COMPENSATION EXPENSE (Continued)

Company under the rules of the National Association of Securities Dealers shall not be eligible. Options granted under the 1998 Stock Plan expire no later than ten years from the date of grant. A total of 3.6 million shares of common stock are authorized for issuance under the 1998 Stock Plan.

In 2000, the Board of Directors adopted the Amended and Restated 2000 Equity Incentive Plan (the "2000 Stock Plan"), which was amended and restated in 2001, under which RSAs, stock options, performance-based shares and stock appreciation rights may be granted to employees, outside directors and consultants. In the second quarter of 2010, 4.5 million shares of common stock were added under the 2000 Stock Plan bringing the total shares of common stock authorized for issuance under the 2000 Stock Plan to 16.2 million.

In June 2012, the Board of Directors adopted the 2012 Inducement Plan (the "2012 Inducement Plan"), under which RSAs, stock options, performance-based shares and stock appreciation rights may be granted to employees. A total of 2.0 million shares of common stock is authorized for issuance under the 2012 Inducement Plan.

The following table sets forth the total share-based compensation expense resulting from stock options and RSAs included in the accompanying Consolidated Statements of Operations (in thousands):

	Year Ended December 31,		
	2012	2011	2010
Costs of product sales	$ 1,554	$1,143	$ 994
Research and development	1,337	1,850	2,136
Selling, general and administrative (1)	14,316	5,778	6,780
Total share-based compensation expense	$17,207	$8,771	$9,910

(1) Includes $8.3 million of share-based compensation expense related to the acceleration of unvested stock options in connection with the Acquisition during the year ended December 31, 2012

As of December 31, 2012, $14.4 million of total unrecognized share-based compensation expense related to non-vested awards is expected to be recognized over the respective vesting terms of each award through 2016. The weighted-average term of the unrecognized share-based compensation expense is 2.6 years.

Stock Options

The fair value of options was estimated at the date of grant using the BSM option pricing model with the following weighted-average assumptions:

	Year Ended December 31,		
	2012	2011	2010
Risk free interest rate	0.6%	1.5%	1.1%
Expected dividend yield	0.0%	0.0%	0.0%
Expected volatility	67%	67%	76%
Expected option term (in years)	4.6	4.5	4.1

NOTE 14—STOCKHOLDERS' EQUITY AND SHARE-BASED COMPENSATION EXPENSE (Continued)

The risk free interest rate for periods within the contractual life of the Company's stock options is based on the U.S. Treasury yield curve in effect at the time of grant. The expected term is derived from an analysis of the Company's historical exercise trends over ten years. The expected volatility for the years ended December 31, 2012 and 2011 is based on a blend of historical and market-based implied volatility. Using the assumptions above, the weighted-average grant date fair value of options granted during the years ended December 31, 2012, 2011 and 2010 was $2.14, $2.86 and $2.66, respectively.

Activity under the Company's stock plans for the year ended December 31, 2012 is as follows (in thousands, except per share amounts):

	Shares	Weighted-Average Exercise Price Per Share	Weighted-Average Remaining Contractual Terms (in years)	Aggregate Intrinsic Value
Outstanding at December 31, 2011	6,276	$ 9.41		
Grants	1,159	4.03		
Exercises	(109)	3.51		
Forfeitures or expirations	(1,225)	13.08		
Outstanding at December 31, 2012	6,101	$ 7.75	4.42	$85,529
Exercisable at December 31, 2012	3,175	$10.52	3.30	$70,079
Vested and expected to vest at December 31, 2012	5,616	$ 8.03	4.27	$85,444

The following table summarizes information concerning currently outstanding and exercisable options at December 31, 2012:

Range of Exercise Prices		Options Outstanding			Options Exercisable	
Lower	Upper	Number (in thousands)	Weighted-Average Remaining Contractual Life (in years)	Weighted-Average Exercise Price Per Share	Number (in thousands)	Weighted-Average Exercise Price Per Share
$2.63	$ 3.22	393	3.57	$ 2.95	253	$ 2.89
$3.32	$ 4.16	954	6.44	$ 3.92	54	$ 3.85
$4.21	$ 4.22	848	4.64	$ 4.22	409	$ 4.22
$4.26	$ 4.85	797	5.66	$ 4.73	202	$ 4.75
$4.88	$ 5.74	803	4.73	$ 5.37	362	$ 5.41
$5.78	$ 8.29	1,027	4.47	$ 7.33	616	$ 7.45
$8.71	$19.92	822	2.37	$12.52	822	$12.52
$20.90	$57.08	457	1.32	$28.29	457	$28.29
Total		6,101	4.42	$ 7.75	3,175	$10.52

NOTE 14—STOCKHOLDERS' EQUITY AND SHARE-BASED COMPENSATION EXPENSE (Continued)

The aggregate intrinsic value in the table above represents the total pretax intrinsic value (i.e., the difference between the Company's closing stock price on the last trading day of its fourth quarter of 2012 and the exercise price, multiplied by the number of in-the-money options) that would have been received by the option holders had all option holders exercised their options on December 31, 2012. The amount changes based on the fair market value of the Company's common stock. For the years ended December 31, 2012, 2011 and 2010, total intrinsic value of options exercised was $0.1 million, $0.4 million and $0.2 million, respectively.

Reserved Shares

At December 31, 2012, the Company has shares reserved for future issuance as follows (in thousands):

Options outstanding	6,101
Options available for future grants	5,262
Convertible notes	17,985
	29,348

Restricted Stock

The following table summarizes the Company's RSAs activity for the year ended December 31, 2012 (in thousands, except per share amounts):

	Number of Shares	Weighted-Average Grant Date Fair Value
Restricted stock awards		
Outstanding at December 31, 2011	540	$7.32
Granted	—	—
Vested	(310)	8.22
Forfeited	(63)	6.64
Outstanding at December 31, 2012	167	$5.89
Restricted stock units		
Outstanding at December 31, 2011	2,057	$4.74
Granted	1,451	4.09
Vested	(515)	5.20
Forfeited	(302)	4.69
Outstanding at December 31, 2012	2,691	$4.31

For the years ended December 31, 2012 and 2011, total fair value of RSAs vested was $16.2 million and $14.6 million, respectively.

NOTE 14—STOCKHOLDERS' EQUITY AND SHARE-BASED COMPENSATION EXPENSE (Continued)

Performance-Based Awards

In 2011, the Compensation Committee of the Company's Board of Directors approved a grant of performance-based restricted stock units ("PRSUs") under the Plan to the Company's Chief Executive Officer ("CEO") that is earned annually in four equal tranches based on his performance in the applicable fiscal year (the "Performance Period"). The PRSUs entitle the CEO to receive a certain number of shares of the Company's common stock based on the Company's satisfaction of certain financial and strategic performance goals as set and approved by the Board of Directors annually during the first quarter of the Company's fiscal year. Based on the achievement of the performance conditions during each Performance Period, the final settlement of the PRSU award will vest twelve months following the end of each Performance Period. The PRSU award will be forfeited if the performance goals are not met or if the executive officer is no longer employed at the vest date.

The number of shares underlying the PRSUs that were granted to the CEO during 2011 totaled 240,000 shares. As of December 31, 2012, performance conditions pertaining to 60,000 shares of the PRSUs with a grant date fair value of $6.71 per PRSU, and relating to a Performance Period ending December 31, 2011 were achieved. The Company expects that an additional 15,000 shares of the PRSUs, with a grant date fair value of $4.63 per PRSU, will vest with respect to the Performance Period ending December 31, 2012 and the fair value of such PRSU's is being amortized on a straight-line basis over the related service period. The total compensation cost related to PRSUs granted but not yet recognized was less than $0.1 million as of December 31, 2012.

During July 2012, the Compensation Committee granted certain PRSUs following the acquisition of eBioscience referred to as an Acquisition Performance Share Program (the "Program"). The purpose of the Program is to align key management and senior leadership with stockholders' interests and to retain key employees. The measurement periods for the Program are the twelve month periods ended June 30, 2013 and June 30, 2014, respectively. Members of eBioscience management and other key employees are participating in the Program. Awards granted under the Program are granted in the form of performance shares pursuant to the terms of our 2012 Inducement Plan. If pre-determined eBioscience specific performance goals are met, shares of stock will be granted to the recipient, vesting one month following the performance period representing the date of certification of achievement, contingent upon the recipient's continued service to the Company.

For the year ended December 31, 2012, the Company awarded 916,500 PRSUs under the Program at a grant date fair value of $4.16 per PRSU and expects 78% of the PRSUs will vest. The fair value of the PRSUs is being amortized on a straight-line basis over the related service period. The total compensation cost related to PRSUs granted but not yet recognized was approximately $1.6 million as of December 31, 2012.

Employee Stock Purchase Plan

In August 2011, the Company's Board of Directors adopted the 2011 Employee Stock Purchase Plan ("ESPP") that was approved by the Company's stockholders on May 11, 2012. The ESPP reserved a total of 7.0 million shares of the Company's common stock for issuance under the plan and permits eligible employees to purchase common stock at a discount through payroll deductions.

NOTE 14—STOCKHOLDERS' EQUITY AND SHARE-BASED COMPENSATION EXPENSE (Continued)

The price at which stock is purchased under the ESPP is equal to 85% of the fair market value of the common stock on the first day of the offering period or the last day of the purchase period, whichever is lower. The offering periods are twelve months and include two six month purchase periods that result in a look-back for determining the purchase price of up to 12 months. Employees can invest up to 15% of their gross compensation through payroll deductions. In no event would an employee be permitted to purchase more than 750 shares of common stock during any six-month purchase period. The initial offering period commenced in November 2011. As of December 31, 2012, there were 347 participants in the plan and approximately 0.3 million shares were issued under the ESPP during the period at an average subscription date fair value of $3.37 per share. Included in total share-based compensation cost for the year ended December 31, 2012 was $0.6 million, related to the ESPP.

During the years ended December 31, 2012 and 2011, the fair value of shares under the ESPP was estimated using the following assumptions:

	2012	2011
Risk free interest rate	0.1%	0.1%
Expected dividend yield	0.0%	0.0%
Expected volatility	64%	67%
Expected term (in years)	0.7	0.7

NOTE 15—LEGAL PROCEEDINGS

The Company has been in the past, and continues to be, a party to litigation which has consumed, and may continue to consume, substantial financial and managerial resources. The Company could incur substantial costs and divert attention of management and technical personnel in defending against litigation, and any adverse ruling or perception of an adverse ruling could have a material adverse impact on the Company's stock price. In addition, any adverse ruling could have a material adverse impact on the Company's cash flow and financial condition. The results of any litigation or any other legal proceedings are uncertain and as of the date of this report, the Company has not accrued any liability with respect to any of the litigation matters listed below:

E8 Pharmaceuticals LLC

On July 1, 2008, the Company was named as a defendant in a complaint filed by plaintiffs E8 Pharmaceuticals LLC and Massachusetts Institute of Technology ("MIT") in the United States District Court of Massachusetts. In the complaint, the plaintiffs allege that the Company is infringing one patent owned by MIT and licensed to E8 Pharmaceuticals by making and selling the Company's GeneChip® products to customers and teaching its customers how to use the products. The plaintiffs seek a permanent injunction enjoining the Company from further infringement, unspecified monetary damages, enhanced damages pursuant to 35 U.S.C. §284, costs, attorneys' fees and other relief as the court deems just and proper. On September 4, 2012, the District Court issued its ruling construing key claims of the patent at issue. The parties thereafter stipulated to the dismissal of plaintiff's claims and in September, the District Court dismissed the lawsuit in its entirety. On September 26, 2012, the plaintiffs filed an appeal with the United States Court of Appeals for the Federal Circuit appealing the District Court's dismissal of the lawsuit. The Company will continue to vigorously defend against the plaintiffs' claims.

NOTE 15—LEGAL PROCEEDINGS (Continued)

Enzo Litigation

Southern District of New York Case: On October 28, 2003, Enzo Life Sciences, Inc., a wholly-owned subsidiary of Enzo Biochem, Inc. (collectively "Enzo"), filed a complaint against the Company that is pending in the United States District Court for the Southern District of New York for breach of contract, injunctive relief and declaratory judgment. The Enzo complaint relates to a 1998 distributorship agreement with Enzo under which the Company served as a non-exclusive distributor of certain reagent labeling kits supplied by Enzo. In its complaint, Enzo seeks monetary damages and an injunction against the Company from using, manufacturing or selling Enzo products and from inducing collaborators and customers to use Enzo products in violation of the 1998 agreement. Enzo also seeks the transfer of certain Affymetrix patents to Enzo.

On November 10, 2003, the Company filed a complaint against Enzo in the United States District Court for the Southern District of New York for declaratory judgment, breach of contract and injunctive relief relating to the 1998 agreement. In its complaint, the Company alleges that Enzo has engaged in a pattern of wrongful conduct against it and other Enzo labeling reagent customers by, among other things, asserting improperly broad rights in its patent portfolio, improperly using the 1998 agreement and distributorship agreements with others in order to corner the market for non-radioactive labeling reagents, and improperly using the 1998 agreement to claim ownership rights to the Company's proprietary technology. The court has not set a trial date for these actions, but has advised the parties to clear time for trials at the end of 2013 or the beginning of 2014, to potentially try these actions as well as other related actions between Enzo and other third parties.

Delaware Case: On April 6, 2012, Enzo filed a complaint against the Company in the United States District Court for the District of Delaware. In the complaint, plaintiff alleges that Affymetrix is infringing U.S. Patent No. 7,064,197 by making and selling certain GeneChip® products. The plaintiff seeks a preliminary and permanent injunction enjoining the Company from further infringement and unspecified monetary damages. The Company will vigorously defend against the plaintiff's case. No trial date is set for this action.

Life Technologies Litigation

On October 12, 2010, Life Technologies Corporation filed a complaint against eBioscience in the United States District Court for the Southern District of California, alleging that eBioscience is infringing U.S. Patent Nos. 6,423,551, 6,699,723, and 6,927,069 related to certain eBioscience products. The parties reached a settlement of this lawsuit in January 2013. See Note 3. "Acquisition" for further details.

Administrative Proceedings

The Company's intellectual property is subject to a number of significant administrative actions. These proceedings could result in the Company's patent protection being significantly modified or reduced, and the incurrence of significant costs and the consumption of substantial managerial resources. For the year ended December 31, 2012, the Company did not incur significant costs in connection with administrative proceedings.

NOTE 16—INCOME TAXES

The following table presents the U.S. and foreign components of consolidated loss before income taxes (in thousands):

	Year Ended December 31,		
	2012	2011	2010
(LOSS) INCOME BEFORE INCOME TAXES:			
U.S.	$(36,248)	$(26,778)	$(15,722)
Foreign	(10,301)	22	7,659
Loss before income taxes	$(46,549)	$(26,756)	$ (8,063)

The following table presents the (benefit) provision for income taxes (in thousands):

	Year Ended December 31,		
	2012	2011	2010
(BENEFIT) PROVISION FOR INCOME TAXES:			
Current:			
Federal	$ (28)	$ —	$ —
State	568	106	37
Foreign	1,104	1,038	2,222
Subtotal	1,644	1,144	2,259
Deferred:			
Federal	(35,329)	—	—
State	(1,811)	—	—
Foreign	(357)	261	(89)
Subtotal	(37,497)	261	(89)
Income tax (benefit) provision	$(35,853)	$1,405	$2,170

The difference between the (benefit) provision for income taxes and the amount computed by applying the federal statutory income tax rate (35%) to loss before taxes is explained as follows (in thousands):

	Year Ended December 31,		
	2012	2011	2010
Tax at federal statutory rate	$(16,292)	$ (9,364)	$(2,822)
State taxes, net	(1,136)	(1,740)	(1,646)
Non-deductible stock compensation	3,470	453	626
Non-deductible acquisition costs	410	878	—
Foreign rate differential	4,353	1,274	(547)
Research credits	—	(692)	(991)
Change in valuation allowance	(26,795)	10,461	7,026
Other	137	135	524
Income tax (benefit) provision	$(35,853)	$ 1,405	$ 2,170

NOTE 16—INCOME TAXES (Continued)

During the year ended December 31, 2012, the Company recognized a reduction in the valuation allowance recorded against the Company's net deferred tax assets of $37.1 million. The reduction was related to net deferred tax liabilities recognized for the difference between the fair value and carrying basis of certain tangible and intangible assets obtained as part of the Acquisition, which can be used as a source of income to support realization of certain domestic deferred tax assets. Under US GAAP, changes in an acquirer's valuation allowances that stem from a business combination should be recognized as an element of the acquirer's deferred income tax expense (benefit) in the reporting period that includes the business combination. There were no changes to the valuation allowance recorded as deferred income tax expense (benefit) during the years ended December 31, 2011 and 2010.

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 assets and liabilities are as follows (in thousands):

	December 31,	
	2012	2011
Deferred tax assets:		
Net operating loss carryforwards	$ 75,622	$ 57,677
Tax credit carryforwards	50,704	47,513
Deferred revenue	1,537	1,632
Capitalized research and development costs	394	487
Intangibles	21,175	20,462
Share-based compensation	5,808	4,284
Accrued compensation	1,775	2,025
Accrued warranty	446	570
Inventory reserves	5,664	4,860
Reserves and other	13,216	10,928
Depreciation and amortization	6,731	21,323
Other, net	6,069	1,742
Total deferred tax assets	189,141	173,503
Valuation allowance for deferred tax assets	(130,979)	(154,107)
Net deferred tax assets	58,162	19,396
Net deferred tax liabilities:		
Acquired intangible assets	(45,397)	(2,459)
Acquired tangible assets	(7,701)	—
Cancellation of debt	(9,669)	(9,669)
Foreign earnings	(3,282)	(5,139)
Other, net	(1,296)	(1,315)
Total deferred tax liabilities	(67,345)	(18,582)
Net deferred tax (liabilities) assets	$ (9,183)	$ 814

NOTE 16—INCOME TAXES (Continued)

The deferred tax liabilities for 2012 include amounts related to the Acquisition and therefore the change in total deferred tax liabilities in 2012 includes changes that are recorded to goodwill.

As of December 31, 2012, the Company had total U.S. net operating loss carryforwards of $356.1 million, comprised of $210.4 million for U.S. federal purposes, which expire in the years 2021 through 2032 if not utilized, and $145.7 million for state purposes, the majority of which expire in the years 2013 through 2032 if not utilized. Additionally, the Company has federal research and development tax credit carryforwards of approximately $23.7 million, which expire in the years 2017 through 2032 if not utilized. The Company also has state research and development tax credit carryforwards and other various tax credit carryforwards of approximately $41.3 million. Substantially all of the state tax credits can be carried forward indefinitely. Certain of the net operating loss and tax credit carryforwards are subject to annual limitations due to the ownership change provisions under Internal Revenue Code Section 382 and similar state provisions. The limitations will not result in significant expirations of the net operating loss carryforwards before utilization.

As of December 31, 2012, the Company has recorded a full valuation allowance against all U.S. and certain foreign deferred tax assets. The valuation allowance decrease of $23.1 million from $154.1 million in 2011 to $131.0 in 2012 is primarily attributable to the reduction in the valuation allowance recorded against the Company's net deferred tax assets of $37.1 million as part of the Acquisition, partially offset by U.S losses which was recorded as a tax benefit through the income statement. Approximately $26.5 million of the valuation allowance as of December 31, 2012 is attributable to the income tax benefits of share-based compensation, the benefit of which will be credited to stockholders' equity when, and if, realized. The valuation allowance increase of $11.5 million from $142.6 million in 2010 to $154.1 million in 2011 was primarily attributable to U.S. losses and a release in reserves related to uncertain tax positions.

Not included in the deferred tax assets as of December 31, 2012 is approximately $4.8 million of tax benefits related to share-based compensation. When, and if, realized the tax benefit of these assets will be accounted for as a credit to stockholders' equity, rather than a reduction of the income tax provision.

Of the total tax benefits realized from the share-based compensation nominal amounts were recorded to stockholders' equity for the years ended December 31, 2012 and 2011, respectively.

The Company provides for U.S. income tax on the earnings of foreign subsidiaries unless the earnings are considered indefinitely reinvested outside the U.S. As of December 31, 2012, the Company has a nominal amount of previously untaxed earnings from its foreign subsidiaries which were not indefinitely reinvested outside the U.S. The potential federal and state taxes on these repatriations is nominal.

A portion of the Company's operations in Singapore operate under various tax holidays and tax incentive programs, which expire in whole or in part at various dates through 2017. There was a minimal net impact of these tax holidays and tax incentive programs for the year ended December 31, 2012.

NOTE 16—INCOME TAXES (Continued)

The following table presents the Company's total amount of gross unrecognized tax benefits (in thousands):

	2012	2011
Unrecognized tax benefits, beginning of year	$16,480	$20,758
Gross increases—tax positions in prior period	3,027	517
Gross decreases—tax positions in prior period	(376)	(201)
Gross increases—current period tax positions	1,282	1,203
Settlements	—	(5,797)
Unrecognized tax benefits, end of year	$20,413	$16,480

If recognized, the amount of unrecognized tax benefits that would impact income tax expense is $5.3 million. As of December 31, 2012, the Company does not anticipate any material changes to the amount of unrecognized tax benefits during the next 12 months. The Company classifies interest and penalties related to tax positions as components of income tax expense. For the year ended December 31, 2012, the amount of accrued interest and penalties related to tax uncertainties was approximately $0.2 million for a total cumulative amount included in non-current income taxes payable of $1.1 million as of December 31, 2012. A number of major tax jurisdictions are currently subject to examination. The amount of unrecognized tax benefits that could change in the next 12 months as a result is $1.9 million.

The Company files U.S. federal, state, and foreign income tax returns in jurisdictions with varying statutes of limitations. The Company's major tax jurisdictions are the U.S. federal, California, Singapore, the United Kingdom and Austria. The federal and California statute of limitations on assessments remain open for substantially all tax years. The major foreign jurisdictions remain open for primarily tax years 2007 through 2012.

NOTE 17—SEGMENT AND GEOGRAPHIC INFORMATION

The Company reports segment information on the "management" approach which designates the internal reporting used by management for making decisions and assessing performance as the source of the Company's reportable segments. The Company has determined that its Chief Executive Officer is the Company's chief operating decision maker ("CODM") as he is responsible for reviewing and approving investments in the Company's technology platforms and manufacturing infrastructure. Prior to 2012, the Company was organized as one reportable operating segment. Subsequent to the Acquisition, the Company's business was reorganized into two reportable operating segments for financial reporting purposes, Affymetrix Core and eBioscience.

Beginning in 2012, prior to the Acquisition, the Company reorganized its business in the following four business units: Expression, Genetic Analysis and Clinical Applications, Life Science Reagents, which the Company categorized into its reportable operating segment, Affymetrix Core, and Corporate. The reorganization into business units represented a fundamental change for the Company. The necessary information for the year ended December 31, 2010 is not disclosed as the cost to develop it would be excessive. The Expression business unit develops and markets the Company's gene expression products and services, including in vitro transcription and other whole transcript arrays and QuantiGene line targeted at low-to-mid-plex products. The Genetic

NOTE 17—SEGMENT AND GEOGRAPHIC INFORMATION (Continued)

Analysis and Clinical Applications business unit develops and markets the Company's genotyping and cytogenetics products. The Life Science Reagents business unit targets the life science reagent markets, developing and marketing reagents, enzymes, purification kits and biochemicals used by life science researchers. The Corporate business unit is comprised primarily of revenue from royalty arrangements, and field revenue from services provided to customers by the Company. The Company has concluded that its manufacturing operations are based on platforms that are used to produce various products that serve multiple applications and markets. Its manufacturing and the majority of its supporting operations have not been reorganized into business units but is centralized and Affymetrix Core business units are aggregated into one reportable operating segment, except for the Corporate business unit which was not deemed to be an operating segment.

The Company's other reportable operating segment, eBioscience, was acquired in the second quarter of 2012 and will be operated as a separate business unit in order to minimize or avoid any disruption of services, while taking advantage of immediate opportunities to create efficiencies. Refer to Note 3. "Acquisition" for further information. eBioscience specializes in the development, manufacturing, marketing and distribution of research tools in the areas of flow cytometry, immunoassays, microscopic imaging and other protein-based analyses. The Acquisition allows the Company to expand addressable markets and continue to diversify the business beyond genomics discovery into cell and protein analysis.

The Company evaluates the performance of its reportable operating segments based on revenue and income (loss) from operations. Revenue are allocated to each business unit based on product codes. Excluding eBioscience whose business is primarily operated on a stand-alone basis except for certain cross-functional areas, operating expenses are allocated to Affymetrix Core in the following manner: Research and development costs are allocated to the business units based on respective products in which the research and development costs are incurred, with the remaining costs allocated to the Corporate business unit. Sales and marketing costs are allocated based on surveys with company personnel on the business unit in which employees incur their time. General and administrative costs are primarily allocated to the Corporate business unit.

The following table shows revenue and income (loss) from operations by reportable operating segment for the years ended December 31, 2012 and 2011 (in thousands):

	Year Ended December 31,	
	2012	2011
Revenue (a):		
Affymetrix Core	$235,105	$242,307
eBioscience	37,011	—
Totals	$272,116	$242,307
Income (loss) from operations (a):		
Affymetrix Core	$ 35,230	$ 55,659
eBioscience	(8,792)	—
Totals	$ 26,438	$ 55,659

NOTE 17—SEGMENT AND GEOGRAPHIC INFORMATION (Continued)

The following table reconciles total operating segment revenue and loss from operations to the accompanying Consolidated Statements of Operations

	Year Ended December 31,	
	2012	2011
Total revenue from reportable operating segments	$272,116	$242,307
Other revenue (a)	23,507	25,167
Total revenue	$295,623	$267,474
Total income from operations from reportable operating segments	$ 26,438	$ 55,659
Other corporate expenses, net (b)	(65,529)	(72,300)
Total loss from operations	$(39,091)	$(16,641)

(a) Other revenue include field service revenue and royalty revenue

(b) Other corporate expenses, net include cost of goods sold directly associated with other revenue, research and development, corporate marketing, facilities and other separately-managed general and administrative expenses.

The Company reported total revenue by region as follows (in thousands):

	Year Ended December 31,		
	2012	2011	2010
Customer location:			
United States	$171,176	$142,508	$178,029
Europe	71,526	76,286	80,914
Japan	21,039	19,989	22,248
Other	31,882	28,691	29,555
Total	$295,623	$267,474	$310,746

There were no customers representing 10% or more of total revenue in 2012, 2011 and 2010.

The Company's long-lived assets other than purchased intangible assets, which the Company does not allocate to specific geographic locations as it is impracticable to do so, are composed principally of net property and equipment.

NOTE 17—SEGMENT AND GEOGRAPHIC INFORMATION (Continued)

Net property and equipment, classified by major geographic areas in which the Company operates was as follows (in thousands):

	Year Ended December 31,	
	2012	2011
Net property and equipment:		
United States (1)	$22,204	$32,168
Singapore	4,260	6,022
Europe	1,770	1,059
Other countries	430	335
Total	$28,663	$39,583

(1) Included in the balance as of December 31, 2011 was the Company's West Sacramento facility that was reclassified to held-for-sale on the accompanying Consolidated Balance Sheets at an estimated fair value of $9.0 million at December 31, 2011.

NOTE 18—DEFINED-CONTRIBUTION SAVINGS PLANS

The Company maintains a defined-contribution savings plan which is qualified under Section 401(k) of the Internal Revenue Code. The plan covers substantially all full-time U.S. employees. Participating employees may defer a portion of their pretax earnings, up to the Internal Revenue Service annual contribution limit. The Company's expense associated with matching employee contributions, including eBioscience, for the years ended December 31, 2012, 2011 and 2010 totaled $3.0 million, $3.0 million and $2.8 million, respectively. Company contributions to employees vest ratably over four years.

NOTE 19—RELATED PARTY TRANSACTIONS

In December 2011, the Company entered into an agreement under which it assigned one patent application and related know-how to Cellular Research, Inc. ("Cellular Research"), a company founded by the Company's Chairman, Dr. Stephen P.A. Fodor. Dr. Fodor also owns a majority of the shares of Cellular Research. Pursuant to the agreement, Cellular Research shall pay single digit royalties to Affymetrix on sales of products covered by the assigned technology, and starting in December 2015, an annual minimum fee of $100,000. Affymetrix shall also have a right of first refusal to collaborate with Cellular Research for the development of certain new products and to supply arrays to Cellular Research under certain terms and conditions. As of December 31, 2012, no royalties were earned pertaining to this agreement.

NOTE 20—UNAUDITED QUARTERLY FINANCIAL INFORMATION

	2012				2011			
	Fourth Quarter	Third Quarter	Second Quarter (1)	First Quarter	Fourth Quarter	Third Quarter	Second Quarter	First Quarter
	(in thousands, except per share amounts)							
Total revenue	$ 84,349	$ 79,624	$66,403	$65,247	$ 65,104	$63,987	$64,659	$73,724
Total cost of goods sold	39,171	37,938	27,682	27,344	30,412	27,648	25,793	27,099
Net (loss) income	(12,269)	(17,859)	23,649	(4,217)	(14,739)	(9,789)	(3,672)	39
Basic net (loss) income per common share	(0.17)	(0.25)	0.44	(0.06)	(0.21)	(0.14)	(0.05)	0.00
Diluted net (loss) income per common share	(0.17)	(0.25)	0.43	(0.06)	(0.21)	(0.14)	(0.05)	0.00

(1) During the third quarter of 2012, the Company recast its income tax benefit for the second quarter of 2012, lowering it by $7.2 million from net $44.3 million to net $37.1 million with a corresponding increase in valuation allowance as a result of the retrospective adjustments related to the determination of the fair value of assets acquired and liabilities assumed and related income tax valuation adjustments.

NOTE 21—RESTRUCTURING

In late 2012, the Company initiated a cost reduction action that included workforce. In January 2013, approximately 100 employees were notified of their involuntary termination. The Company estimates that the total restructuring charge associated with the plan will be approximately $6.8 million, substantially all of which is compensation and benefits afforded to terminated employees. The restructuring charges is expected to be recognized during the first quarter of 2013 in Restructuring expenses except for $1.8 million related to employees who were notified prior to December 31, 2012 and accrued and recognized in the accompanying Consolidated Financial Statements for the year ended December 31, 2012. The Company anticipates substantially all of the cash expenditures will be released during the first quarter of 2013. As of December 31, 2012, the Company had $1.8 million outstanding in Accounts payable and accrued liabilities on the accompanying Consolidated Balance Sheets.

NOTE 22—SUBSEQUENT EVENTS

During the first quarter of 2013, the Company redeemed its remaining outstanding 3.50% Notes due on January 15, 2015 for $3.9 million in total cash consideration, including accrued interest of $0.1 million. The notes were redeemed at par and the related deferred financing costs written off.

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

Not applicable.

ITEM 9A. CONTROLS AND PROCEDURES

Disclosure Controls and Procedures

As required by paragraph (b) of Exchange Act Rules 13a-15 or 15d-15, Affymetrix' management, including our Chief Executive Officer and Chief Financial Officer, conducted an evaluation as of the end of the period covered by this report, of the effectiveness of Affymetrix' disclosure controls and procedures as defined in Exchange Act Rule 13a-15(e) and 15d-15(e). Based on that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that Affymetrix' disclosure controls and procedures were effective as of the end of the period covered by this report.

Management's Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rules 13a-15(f) and 15d-15(f). Under the supervision of our Chief Executive Officer and Chief Financial Officer and with the participation of our management, we conducted an evaluation of the effectiveness of our internal control over financial reporting as of December 31, 2012 based on the framework in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"). We have excluded from our evaluation, the internal control over financial reporting of eBioscience and subsidiaries, which we acquired on June 25, 2012 and is included in the fiscal year 2012 consolidated financial statements of Affymetrix and constituted $329.3 million and $308.3 million of total and net assets, respectively, as of December 31, 2012 and $37.0 million and $8.9 million of revenues and net loss, respectively, for the year then ended. Based on that evaluation, our management concluded that our internal control over financial reporting was effective as of December 31, 2012.

Changes in Internal Control Over Financial Reporting

There were no changes in our internal control over financial reporting identified in connection with the evaluation required by paragraph (d) of Exchange Act Rules 13a-15 or 15d-15 that occurred during our last fiscal quarter that have materially affected or are reasonably likely to materially affect, our internal control over financial reporting.

The effectiveness of our internal control over financial reporting as of December 31, 2012, has been audited by Ernst & Young LLP, our independent registered public accounting firm, as stated in their report which is included as follows.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of Affymetrix, Inc.

We have audited Affymetrix, Inc.'s 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 (the "COSO criteria"). Affymetrix, Inc.'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 the accompanying Management's Report on Internal Control Over Financial Reporting. 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, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and 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.

As indicated in the accompanying Management's Report on Internal Control Over Financial Reporting, management's assessment of and conclusion on the effectiveness of internal control over financial reporting did not include the internal controls of eBioscience, Inc., which is included in the 2012 consolidated financial statements of Affymetrix, Inc. and constituted $329.3 million and $308.3 million of total and net assets, respectively, as of December 31, 2012 and $37.0 million and $8.9 million of revenues and net loss, respectively, for the year then ended. Our audit of internal control over financial reporting of Affymetrix, Inc. also did not include an evaluation of the internal control over financial reporting of eBioscience, Inc.

In our opinion, Affymetrix, Inc. maintained, in all material respects, effective internal control over financial reporting as of December 31, 2012, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated balance sheets of Affymetrix, Inc. as of December 31, 2012 and 2011, and the related consolidated statements of operations, comprehensive loss, stockholders' equity, and cash flows for each of the three fiscal years in the period ended December 31, 2012 of Affymetrix, Inc. and our report dated March 1, 2013 expressed an unqualified opinion thereon.

/s/ ERNST & YOUNG LLP

Redwood City, California
March 1, 2013

ITEM 9B. OTHER INFORMATION

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

Information regarding our directors and executive officers is incorporated by reference to the sections of the Company's proxy statement for the 2013 Annual Meeting of Stockholders (the "Proxy Statement") entitled "Election of Directors" and "Management."

The information concerning our corporate governance, including our audit committee, required by this Item is incorporated by reference to the sections of the Proxy Statement entitled "Governance of the Company" and "Report of the Audit Committee."

The information concerning compliance with Section 16(a) of the Exchange Act required by this Item is incorporated by reference to the section of the Proxy Statement entitled "Section 16(a) Beneficial Ownership Reporting Compliance."

CODE OF ETHICS

Affymetrix has adopted a code of business conduct and ethics for directors, officers (including Affymetrix' Chief Executive Officer, Chief Financial Officer and Corporate Controller) and employees, known as the Code of Business Conduct and Ethics. The Code of Business Conduct and Ethics is available on Affymetrix' website at *www.affymetrix.com* in the Corporate Governance section under the "Investors" link. Stockholders may request a free copy of the Code of Business Conduct and Ethics by sending an email request to *investor@affymetrix.com*.

ITEM 11. EXECUTIVE COMPENSATION

Incorporated by reference to the sections of the Proxy Statement entitled "Executive Compensation," "Compensation Discussion and Analysis," "Compensation Committee Report," "Certain Transactions" and "Compensation of Directors."

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

Incorporated by reference to the section of the Proxy Statement entitled "Stock Ownership of Principal Stockholders and Management."

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

Incorporated by reference to the sections of the Proxy Statement entitled "Certain Transactions" and "Governance of the Company."

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

Information about principal accountant fees and services as well as related pre-approval policies appears under "Fees Paid to Ernst & Young LLP" and "Audit Committee Pre-Approval of Audit and Permissible Non-Audit Services of Independent Registered Public Accounting Firm" in the Proxy Statement. Those portions of the Proxy Statement are incorporated by reference into this report.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a)(1) Financial Statements. The financial statements as set forth under Item 8 of this Report on Form 10-K are incorporated herein by reference.

(a)(2) Financial Statement Schedule—Schedule II—Valuation and Qualifying Accounts. All other schedules have been omitted as they are not required, not applicable or the information is otherwise included.

(a)(3) Exhibits. The exhibits listed in the accompanying Index to Exhibits are filed or incorporated by reference as part of this Report on Form 10-K.

AFFYMETRIX, INC.

Schedule II—Valuation and Qualifying Accounts

(in thousands)

	Balance at Beginning of Period	Additions Charged to Operations or Other Accounts	Write-offs, net of recoveries	Balance at End of Period
Allowance for Doubtful Accounts:				
Year Ended December 31, 2012 (1)	$ 496	$ 590	$(395)	$691
Year Ended December 31, 2011	$ 949	$(282)	$(171)	$496
Year Ended December 31, 2010	$1,853	$(685)	$(219)	$949

(1) Activity in 2012 includes the addition of eBioscience since the Acquisition Date

SIGNATURES

Pursuant to the requirements of Section 13 of 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.

AFFYMETRIX, INC.
(Registrant)

March 1, 2013

By: /s/ FRANK WITNEY
Frank Witney
DIRECTOR, 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.

Each individual whose signature appears below constitutes and appoints Frank Witney, John F. Runkel, Jr., Timothy C. Barabe, and Siang H. Chin and each of them singly, his or her true and lawful attorneys-in-fact, each with the power of substitution, for him or her in any and all capacities, to sign any amendments to this Annual Report on Form 10-K, and to file the same, with exhibits thereto and other documents in connection therewith, with the U.S. Securities and Exchange Commission, hereby ratifies and confirms all that said attorneys-in-fact, or his or her substitute or substitutes, may do or cause to be done by virtue thereof.

	Name	Title	Date
By:	/s/ FRANK WITNEY Frank Witney	Director, President and Chief Executive Officer (Principal Executive Officer)	March 1, 2013
By:	/s/ TIMOTHY C. BARABE Timothy C. Barabe	Executive Vice President and Chief Financial Officer (Principal Financial and Accounting Officer)	March 1, 2013
By:	/s/ STEPHEN P.A. FODOR, PH.D. Stephen P.A. Fodor, Ph.D.	Founder and Chairman of the Board	March 1, 2013
By:	/s/ NELSON C. CHAN Nelson C. Chan	Director	March 1, 2013
By:	/s/ JOHN D. DIEKMAN, PH.D. John D. Diekman, Ph.D.	Director	March 1, 2013
By:	/s/ GARY S. GUTHART, PH.D. Gary S. Guthart, Ph.D.	Director	March 1, 2013
By:	/s/ JAMI DOVER NACHTSHEIM Jami Dover Nachtsheim	Director	March 1, 2013
By:	/s/ ROBERT H. TRICE, PH.D. Robert H. Trice, Ph.D.	Director	March 1, 2013
By:	/s/ ROBERT P. WAYMAN Robert P. Wayman	Director	March 1, 2013

INDEX TO EXHIBITS

EXHIBIT NUMBER	DESCRIPTION OF DOCUMENT
2.1(1)	Agreement and Plan of Merger by and among Panomics, Inc., the Company, Panda Acquisition Corporation and the Equityholders' Representative dated as of November 11, 2008.
2.2(2)	Agreement and Plan of Merger dated as of November 29, 2011 among the Company, eBioscience Holding Company, Inc., Excalibur Acquisition Sub, Inc. and the Securityholders' Representative.
2.3(3)	Amended and Restated Agreement and Plan of Merger dated as of May 3, 2012 among the Company, eBioscience Holding Company, Inc., Excalibur Acquisition Sub, Inc. and the Securityholders' Representative.
3.1(4)	Restated Certificate of Incorporation.
3.2(5)	Amended and Restated Bylaws.
4.1(6)	Indenture dated as of June 25, 2012 by and between the Company and The Bank of New York Mellon Trust Company, N.A. as Trustee.
4.2(6)	First Supplemental Indenture dated as of June 25, 2012 by and between the Company and The Bank of New York Mellon Trust Company, N.A. as Trustee.
4.3(6)	Form of 4.00% Convertible Senior Note Due 2019 (included in Exhibit 4.2).
10.1(7)‡	1996 Nonemployee Directors Stock Option Plan.
10.2(8)‡	1998 Stock Incentive Plan.
10.3(9)‡	Amendment No. 1 to the 1996 Nonemployee Directors Stock Option Plan of the Company.
10.4(10)‡	Amended and Restated 1996 Non-Employee Directors Stock Plan.
10.5(11)‡	Affymetrix, Inc. Amended and Restated 2000 Equity Incentive Plan, as adopted effective March 9, 2000 and amended through May 14, 2010.
10.6(12)‡	Form of Non-Qualified Stock Option Agreement under the Affymetrix, Inc. Amended and Restated 1996 Non-Employee Directors Stock Plan.
10.7(24)‡	Form of Stock Option Agreement under the Affymetrix, Inc. Amended and Restated 2000 Equity Incentive Plan.
10.8(24)‡	Form of Restricted Stock Unit Agreement under the Affymetrix, Inc. Amended and Restated 2000 Equity Incentive Plan.
10.9(13)‡	First Amendment to Affymetrix, Inc. 1998 Stock Incentive Plan.
10.10(24)‡	Form of Performance Based Restricted Stock Unit Grant Notice and Agreement under the Affymetrix, Inc. Amended and Restated 2000 Equity Incentive Plan.
10.11(14)‡	2011 Employee Stock Purchase Plan.
10.12(15)‡	2012 Inducement Plan.
10.13(16)	Lease between Sobrato Interests and the Company dated June 12, 1996 (3380 Central Expressway, Santa Clara, CA).
10.14(17)	Fifth Amendment to Lease between Sobrato Interests and the Company dated July 3, 2002 (3380 Central Expressway, Santa Clara, CA).
10.15(18)	Sixth Amendment to Lease between SI 34, LLC, as successor in interest to Sobrato Interests, and the Company dated July 11, 2011 (3380 Central Expressway, Santa Clara, CA).

EXHIBIT NUMBER	DESCRIPTION OF DOCUMENT
10.16(16)	Lease between Sobrato Interests and the Company dated May 31, 1996 (3450 Central Expressway, Santa Clara, CA).
10.17(17)	First Amendment to Lease between Sobrato Interests and the Company dated July 3, 2002 (3450 Central Expressway, Santa Clara, CA).
10.18(18)	Second Amendment to Lease between SI 34, LLC, as successor in interest to Sobrato Interests, and the Company dated July 11, 2011 (3450 Central Expressway, Santa Clara, CA).
10.19(19)	Lease between Sobrato Interests and the Company dated July 3, 2002 (3420 Central Expressway, Santa Clara, CA).
10.20(19)	First Amendment to Lease between Sobrato Interests and the Company dated September 30, 2003 (3420 Central Expressway, Santa Clara, CA).
10.21(18)	Second Amendment to Lease between SI 34, LLC, as successor in interest to Sobrato Interests, and the Company dated July 11, 2011 (3420 Central Expressway, Santa Clara, CA).
10.22(20)	Lease between Keppel Logistics Pte Ltd. and Affymetrix Pte Ltd. dated as of January 1, 2006 (7 Gul Circle, Singapore 629363).
10.23(21)	Addendum to Lease Agreement between Keppel Logistics Pte Ltd. and Affymetrix Pte Ltd. dated June 1, 2010 (7 Gul Circle, Singapore 629363).
10.24(22)	Lease Agreement between SBP Limited Partnership and the Company dated August 10, 2008 (26309 Miles Road, Warrensville Heights, OH).
10.25(22)	First Amendment and Lease Expansion Agreement between SBP Limited Partnership and the Company dated May 20, 2009 (26309 Miles Road, Warrensville Heights, OH).
10.26(22)	Lease Agreement between OTR, acting as the duly authorized nominee of The State Teacher Retirement System of Ohio and Anatrace, Inc. dated February 14, 2001 (434 Dussel Drive, Maumee, OH).
10.27(22)	Assignment and Assumption of Lease between Anatrace, Inc. and USB Acquisition dated April 30, 2005 (434 Dussel Drive, Maumee, OH).
10.28(23)	Lease Agreement between the Company and Miles/Commerce Ltd. dated April 1, 2010 (26101 Miles Road, Warrensville Heights, OH).
10.29(23)	Lease Agreement between the Company and 26111 Miles Road Ltd. dated April 1, 2010 (26111 Miles Road, Warrensville Heights, OH).
10.30(24)	Sublease Agreement between eBioscience, Inc. and STMicroelectronics, Inc. dated as of January 11, 2013 (4690 Executive Drive, San Diego, CA).
10.31(24)	Office Lease by and between eBioscience, Inc. and Kilroy Realty, L.P., dated as of January 9, 2013 (4690 Executive Drive, San Diego, CA).
10.32(24)	Sublease by and between and eBioscience, Inc. and Ligand Pharmaceuticals Incorporated dated as of December 6, 2007 (10255 Science Center Drive). (Attached as Annex A: Lease by and between Chevon/Nexus Partnership (Lot 13) and Ligand Pharmaceuticals, Inc. dated as of July 6, 1994).
10.33(24)‡	Lease between VBC Vienna Bio Center Errichtungs GmbH and Competence Investment AG, as Landlord and Medsystems Diagnostics GmbH (former name of Bender MedSystems GmbH), as Tenant, dated December 2, 2002 (Portion of Vienna Bio Center Building EZ 4335, Land Register 1006 Highway, District Court Innere Stadt, Vienna, Austria), as amended on June 2, 2004 (Landlord is Blue Capital Europa Immobilien GmbH & Co. Fünfte Objekte Österreich KG), October 2007, October 2008 and October 2010.

EXHIBIT NUMBER	DESCRIPTION OF DOCUMENT
10.34(25)‡	Offer Letter from the Company to John F. (Rick) Runkel dated October 6, 2008.
10.35(22)‡	Offer Letter from the Company to Andrew J. Last, Ph.D. dated November 2, 2009.
10.36(23)‡	Offer Letter from the Company to Timothy C. Barabe dated March 9, 2010.
10.37(26)‡	Offer Letter from the Company to Frank Witney, Ph.D. dated May 26, 2011.
10.38(8)‡	Form of Officer and Director Indemnification Agreement.
10.39(27)‡	Affymetrix, Inc. Change of Control Plan, as amended through May 14, 2010.
10.40(28)‡	Executive Severance Policy (Amended as of May 11, 2012).
10.41(29)	Settlement and Release Agreement dated January 9, 2008 between the Company and Illumina, Inc.
10.42(30)	Stipulation of Settlement regarding the Affymetrix Derivative Litigation in the United States District Court, Northern District of California.
10.43(31)	Letter Agreement dated as of January 21, 2012 between the Company and Tang Capital Partners, LP.
10.44(6)	Credit Agreement dated as of June 25, 2012 by and among the Company and its subsidiaries, General Electric Capital Corporation, Silicon Valley Bank and the other financial institutions and their securities affiliates party thereto.
10.45(24)	First Amendment to Credit Agreement dated as of July 20, 2012.
10.46(24)	Second Amendment to Credit Agreement dated as of December 5, 2012.
12	Statement regarding computation of Consolidated Ratio of Earnings to Fixed Charges
21	List of Subsidiaries.
23	Consent of Independent Registered Public Accounting Firm.
31.1	Certification of Chief Executive Officer Pursuant to Section 302 of Sarbanes-Oxley Act of 2002.
31.2	Certification of Chief Financial Officer Pursuant to Section 302 of Sarbanes-Oxley Act of 2002.
32	Certification of Chief Executive Officer and Chief Financial Officer Pursuant to 18 U.S.C. Section 1350, as adopted Pursuant to Section 906 of Sarbanes-Oxley Act of 2002.
EX-101.INS	XBRL Instance Document
EX-101.SCH	XBRL Taxonomy Extension Schema Document
EX-101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
EX-101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
EX-101.LAB	XBRL Taxonomy Extension Label Linkbase Document
EX-101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

(1) Incorporated by reference to Registrant's Annual Report on Form 10-K as filed on March 2, 2009 (File No. 000-28218).

(2) Incorporated by reference to Registrant's Annual Report on Form 10-K as filed on February 28, 2012 (File No. 000-28218).

(3) Incorporated by reference to Registrant's Current Report on Form 8-K as filed on May 31, 2012 (File No. 000-28218).

(4) Incorporated by reference to Registrant's Current Report on Form 8-K as filed on June 13, 2000 (File No. 000-28218).

(5) Incorporated by reference to Registrant's Quarterly Report on Form 10-Q as filed on August 7, 2009 (File No. 000-28218).

(6) Incorporated by reference to Registrant's Current Report on Form 8-K as filed on June 25, 2012 (File No. 000-28218).

(7) Incorporated by reference to Registrant's Registration Statement on Form S-1 (File No. 333-3648), as amended.

(8) Incorporated by reference to Registrant's Annual Report on Form 10-K as filed on March 31, 1999 (File No. 000-28218).

(9) Incorporated by reference to Registrant's Registration Statement on Form S-3 as filed on July 12, 1999 (File No. 333-82685), as amended.

(10) Incorporated by reference to Registrant's Quarterly Report on Form 10-Q as filed on May 15, 2001 (File No. 000-28218).

(11) Incorporated by reference to Registrant's Registration Statement on Form S-8 as filed on May 17, 2010 (File No. 333-166894).

(12) Incorporated by reference to Registrant's Quarterly Report on Form 10-Q as filed on November 9, 2004 (File No. 000-28218).

(13) Incorporated by reference to Registrant's Registration Statement on Form S-8 as filed on April 18, 2001 (File No. 333-59158).

(14) Incorporated by reference to Registrant's Registration Statement on Form S-8 as filed on September 1, 2011 (File No. 333-176638).

(15) Incorporated by reference to Registrant's Registration Statement on Form S-8 as filed on June 29, 2012 (File No. 333-182456).

(16) Incorporated by reference to Registrant's Quarterly Report on Form 10-Q as filed on August 14, 1996 (File No. 000-28218).

(17) Incorporated by reference to Registrant's Annual Report on Form 10-K as filed on March 16, 2005 (File No. 000-28218).

(18) Incorporated by reference to Registrant's Current Report on Form 8-K as filed on July 15, 2011 (File No. 000-28218).

(19) Incorporated by reference to Registrant's Annual Report on Form 10-K as filed on March 15, 2004 (File No. 000-28218).

(20) Incorporated by reference to Registrant's Annual Report on Form 10-K as filed on March 9, 2006 (File No. 000-28218).

(21) Incorporated by reference to Registrant's Annual Report on Form 10-K as filed on February 28, 2011 (File No. 000-28218).

(22) Incorporated by reference to Registrant's Annual Report on Form 10-K as filed on March 1, 2010 (File No. 000-28218).

(23) Incorporated by reference to Registrant's Quarterly Report on Form 10-Q as filed on May 6, 2010 (File No. 000-28218).

(24) Filed herewith.

(25) Incorporated by reference to Registrant's Quarterly Report on Form 10-Q as filed on November 7, 2008 (File No. 000-28218).

(26) Incorporated by reference to Registrant's Current Report on Form 8-K/A as filed on August 4, 2011 (File No. 000-28218).

(27) Incorporated by reference to Registrant's Current Report on Form 8-K as filed on May 18, 2010 (File No. 000-28218).

(28) Incorporated by reference to Registrant's Quarterly Report on Form 10-Q as filed on August 9, 2012 (File No. 000-28218).

(29) Incorporated by reference to Registrant's Annual Report on Form 10-K as filed on February 29, 2008 (File No. 000-28218).

(30) Incorporated by reference to Registrant's Current Report on Form 8-K as filed on May 20, 2009 (File No. 000-28218).

(31) Incorporated by reference to Registrant's Schedule TO as filed on February 3, 2012 (File No. 005-48829).

‡ Management contract, compensatory plan, contract or arrangement

EXHIBIT 21

AFFYMETRIX, INC.
LIST OF SUBSIDIARIES

Affymetrix Biotech Ltda., a wholly-owned subsidiary incorporated in Brazil and doing business under such name.

Affymetrix Biotech Shanghai Ltd., a wholly-owned subsidiary incorporated in China and doing business under such name.

Affymetrix France S.A.S., a wholly-owned subsidiary incorporated in France and doing business under such name.

Affymetrix GmbH, a wholly-owned subsidiary incorporated in Germany and doing business under such name.

Affymetrix Japan K.K., a wholly-owned subsidiary incorporated in Japan and doing business under such name.

Affymetrix Pte Ltd, a wholly-owned subsidiary incorporated in Singapore and doing business under such name.

Affymetrix. UK Ltd, a wholly-owned subsidiary incorporated in the United Kingdom and doing business under such name.

Anatrace, Inc., a wholly-owned subsidiary incorporated in Ohio and doing business under such name.

Bender MedSystems GmbH, a wholly-owned subsidiary incorporated in Austria and doing business under such name.

Bender MedSystems Inc. a wholly-owned subsidiary incorporated in California and doing business under such name.

eBioscience GmbH, a wholly-owned subsidiary incorporated in Germany and doing business under such name.

eBioscience Holding Company, Inc., a wholly-owned subsidiary incorporated in Delaware and doing business under such name.

eBioscience, Inc., a wholly-owned subsidiary incorporated in California and doing business under such name.

eBioscience, Ltd., a wholly-owned subsidiary incorporated in the United Kingdom and doing business under such name.

eBioscience SAS, a wholly-owned subsidiary incorporated in France and doing business under such name.

Natutec GmbH, a wholly-owned subsidiary incorporated in Germany and doing business under such name.

Panomics, L.L.C., a wholly-owned subsidiary incorporated in California and doing business under such name.

Panomics SRL, a wholly-owned subsidiary incorporated in Italy and doing business under such name.

USB Corporation, a wholly-owned subsidiary incorporated in Ohio and doing business under such name.

EXHIBIT 23

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in the following Registration Statements:

(1) Registration Statement on Form S-3 (No. 333-1818781) pertaining to the shelf-registration of Affymetrix, Inc. securities, and

(2) Registration Statements on Form S-8 pertaining to the 1993 Stock Plan and the 1996 Nonemployee Directors Stock Option Plan (No. 333-11299 and No. 333-35287), the 1998 Stock Incentive Plan (No. 333-85575 and No. 333-59158), the GMS/Affymetrix 1998 Stock Plan (No. 333-34320), the Affymetrix/ Neomorphic, Inc. 1998 Stock Option Plan (No. 333-52804), the Affymetrix, Inc. 2000 Equity Incentive Plan (No. 333-59160), the Affymetrix, Inc. Amended and Restated 2000 Equity Incentive Plan (No. 333-123452, No. 333-151771 and No. 333-166894), the ParAllele BioScience, Inc. 2001 Stock Option Plan (No. 333-129269), and the 2011 Employee Stock Purchase Plan (No. 333-176638), and 2012 Inducement Plan (No. 333-182456);

of our reports dated March 1, 2013, with respect to the consolidated financial statements and schedule of Affymetrix, Inc., and the effectiveness of internal control over financial reporting of Affymetrix, Inc., included in this Annual Report (Form 10-K) for the year ended December 31, 2012.

/s/ ERNST & YOUNG LLP

Redwood City, California
March 1, 2013

EXHIBIT 31.1

Certification of Chief Executive Officer
Pursuant to Section 302 of Sarbanes-Oxley Act of 2002

I, Frank Witney, certify that:

1. I have reviewed this Annual Report on Form 10-K of Affymetrix, 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 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 by others within those entities, 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 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.

March 1, 2013

/s/ FRANK WITNEY

Name: Frank Witney

Title: *Director, President and Chief Executive Officer*

EXHIBIT 31.2

Certification of Chief Financial Officer
Pursuant to Section 302 of Sarbanes-Oxley Act of 2002

I, Timothy C. Barabe, certify that:

1. I have reviewed this Annual Report on Form 10-K of Affymetrix, 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 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 by others within those entities, 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 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.

March 1, 2013

/s/ TIMOTHY C. BARABE

Name: Timothy C. Barabe
Title: *Executive Vice President and Chief Financial Officer*

EXHIBIT 32

CERTIFICATION OF CHIEF EXECUTIVE OFFICER AND CHIEF FINANCIAL OFFICER PURSUANT TO 18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO SECTION 906 OF SARBANES-OXLEY ACT OF 2002

The certification set forth below is being submitted in connection with this Annual Report on Form 10-K for the year ended December 31, 2012 (the "Report") for the purpose of complying with Rule 13a-14(b) or Rule 15d-14(b) of the Securities Exchange Act of 1934 (the "Exchange Act") and Section 1350 of Chapter 63 of Title 18 of the United States Code.

Each of the undersigned certifies that, to his knowledge:

1. the Report fully complies with the requirements of Section 13(a) or 15(d) of the Exchange Act; and

2. the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of Affymetrix, Inc.

March 1, 2013

/s/ FRANK WITNEY

Name: Frank Witney
Title: *Director, President and Chief Executive Officer*

/s/ TIMOTHY C. BARABE

Name: Timothy C. Barabe
Title: *Executive Vice President and Chief Financial Officer*

This certification accompanying the Report is not deemed filed with the Securities and Exchange Commission for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, or otherwise subject to the liabilities such Section, and is not to be incorporated by reference into any filing of the Company under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended (whether made before, on or after the date of the Report), irrespective of any general incorporation language contained in such filing.

Directors

Stephen P.A. Fodor, PhD
Founder and Chairman,
Affymetrix, Inc.

Frank Witney, PhD
President and CEO,
Affymetrix, Inc.

Nelson C. Chan[2,3]
Chief Executive Officer (Retired),
Magellan Navigation, Inc.

John D. Diekman, PhD
Managing Partner,
5AM Ventures

Gary S. Guthart, PhD[2]
President and Chief Executive Officer,
Intuitive Surgical, Inc.

Jami Dover Nachtsheim[2]
Corporate Vice President of the Sales
and Marketing Group and Director
of Worldwide Marketing (Retired),
Intel Corporation

Robert H. Trice, PhD[1,3]
Senior Vice President,
Strategy and Business Development (Retired),
Lockheed Martin Corporation

Robert P. Wayman[1,3]
Executive Vice President,
Chief Financial Officer (Retired),
Hewlett-Packard Company

Executive officers

Frank Witney, PhD
President and CEO

Timothy C. Barabe
Chief Financial Officer and
Executive Vice President

Andrew J. Last, PhD
Executive Vice President,
Genetic Analysis Business Unit

John F. Runkel, Jr.
General Counsel,
Executive Vice President and Secretary

David Weber
Executive Vice President,
Global Commercial Operations

Corporate information

Headquarters
Affymetrix, Inc.
3420 Central Expressway
Santa Clara, CA 95051
United States

Affymetrix UK Ltd.
Voyager, Mercury Park
Wycombe Lane
Wooburn Green
High Wycombe, Buckinghamshire
HP10 0HH
United Kingdom

Affymetrix Japan K.K.
ORIX Hamamatsucho Bldg, 7F
1-24-8 Hamamatsucho, Minato-ku
Tokyo, 105-0013 Japan

Affymetrix Pte Ltd.
7 Gul Circle, Level 2M-01/08
Keppel Logistics Building
Singapore 629563

eBioscience, Inc.
10255 Science Center Drive
San Diego, CA 92121

Independent Registered Public Accounting Firm
Ernst & Young LLP
Redwood City, CA

Transfer Agent/Registrar
American Stock Transfer
& Trust Company, LLC
6201 15th Avenue
Brooklyn, NY 11219
Tel: 800-937-5449

SEC Form 10-K
A copy of the company's annual report to the Securities and Exchange Commission on Form 10-K is available without charge upon request.

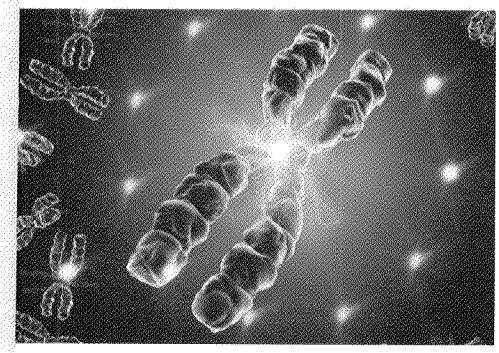
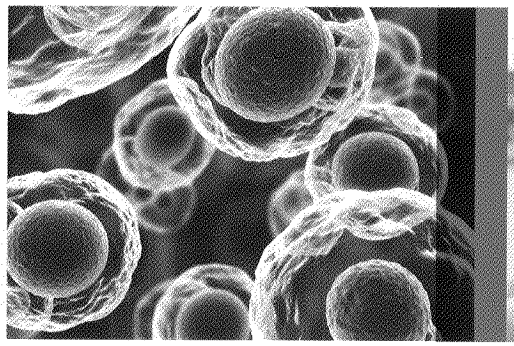
Contact
Investor Relations
Affymetrix, Inc.
3420 Central Expressway
Santa Clara, CA 95051

Additional company information is available at www.affymetrix.com.

As of March 2013

All statements and graphic presentations in the annual report that are not historical are "forward-looking statements" within the meaning of Section 21E of the Securities Exchange Act as amended, including statements and graphic presentations regarding our "expectations," "beliefs," "hopes," "intentions," "strategies," or the like. Such statements are based on our current expectations and are subject to a number of factors and uncertainties that could cause actual results to differ materially from those described in the forward-looking statements, including, but not limited to, risks of Affymetrix' ability to achieve and sustain higher levels of revenue, higher gross margins, and reduced operating expenses. Affymetrix cannot assure investors that actual results or business conditions will not differ materially from those projected or suggested in such forward-looking statements as a result of various factors, including, but not limited to, the risk factors discussed in Affymetrix' Form 10-K for the year ended December 31, 2012 and other SEC reports, including its Quarterly Reports on Form 10-Q for subsequent quarterly periods. Affymetrix expressly disclaims any obligation or undertaking to release publicly any updates or revisions to any forward-looking statements contained herein to reflect any change in Affymetrix' expectations with regard thereto, or any change in events, conditions, or circumstances on which any such statements are based.

[1] Nominating and Corporate Governance Committee
[2] Compensation Committee
[3] Audit Committee


Biology for a better world

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eBioscience Tel: +1-858-642-2058 ▪ eBioscience (Vienna) Tel: +43 1 796 40 40 305 ebioscience.affymetrix.com
Panomics Solutions Tel: +1-877-726-6642 panomics.affymetrix.com ▪ USB Products Tel: +1-800-321-9322 usb.affymetrix.com

www.affymetrix.com

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