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, 2000

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934 (NO FEE REQUIRED)**

FOR THE TRANSITION PERIOD FROM _____ TO _____

COMMISSION FILE NUMBER 0-28218

AFFYMETRIX, INC.
(Exact name of registrant as specified in its charter)

DELAWARE (State or other jurisdiction of incorporation or organization)	**77-0319159** (IRS Employer Identification Number)
3380 CENTRAL EXPRESSWAY, SANTA CLARA, CALIFORNIA (Address of principal executive offices)	**95051** (Zip Code)

(408) 731-5000
(Registrant's telephone number, including area code)

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

Securities registered pursuant to Section 12(g) of the Act:
Common Stock, $0.01

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

The aggregate market value of voting common stock held by non-affiliates of the registrant (based on the closing price for the common stock on the Nasdaq National Market on March 20, 2001) was approximately $2,198.7 million. As of March 20, 2001, 57,576,334 shares of common stock were outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Certain sections of the Proxy Statement to be filed in connection with the 2001 Annual Meeting of Stockholders are incorporated by reference into Part III of this Form 10-K Report where indicated.

AFFYMETRIX, INC.

FORM 10-K
DECEMBER 31, 2000

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PART I

ITEM 1. BUSINESS

All statements in this discussion that are not historical are "forward-looking statements" within the meaning of Section 21E of the Securities Exchange Act as amended, including statements regarding the Company's "expectations", "beliefs", "hopes", "intentions", "strategies" or the like. Such statements are based on management's 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. The Company cautions investors that there can be no assurance 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 this Annual Report on Form 10-K. 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.

Affymetrix is recognized as a worldwide leader in the field of DNA chip technology. Affymetrix has developed and intends to establish its GeneChip® system and related microarray technologies as platforms of choice for acquiring, analyzing and managing genetic information. The Company's GeneChip® system consists of disposable DNA probe arrays containing gene sequences on a chip, certain reagents for use with the probe arrays, a scanner and other instruments to process the probe arrays, and software to analyze and manage genetic information from the probe arrays. Related microarray technology offered by the Company includes instrumentation, software and licenses for fabricating, scanning and collecting and analyzing results from low density microarrays. The Company commenced commercial sales of the GeneChip® system for research use in April 1996 and currently sells its products directly to pharmaceutical and biotechnology companies, academic research centers, private foundations and clinical reference laboratories in the United States and Europe. The Company also sells its products through certain distributors, principally in Japan. For information regarding revenues attributable to geographic areas, see Note 15 to the Notes to Consolidated Financial Statements.

The business and operations of the Company were commenced in 1991 by Affymax N.V. ("Affymax") and were initially conducted within Affymax. In March 1992, the Company was incorporated as a California corporation and a wholly owned subsidiary of Affymax and in September 1998 was reincorporated as a Delaware corporation.

BACKGROUND

GENES AND DISEASE

The entire genetic content of an organism is known as its genome. DNA is the molecule that makes up genomes and encodes genetic instructions in genes. These instructions are embodied in the specific sequences of the four nucleotide bases (A, C, G and T) that are the chemical building blocks of DNA. The DNA molecule is a combination of two strands held together by chemical bonds between nucleotide bases on one strand and the bases on the other strand. Only certain pairs of nucleotide bases can form these bonds: C always pairs with G, and A always pairs with T. Such paired DNA strands are said to be complementary. When two DNA strands are complementary, they can bind together to form a double helix in a process called hybridization. The Company's GeneChip® technology relies on this principle of hybridization to analyze genetic information.

Cells carry out their normal biological functions through the genetic instructions encoded in their DNA. This genetic process, known as gene expression, involves several steps. In the first step, nucleotides in a gene are copied into a related nucleic acid molecule called RNA. RNA instructs the

cell to produce proteins. Proteins are molecules that regulate or perform most of the physiological functions of the body. Because the order of nucleotides in each gene is different, each gene directs the production of a different protein or proteins. An organism's characteristics are thus ultimately determined by the proteins encoded by its DNA.

Increased awareness of the role of genes in regulating the functions of living organisms has generated a worldwide effort to identify and sequence genes and genomes of many organisms, including the estimated three billion nucleotide pairs of the human genome. This effort is being led by the Human Genome Project and related academic, government and industry research projects. A rough draft of the human genome sequence indicates that it comprises approximately 30,000 genes. It is anticipated that many years of additional research will be required to understand the specific functions and roles in disease of each of these genes and their patterns of interaction. This research, commonly referred to as genomics, is expected to lead to a new health care paradigm where disease is understood at the molecular level, allowing patients to be diagnosed according to their genetic profile and then treated with drugs designed to work on specific molecular targets. Ultimately, in addition to diagnosis and treatment, prevention and cure of disease might also be possible based on genetic information.

GENETIC VARIABILITY

The diversity of living organisms results from variability in their genomes. Variability stems from differences in the sequences of genes and from differences in levels of gene expression, partly as a result of interaction of the organism and its genes with the environment. In order to understand how genetic variation causes disease, scientists must compare both sequence variation and expression patterns of genes from healthy and diseased individuals. Currently, these efforts are laborious, time consuming and expensive. The Company believes that its GeneChip® technology will simplify, accelerate and reduce the cost of analyzing genetic variability (both sequence and expression) and lead to new opportunities in disease management.

SEQUENCE VARIABILITY

Changes in the sequences of genes may be introduced by environmental or other factors, such as errors in replication of genes. These changes are known as polymorphisms, and the affected genes can be passed from generation to generation. In some cases, polymorphisms have no or an undetectable effect on the biology of the organism. However, in other cases, polymorphisms can result in the altered function or expression of the protein encoded by the gene. Such polymorphisms are normally referred to as mutations. Mutations in single genes have been associated with diseases such as cystic fibrosis and sickle cell anemia, while mutations in multiple genes have been associated with diseases such as cancer and diabetes. By screening for polymorphisms, researchers seek to correlate variability in the sequence of genes with a specific disease. By sequencing genes of interest from a large number of healthy and diseased persons, researchers are able to correlate specific gene polymorphisms with the disease. However, a typical polymorphism association project on one disease might currently require sequencing 100 genes of 3,000 nucleotide bases each in up to 500 patients, or a total of 150 million bases. Currently, such high volume polymorphism screening is performed with gel-based sequencing, which is labor intensive and costly. The Company believes that its GeneChip® technology will have advantages over conventional gel-based techniques for performing large genetic correlation studies and has initiated a high throughput polymorphism discovery and database project as well as product development initiatives to enable researchers to identify these correlations.

EXPRESSION VARIABILITY

Differences in the genes expressed in a given cell, as well as the timing and levels of their expression, are another basis for genetic variability. Although most cells contain an organism's full set of genes, each cell expresses only a small fraction of this set in different quantities and at different

times. The expression of the wrong or defective genes, or the overexpression or underexpression of normal genes have been associated with human diseases, as well as treatment failures in specific patient populations. By identifying genes that are differentially expressed in particular diseases or patient populations, new targets can be identified and validated for which new therapies can then be developed. Expression monitoring may also help demonstrate the likely effectiveness of new as well as existing therapeutic agents and lead to the development of new therapeutics and diagnostic tools. The effectiveness of monitoring gene expression is a function of the quality of the cell population being studied, the number of genes that can be monitored simultaneously, the sensitivity of the method (ability to measure small changes or low levels of gene expression) and the ability of the method used to provide quantitative information. Before the advent of DNA array techniques, relative levels of gene expression were monitored primarily through a costly and time-consuming process of sequencing many copies of each gene. The Company believes new DNA array technologies such as its GeneChip® system will have significant advantages over older expression profiling techniques. Furthermore, the Company believes its GeneChip® technology offers significant advantages over other DNA array technologies.

OPPORTUNITIES ARISING FROM GENETIC VARIABILITY

The analysis of genetic variability in organisms is revealing polymorphisms and differences in gene expression levels that correlate with diseases, prognoses for diseases, and likely therapeutic outcomes. Understanding this variability provides new opportunities for therapeutic intervention that can be more narrowly focused and therefore safer and more efficacious than drugs that affect broader biological pathways. The Company believes that by providing a powerful tool to identify appropriate pathways for therapeutic intervention, evaluate lead compounds, and assess the efficacy and toxicology of these compounds on biological systems, the GeneChip® system can facilitate the drug discovery process and improve the effectiveness and efficiency of health care.

In addition to revealing opportunities for the discovery and development of new therapeutics, understanding of sequence and expression variability in organisms may have the potential to effect a major paradigm shift in the disease management and diagnostics industries. These highly competitive industries are currently characterized by low margins and large barriers to entry, with substantial pressure to reduce prices exerted by health care providers. Further, information available from many current diagnostic tests often provides insufficient information as to the etiology, prognosis, and potential treatment options for a particular clinical presentation.

Access to complex genetic information, such as changes in gene sequences or expression levels that have previously been correlated with particular outcomes, has the potential to provide guidance on appropriate therapeutic regimens. The value of this information in reducing total health care costs and improving the quality of life is very high. For example, by determining that an HIV-infected patient on a triple drug combination therapy is resistant to one or two of these drugs, the health care provider may change the therapeutic regimen to replace or eliminate drugs to which the patient is resistant and thereby improve the patient's health while reducing costs.

The use of complex genetic information to manage disease is in its infancy. Current techniques for gathering complex genetic information are time-consuming, require skilled labor, and can analyze only limited lengths of contiguous DNA sequences in a given run. This has prevented any large scale systematic study of how sequence variability and expression variability correlate with particular disease outcomes. The Company believes that new technology, such as the Company's GeneChip® system, will be required to utilize complex genetic information in health care.

BUSINESS STRATEGY

Affymetrix' strategy is to capitalize on its leadership position in the DNA probe array field by applying its GeneChip® and spotted array technologies to three primary areas: gene expression monitoring, polymorphism analysis and disease management. The Company is commercializing its GeneChip® probe array and spotted array technologies for sale to pharmaceutical and biotechnology companies, academic research centers, private research foundations and clinical reference laboratories by demonstrating its advantages over other tools used for genetic analysis.

GENE EXPRESSION MONITORING

Gene expression monitoring is a valuable tool for identifying correlations between genes, their biological functions and disease. To facilitate the monitoring of gene expression, the Company designs and manufactures probe arrays with single stranded DNA molecules that are complementary to sequences within a gene of interest. By synthesizing specific probes for multiple genes on a single probe array, the Company enables researchers to quickly, quantitatively and simultaneously monitor the expression of a large number of genes of interest. By monitoring the expression of such genes under different conditions and at different times, researchers can use the probe arrays to understand the dynamic relationship between gene expression and biological activity. The Company believes that such information will be an important tool in the understanding of gene function and the development of new drugs and disease management tools.

The Company is currently selling a portfolio of custom and standard expression monitoring GeneChip® arrays. The Company's current offering of standard arrays include products that monitor the expression of the majority of full length and partial gene sequences contained in publicly available sequence databases that correspond to human, mouse, rat, Drosophila, yeast, E. coli and Arabidopsis organisms. Affymetrix has also developed directed probe arrays to monitor the expression of specific collections of genes believed to be highly relevant to particular biological conditions such as cancer and toxicology.

Affymetrix is commercializing the expression monitoring applications of its technology principally for use in life sciences research and drug discovery by pharmaceutical, biotechnology, and academic research organizations. The Company offers a variety of sales programs to its technology, such as the EasyAccess™ Silver and Gold, AcademicAccess™ and BiotechAccess™ subscription packages.

All of the Company's sales programs for its expression monitoring applications include a pricing model that reflects performance specifications, the number of data points represented on the array, and the value of the gene collections being monitored on a particular GeneChip® probe array. Actual pricing of the GeneChip® expression probe arrays under this model depends on a number of additional factors, including the magnitude of the customer's research effort and volume commitment to the Company, whether the Company provides tailored support or service such as custom chip design or other analytical services to a customer, and whether the customer intends to offer screening services or sell databases.

Under the Company's EasyAccess program, customers commit to make certain payments to Affymetrix in exchange for preferential access to new product offerings, custom design services, intellectual property licenses, research, development and other customer support for a defined period of time. Table 1 sets forth a selected list of customers with whom the Company has existing supply agreements for GeneChip® expression monitoring arrays.

TABLE 1. SUMMARY OF SELECTED AFFYMETRIX EXPRESSION PROFILING CUSTOMERS

CUSTOMER	ACCESS PACKAGE
Aventis Pharma Ltd	EasyAccess Gold
F. Hoffmann-La Roche, Ltd	EasyAccess Gold
Gene Logic, Inc	EasyAccess Gold
Genetics Institute/American Home Products Corporation	EasyAccess Gold
Novartis Agriculture Discovery Institute	EasyAccess Gold
Novartis Institute for Functional Genomics	EasyAccess Gold
AstraZeneca PLC	EasyAccess Silver
Bayer Corporation	EasyAccess Silver
Boehringer Ingelheim GmbH	EasyAccess Silver
Eli Lilly and Company	EasyAccess Silver
The R.W. Johnson Pharmaceutical Research Institute	EasyAccess Silver
Merck & Co., Inc	EasyAccess Silver
Novartis Pharmaceuticals Corporation	EasyAccess Silver
Pfizer, Inc	EasyAccess Silver
Pharmacia & Upjohn	EasyAccess Silver
Procter and Gamble	EasyAccess Silver
Sankyo Co., Ltd	EasyAccess Silver
Glaxo SmithKline	EasyAccess Silver
Exelixis, Inc.	BiotechAccess
Lexicon Genetics Incorporated	BiotechAccess
Howard Hughes Medical Institute	AcademicAccess Preferred
AMDeC	AcademicAccess Preferred
Case Western Reserve University	AcademicAccess
Dana Farber Cancer Institute	AcademicAccess
Harvard University	AcademicAccess
National Institutes of Health	AcademicAccess
Stanford University	AcademicAccess
The Scripps Research Institute	AcademicAccess
University of California	AcademicAccess
University of Colorado	AcademicAccess
University of Pennsylvania	AcademicAccess
University of Wisconsin (Madison)	AcademicAccess
Washington University	AcademicAccess
Medical Research Council (UK)	AcademicAccess
University of Aarhus (Denmark)	AcademicAccess
University Louis Pasteur, Strasbourg (IGBMC) (France)	AcademicAccess
Westfälische Wilhelms-Universität Munster (Germany)	AcademicAccess
University of British Columbia (Canada)	AcademicAccess
Universitat Rostock (Germany)	AcademicAccess
Technical University of Denmark (DTU)	AcademicAccess
University of Edinburgh	AcademicAccess

POLYMORPHISM ANALYSIS

As genes in the human genome are identified, sequenced and mapped, the value of understanding the variability of sequences in these genes increases. Researchers must determine the normal sequence of the gene, which mutations or polymorphisms exist, and whether these variations correlate with a disease. This currently requires the sequencing of samples from a large number of affected and

unaffected individuals. Furthermore, during clinical trials, the Company believes that pharmacogenetics (the understanding of the impact that genetic variation has on therapeutic effectiveness and toxicity) will become increasingly important. Using sequence checking strategies developed by the Company, Affymetrix believes that its GeneChip® probe arrays could significantly reduce the cost and time required for high-volume polymorphism analysis, which is currently performed through more labor intensive techniques.

The Company has initiated product research and development efforts on several genotyping probe arrays and formed collaborations to accelerate the development of its polymorphism databases and genotyping products. The first such GeneChip® mapping array, the GeneChip® HuSNP array was launched during 1999. In December 1999, the Company entered into a collaboration with Orchid BioSciences, Inc. to develop reagent kits for its GenFlex® Tag array, which is designed to give researchers the flexibility to simultaneously analyze large numbers of polymorphisms of their choosing. This array, which was introduced in April 2000, enables the simultaneous interrogation of up to 2000 customer-defined reaction products in a single experiment. The Company expects these arrays to be adopted for a wide range of assays, including genotyping of single nucleotide polymorphisms. The GenFlex Tag array contains 2000 oligonucleotides designed to have optimized hybridization properties to act as capture probes for each of 2000 unique nucleic acid Tag sequences. Assays can then be designed in which a Tag sequence is incorporated into the reaction products. Hybridization to the GenFlex Tag array then allows 2000 reaction products to be analyzed. The Company expects that this flexible strategy will allow for assays to be customized around the same standard array without the need for new array designs.

In October 2000, Affymetrix formed Perlegen Sciences, Inc. (“Perlegen”), a new genomics subsidiary. Perlegen plans to employ third party financing and a non-commercial form of Affymetrix’ DNA array technology to read 50 genomes and identify genetic variations between individuals and find patterns in those variations. Perlegen believes that such patterns will be marketable to pharmaceutical companies seeking to associate such patterns with health factors and drug responses in testing the viability of drugs. Affymetrix expects that it will become a major supplier of Perlegen and that it will receive certain rights to data generated by Perlegen. Affymetrix currently intends to retain a substantial equity position in Perlegen.

DISEASE MANAGEMENT

Disease management is an emerging field that seeks to improve the effectiveness of health care by collecting information on patients from the time of diagnosis to the end of therapy and subsequently measuring the outcomes of various treatment protocols. Affymetrix believes that genetic analysis will be a core component of disease management. The Company has therefore developed GeneChip® assays for this purpose and believes that such assays will facilitate more efficient and effective patient management. The Company is focusing on the development and commercialization of disease management products in infectious diseases, cancer and other areas, including drug metabolism.

To further its disease management strategy, Affymetrix has established partnerships and customer relationships with leading academic researchers, clinical reference laboratories and pharmaceutical and biotechnology companies. To date, the Company has introduced three disease management GeneChip® assays for the research and clinical reference markets: the HIV, p53 and CYP450 GeneChip products. These products provide sequence variation information from the reverse transcriptase and protease genes of HIV, the p53 tumor suppressor gene, and variants of two human cytochrome p450 genes, respectively.

Affymetrix believes that before its GeneChip probe arrays can become widely used tools in disease management, significant additional research including clinical trials supporting Food and Drug Administration (“FDA”) registration will be required. Furthermore, additional instrumentation and

automation will need to be developed to allow for handling large volume testing anticipated in the clinical diagnostic setting. The Company has formed collaborations and intends to further partner with, or license technology to, established diagnostic companies to develop, seek regulatory approval, and commercialize probe arrays and instrumentation for broader clinical use of disease management probe arrays.

In bacteriology, the Company has entered into exclusive collaborative development agreements and an associated supply agreement for probe arrays with bioMerieux Vitek, Inc. (“bioMerieux”) to identify the species and drug resistance profiles of bacteria causing human infection. The agreements also allow for the development of DNA probe arrays for viral clinical diagnostic tests in the fields and food and industrial testing on a non-exclusive basis.

In the virology and cancer fields, the Company has entered into a non-exclusive collaborative development agreement with Roche Molecular Systems, Inc. (“Roche Molecular Systems”) to develop probe array-based diagnostic products. Under the terms of the agreement, the parties are collaborating to develop mutually agreed upon arrays directed to selected genes, as well as associated instrumentation and reagents.

Affymetrix also entered into a series of agreements in July 1998 with Beckman Coulter, Inc. (“Beckman”) that gives Beckman the right to develop probe array based diagnostic products that would use the Company’s GeneChip technology.

TECHNOLOGY

Affymetrix’ GeneChip® probe array technology and systems integrate semiconductor fabrication techniques, solid phase chemistry, molecular biology, software and robotics. The Company’s GeneChip system consists of several integrated components: disposable DNA probe arrays containing genetic information on a chip housed in a cartridge, reagents for extracting and labeling target nucleic acid, a fluidics station for introducing the test sample to the probe arrays, a hybridization oven for optimizing the binding of samples to the probe arrays, a scanner to read the fluorescent image from the probe arrays, and software to control the instruments and to analyze and manage the genetic information. The GeneChip system is designed to be used by pharmaceutical and biotechnology companies, academic research centers and clinical reference laboratories. The Company’s spotted array system enables individual researchers to create and analyze custom microarrays on an easy-to-use platform which consists of the Affymetrix 417 Arrayer and the Affymetrix 428 Array Scanner.

GENECHIP PROBE ARRAYS

The Company produces its GeneChip probe arrays using a process based on semiconductor photolithographic fabrication techniques, which enables it to assemble vast amounts of genetic information on a small glass chip called a probe array. The genetic information is contained in sequences of DNA probes that are built on the glass chip. The Company believes that this technology enables the efficient use of a large number of DNA probes to analyze DNA or RNA sequences in a test sample.

The Company uses photolithography to synthesize a large variety of predetermined DNA sequences simultaneously in specific locations on a glass chip. Photolithography is a technique which uses light to create exposure patterns on the glass chip and induce chemical reactions. The process begins by coating the chip with light-sensitive chemical compounds that prevent chemical coupling. The light sensitive compounds are called protecting groups. Lithographic masks, which consist of predetermined patterns that either block or transmit light, are used to selectively illuminate the glass surface of the chip. Only those areas exposed to light are deprotected and thus activated for chemical coupling through removal of the light-sensitive protecting groups. The entire surface is then flooded with a solution containing the first in a series of DNA building blocks (A, C, G or T). Coupling only

occurs in those regions which have been deprotected through illumination. The new DNA building block also bears a light-sensitive protecting group so that the cycle can be repeated. This process of exposure to light and subsequent chemical coupling can be repeated on the same chip in order to generate an array of DNA sequences. The intricate illumination patterns allow the Company to build high-density arrays of many diverse DNA sequences in a small area. The Company can manufacture a large number of identical or different DNA probe arrays on a glass wafer, which is then diced into individual probe arrays.

Currently, each probe array can be manufactured with hundreds of thousands of "features." Each feature can contain millions of copies of the same single-stranded DNA sequence, or probe. The patterns of photolithographic masks and the order of DNA building blocks used in the synthesis process dictate the sequence of the probes in each feature on the chip surface. The number of synthesis cycles determines the length of the DNA probes in each feature.

The Company's GeneChip technology enables it to synthesize with high density a large number of chemically diverse DNA sequences. Unlike conventional synthesis techniques, which generally use a linear process to create compounds, the Company's synthesis technology is combinatorial, in that the number of different compounds synthesized grows exponentially with the number of cycles in the synthesis. Currently available commercial arrays contain up to 400,000 probes, each containing multiple copies of a unique DNA sequence, and require 70 to 80 cycles, whereas conventional DNA synthesis techniques would require 10 million cycles.

The function of each single-stranded probe on the GeneChip probe array is to bind to its complementary single strand of DNA or RNA from a biological sample. Each feature on the GeneChip probe array contains multiple copies of a single strand of DNA. The nucleic acid to be tested is isolated from a sample, such as blood or biopsy tissue, and fluorescently labeled by one of several standard biochemical methods. The labeled test sample is then washed over the probe array, where it hybridizes to its complement on the array. When scanned by the laser, the test sample generates a fluorescent signal. Sequence variation or the concentration of the nucleic acid sample can be determined by detecting the relative strength of these signals since the sequence and position of each complementary DNA probe on the probe array is known.

INSTRUMENTATION

The fluidics station controls the exposure of the test sample to the probe array and, in certain applications, the introduction of the sample on to the probe array. A technician uses the fluidics station to control the delivery of reagents and the timing and temperature required for hybridization of the test sample to the probe array. The process concludes with a reagent wash that leaves only the hybridized test sample bound to the probe array. The fluidics station can process four probe arrays simultaneously. In certain applications, a hybridization oven is used to control the temperature required for exposure of the test sample to the probe array.

After completion of hybridization related protocols on the fluidics station, the technician places the cartridge in the scanner which reads the probe array. The scanner consists of a laser, high-resolution optics, robotics to position and scan the cartridge, a fluorescence detector and an interface to a personal computer. The label on the test sample emits fluorescent signals when exposed to the light from the laser. The intensity of the fluorescent signal is recorded by the scanner and stored in the computer. The current scanner, which was developed in collaboration with Agilent Technologies, Inc. ("Agilent Technologies"), formerly Hewlett-Packard Company and introduced in April 1997, can read 1.28 cm by 1.28 cm probe arrays with up to 400,000 features in a few minutes.

In February 2000, the Company completed its acquisition of Woburn, Massachusetts based Genetic MicroSystems, Inc. ("GMS"), a privately-held DNA instrumentation company specializing in DNA array instrumentation technology. GMS, a wholly-owned subsidiary of the Company, manufactures and markets exportable instruments for both fabricating and analyzing DNA arrays for use in life science research and development applications.

The Company's current offering of micro array spotting and scanning products consists of the Affymetrix 417 Arrayer and Affymetrix 428 Array Scanner. The Affymetrix 417 Arrayer utilizes a proprietary moving-reservoir, Pin-and-Ring™ arraying mechanism designed to provide greater consistency of spotted array elements relative to other spotting systems. The Affymetrix 428 Array Scanner uses a unique Flying Objective™ laser optics system that rapidly captures images with superior speed and sensitivity. The proprietary features of the Affymetrix arrayer and scanner are designed to offer significant performance advantages over other "home-made" and commercially available spotting robots and scanners. Because the instrumentation is used at the customer site, this product line, compared to service alternatives, provides researchers with the flexibility to quickly fabricate user-specific arrays while maintaining direct control over cloned materials, sample preparation and hybridization conditions.

SOFTWARE

The GeneChip operating system software is supplied as part of the integrated system and runs on an IBM compatible platform. The fluorescence intensity data captured from the scanner are used in conjunction with computer files containing the probe sequence and location of all the probes on the probe array to determine the expression level of a particular gene or locate nucleotide sequence variations of the test sample. The Affymetrix® Microarray Suite software controls the scanner used to scan Affymetrix GeneChip® probe arrays, as well as other instruments such as fluidics stations. Microarray Suite also acquires image data from the scanner and applies various algorithms to analyze the images and provide results from GeneChip® array experiments. The Affymetrix Jaguar™ software provides similar functions with respect to scanning and image analysis based on spotted arrays generated by the Affymetrix 417™ Arrayer. The experimental results, as well as other data, may also be provided to a data management software program called the Affymetrix® Laboratory Information Management System ("LIMS"). LIMS manages and tracks gene expression data generated by the Microarray Suite software through a workflow based tracking system. Experimental results provided either by the Microarray Suite or Jaguar™ software may be provided to the Affymetrix® Data Mining Tool for further data mining and analysis. Before data from the Jaguar™ software is provided to the Data Mining Tool, it is "published" by the Affymetrix® MicroDB™ software program into a format that conforms with standards established by the Genetic Analysis Technology Consortium™. The GeneChip Expression Data Mining Tool ("EDMT") and LIMS software products allow for sophisticated analyses of gene expression results and provide a means of linking and integrating this information with other databases.

In October 2000, the Company completed its acquisition of Berkeley, California based Neomorphic, Inc. ("Neomorphic"), a privately-held computational genomics company. Neomorphic, a wholly-owned subsidiary of the Company, uses proprietary software algorithms and computing infrastructure to analyze, assemble and annotate genomic and expressed gene sequence data. Neomorphic will focus on integrating and applying their computational genomics and bioinformatics capabilities to develop new products based on information from the Human Genome Project and from the genomes of model organisms such as mouse, rat, Drosophila and Arabidopsis. Additionally, Neomorphic's bioinformatics tools, including those under development, may enable the Company to provide advanced analysis tools for data generated using GeneChip arrays.

COLLABORATIVE PARTNERS

The Company's strategy is to establish the GeneChip system as the platform of choice for analyzing complex genetic information, expand the applications of the Company's technology and acquire access to complementary technologies and resources. Accordingly, the Company has entered into and intends to enter into additional collaborative agreements to further this strategy. Table 2 sets forth a selected list of collaborators with whom the Company has current agreements, the related products and programs and the commencement dates of the most recent agreement.

TABLE 2. SUMMARY OF AFFYMETRIX SELECTED COLLABORATORS AND LICENSEES

COMPANY	TYPE OF AGREEMENT	DATE
Agilent Technologies, Inc.	Scanner supply agreement	February 1997
Beckman Coulter, Inc.	OEM supply of GeneChip arrays for disease management products	July 1998
bioMerieux Vitek, Inc.	Collaborative agreement focused on Bacteriology and virology disease management products; industrial and food testing products	January 1998
Bristol-Myers Squibb Company, Millennium Pharmaceuticals, Inc., Whitehead Institute	Collaborative agreement focused on functional genomics and polymorphism discovery	April 1997
Enzo Diagnostics, Inc.	Labeling kit supply agreement	April 1998
Genetic Analysis Technology Consortium	Agreement to establish standards for DNA Array based products	December 1997
Mouse Genome Consortium	Collaborative agreement to provide funding for determination of the DNA sequence of the mouse genome	October 2000
Orchid BioSciences, Inc.	Collaborative agreement to develop genotyping assays	December 1999
Roche Molecular Systems, Inc.	Collaborative agreement to develop disease management arrays	February 1998

AGILENT TECHNOLOGIES, INC.

The Company entered into a collaborative agreement with Hewlett-Packard (predecessor to Agilent Technologies) in November 1994, which was amended in February 1997 and December 1998. Under the terms of the amended agreement, Agilent Technologies manufactures and sells the array scanner to Affymetrix on an OEM basis. The agreement also provides for cooperation between Affymetrix and Agilent Technologies for worldwide distribution and instrument services. Pursuant to the agreement, Agilent Technologies is required to supply all of the Company's forecasted requirements for scanners until February 2003, and Affymetrix is required to purchase an annual minimum number of scanners from Agilent Technologies during the same period. Agilent has announced its intention to commercialize a competing DNA array technology platform. See Item 1. "Business—Competition."

BECKMAN COULTER, INC.

In July 1998, the Company entered into a series of agreements with Beckman that gave Beckman licenses to commercialize probe arrays manufactured using certain technologies other than light

directed synthesis, and an original equipment manufacturer ("OEM") supply agreement for products that use the Company's GeneChip technology. Beckman will pay Affymetrix transfer prices and royalties on sales of these products as specified in the agreements. The agreements also provided Affymetrix with a path to obtain a license to commercialize DNA arrays under certain patents, including patents covering inventions by Professor Edwin Southern of Oxford University. In June 1999, the Company purchased the array business of Beckman that included a license to the Southern DNA array patents owned by Oxford Gene Technology ("OGT") of Oxford, England.

BIOMERIEUX VITEK, INC.

In September 1996, the Company and bioMerieux entered into a five-year collaborative development agreement and associated supply agreement for probe arrays to identify the species and drug resistance profiles of bacteria causing human infection in a clinical setting. As part of the collaboration, bioMerieux is developing instrumentation for the use of these probe arrays in a clinical diagnostic setting. The agreement provides that the Company will not market or provide probe arrays for such tests to others that are in a format that would reasonably be considered approvable by the FDA for clinical diagnostic use. Under the terms of the agreements, bioMerieux provides research and development support and will make payments to Affymetrix upon achievement of certain milestones. In addition, bioMerieux will pay specified prices for the supply of probe arrays and royalties on any resulting products. In December 1997 and January 1998, bioMerieux and the Company expanded their collaboration to include the non-exclusive development of DNA probe arrays for clinical diagnostics tests in the fields of virology and food and industrial testing, respectively.

BRISTOL-MYERS SQUIBB, MILLENNIUM PHARMACEUTICALS AND WHITEHEAD INSTITUTE CONSORTIUM

In April 1997, the Company, Bristol-Myers Squibb Company ("BMS") and Millennium Pharmaceuticals, Inc. ("Millennium") entered into a corporate consortium to fund a five-year research program in functional genomics at the Whitehead Institute of the Massachusetts Institute of Technology. The program, under the direction of Dr. Eric S. Lander, Director of the Whitehead Institute, seeks to advance the development of gene-based technologies for research and health care.

Under the terms of the consortium agreement, Affymetrix, BMS and Millennium are supporting a program of research initiated by scientists at the Whitehead Institute to develop the next generation of genomics technologies for the scientific community. The three companies will provide funds and technology totaling approximately $8.0 million per year for five years to the Whitehead Institute. Scientists at the companies will also collaborate with scientists at the Whitehead Institute to identify novel genetic markers and develop new genomics tools. In return, Affymetrix, BMS and Millennium will receive certain licensing rights to inventions made through efforts funded by the consortium.

ENZO DIAGNOSTICS, INC.

In April 1998, Affymetrix and Enzo Diagnostics, Inc. ("Enzo") entered into a collaboration and exclusive supply agreement for certain labeling kits used in the preparation of samples to be analyzed on GeneChip arrays. Under the agreement, Enzo is developing and supplying certain labeling kits to Affymetrix.

GENETIC ANALYSIS TECHNOLOGY CONSORTIUM

In December 1997, the Company and Molecular Dynamics, Inc. formed the Genetic Analysis Technology Consortium ("GATC"), a standards setting body charted to define a uniform set of specifications to allow for the interoperability of chips, readers, reagents, software and data generated using GATC compliant products. The GATC has been formed to allow for additional members to join

the GATC and participate in setting interoperability standards, as well as to certify non-members' products as GATC compliant. In January 1998 and March 1999, privately held Doubletwist, Inc., and Spotfire, Inc., announced their intentions to produce software products that are GATC compliant.

MOUSE SEQUENCING CONSORTIUM

In October 2000, Affymetrix, SmithKline Beecham, Merck & Co., the National Institutes of Health and The Wellcome Trust established the Mouse Sequencing Consortium ("MSC"), a joint public-private initiative intended to accelerate the determination of the DNA sequence of the mouse genome. MSC has agreed to provide funding and technical expertise to support mouse genome research at three leading DNA sequencing laboratories: Washington University, St. Louis, Missouri; the Whitehead Institute, Cambridge, Massachusetts; and the Sanger Centre, Cambridge, UK. MSC will make the resulting mouse genome sequence data broadly available without restriction.

ORCHID BIOSCIENCES, INC.

In December 1999, Affymetrix and Orchid BioSciences, Inc. ("Orchid") entered into an agreement to develop and commercialize single nucleotide polymorphism (SNP) genotyping assays that combine Orchid's proprietary GBA® primer extension technology with Affymetrix' GenFlex Tag array product. These assays will allow researchers to conduct high density SNP analyses solely by designing GBA primers for use on a standard GenFlex Tag array.

The first products to be commercialized by the alliance will include reagent kits for use with Affymetrix' GenFlex Tag array. Orchid will develop and manufacture GBA primer extension reagent kits. Affymetrix will develop and manufacture the GenFlex Tag arrays. Affymetrix will distribute and provide marketing, sales and technical support for certain standard genotyping assays. Orchid will manufacture, supply and support custom kits. As part of the agreement, Affymetrix made an investment in a private placement of equity offered by Orchid.

ROCHE MOLECULAR SYSTEMS, INC.

In February 1998, the Company entered into a non-exclusive collaborative development agreement with Roche Molecular Systems to initially develop probe array-based diagnostic products. Under the terms of the agreement the parties will collaborate to develop mutually agreed upon arrays, as well as associated instrumentation and reagents. Affymetrix will manufacture arrays for use in the products and Roche Molecular Systems will conduct clinical trials, manage regulatory submissions and market and sell the products. Under the terms of the agreement, Roche Molecular Systems and the Company are funding their respective work efforts as mutually agreed and will share revenues and profits based on specified terms in the agreement.

TECHNOLOGY LICENSEES

The Company's strategy includes enabling the commercialization of complementary technologies in the gene expression monitoring field by licensing third parties under its patent estate. Accordingly, the Company has entered into and intends to enter into additional licensing agreements to further this strategy. To date, the Company has licensed the following parties to commercialize DNA array products: Beckman, Genomic Solutions, Molecular Dynamics, MWG, NEN and Takara. The Company generally receives license fees upon signing of the license agreement and, in some cases, will earn royalties based on product sales by the licensees.

MANUFACTURING

The Company's current strategy is to manufacture its disposable DNA probe arrays, arrayers and scanners, fluidics stations and software in-house and contract with third-party suppliers to manufacture certain GeneChip scanners, hybridization ovens as well as certain reagents for its GeneChip system.

The Company's probe array manufacturing process involves wafer preparation, probe synthesis, dicing of synthesized wafers into chips, assembly of chips into cartridges, and quality control. Affymetrix has developed software programs that partially automate the design of photolithographic masks used in probe array manufacturing and that control the probe array manufacturing lines. Glass wafers are prepared for synthesis through the application of chemical coatings. DNA probes are synthesized on the wafers using the Company's proprietary photolithographic process. The completed wafers are then diced to yield individual probe arrays, which are assembled into disposable cartridges and packaged for shipment.

The Company is currently manufacturing probe arrays for internal and collaborative purposes and for sale in the research market. Probe arrays are manufactured out of two manufacturing facilities located in Sunnyvale and West Sacramento, California. Currently, the Company has physical capacity under optimal conditions to produce more than 15,000 wafers annually. The actual number of probe arrays the Company is able to sell or use depends on the utilization of this capacity and the yield of probe arrays that pass quality control testing as well as the number of probe arrays manufactured on each wafer. The Company has experienced and may experience in the future variability in the manufacturing yield of its GeneChip products. In addition, there are certain aspects of the Company's manufacturing processes that are not fully understood and that may not be readily scalable to allow for production of probe arrays in larger volumes. Any difficulties in meeting probe array demand may have a material adverse effect on the Company's future business, financial condition and results of operations. The Company will continue to invest in additional capital equipment for its Sunnyvale and West Sacramento facilities to both increase production capacity and increase the flexibility of this capacity to produce a broader range of products. If the Company is unable to consistently manufacture probe arrays on a timely basis because of these or other factors, its business, financial condition and results of operations would be materially adversely affected. See Item 1. "Business—risk factors."

The GeneChip system is a complex set of products and includes DNA probe arrays, which are produced in an innovative and complicated manufacturing process. Due to the complexity and limited operating history of these products, the Company has, from time to time, experienced technical problems.

The Company tests only selected probe arrays from each wafer and only selected probes on such probe arrays. The Company therefore relies on internal quality control procedures, including controls on the manufacturing process and sample testing, to verify the correct completion of the manufacturing process. In addition, the Company and its customers rely on the accuracy of genetic sequence information contained in databases upon which the Company's products are based. It is therefore possible that probe arrays that do not meet all of the Company's performance specifications may not be identified before they are shipped. For example, the Company recently discovered ambiguities in the UniGene U74 database build that was used in the design of the Murine Genome U74 Set of GeneChip arrays (see Item 1. "Business—Risk Factors"). The Company has and plans to continue to invest substantial resources to ensure the accuracy of this sequence information prior to the commercial release of its products, but there can be no assurances that additional technical problems will not occur. The Company believes its recent acquisition of Neomorphic, Inc., a privately held bioinformatics company, will further enable it to refine and ensure the accuracy of the public domain sequence databases. Despite these efforts, because of the rapidly evolving nature of the public domain sequence databases, sequence ambiguities may not be detected prior to the commercial release of a product. The magnitude and importance of these ambiguities depends on multiple and complex factors that the Company considers in determining appropriate actions to meet customer needs.

The Company relies on Agilent Technologies to manufacture its GeneChip scanners. The Company's scanner, introduced in April 1997, is obtained from Agilent Technologies under a supply agreement that expires in 2003.

The Company relies on Enzo to manufacture and supply certain labeling kits recommended for use in processing samples on GeneChip probe arrays under a supply agreement that renews annually unless otherwise terminated pursuant to the terms of the agreement. Affymetrix is obligated to purchase its requirements of certain labeling kits from Enzo.

Certain key parts of the GeneChip system, such as the scanner, certain reagent kits and lithographic masks as well as certain raw materials and pieces of manufacturing hardware used in the synthesis of probe arrays, are currently available only from a single source or a limited number of sources. No assurance can be given that scanners, reagents, lithographic masks, fabrication equipment or other components of the GeneChip system will be available in commercial quantities under acceptable terms. Even if alternative sources of supply are available, it could be time consuming and expensive for the Company to qualify new vendors. 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.

The Company must comply with the FDA regulations for sale of analyte specific reagents (ASRs) in the United States, International Standard Organization (ISO) standards for sale of products in Europe, as well as other standards prescribed by various federal, state and local regulatory agencies in the United States and other countries. Although the Company has filed an application for the registration of the manufacturing site for its arrays as ASRs, there can be no assurance that such registration can be maintained at reasonable costs.

As the Company's technologies evolve, new manufacturing techniques and systems will be required. For example, it is anticipated that additional automated processing systems will be needed to meet the Company's future probe array manufacturing needs. As products requiring increased density are developed, miniaturization of the features on the arrays will be necessary, requiring new or modified manufacturing equipment and processes as well as new instrumentation, including new or modified scanners. Further, the Company's manufacturing equipment requires significant capital investment. The Company's manufacturing facilities are subject to natural disasters such as earthquakes and floods. The former are of particular significance since the Sunnyvale manufacturing facility is located in an earthquake prone area. In addition, because of California's current energy crisis, the Company, and in particular, its key manufacturing sites in California, may experience increased electricity prices, power shortages and rolling blackouts. Although the Company maintains backup generators to supply electricity for key operations, it cannot provide any assurances that such generators will be sufficient to provide adequate power to the Company, if any, in the event of a blackout. In the event that its manufacturing facilities were to be affected by accidental or natural disasters or power shortages and blackouts, the Company would be unable to manufacture sufficient quantities of products for sale until the facilities were replaced or restored to operation, which would have a material adverse effect on the Company's business, financial condition and results of operations.

There can be no assurance that any of the foregoing problems with the Company's GeneChip products will be solvable or that any solutions can be achieved in a timely manner or at commercially reasonable costs.

SALES, MARKETING AND TECHNICAL SUPPORT

The base price of the Company's GeneChip system (scanner, software, workstation, hybridization oven and fluidics station) starts at approximately $199,000. The Company is offering different sales

programs for its expression monitoring and polymorphism analysis technologies centered upon a pricing model that is based on the performance specifications, number of data points and value of genetic information generated on a particular GeneChip probe array. Actual pricing depends on several factors, including: the magnitude of the research effort, whether the genes being analyzed are human or those of other organisms, whether the Company provides custom probe array design or other analytical screening services to a customer and whether the customer intends to offer screening services or sell databases.

The Company is currently directly marketing and selling the GeneChip system, spotted array system and probe arrays for genomics and disease management applications to its customers and collaborators in North America and Western Europe.

In addition, under an agreement dated August 19, 1998, Takara is acting as exclusive distributor of Affymetrix' microarray spotting and scanning systems in Japan, Taiwan, Korea and the People's Republic of China.

In October 1998, the Company entered into a non-exclusive distribution agreement with Amersham Pharmacia Biotech KK for the sale and marketing of certain of the Company's GeneChip® products in Japan. Under this agreement, Amersham Pharmacia Biotech KK purchases GeneChip technology directly from Affymetrix and is responsible for marketing and selling the technology to its customers in Japan.

In February 2001, the Company entered into a value added reseller agreement with MWG-Biotech for the sale of the Company's spotted array instrumentation in Europe and North and South America. Under the terms of the agreement, MWG-Biotech will offer Affymetrix' spotted array instrumentation in combination with their existing array and reagent product offerings. Affymetrix will continue to provide both the GeneChip® and spotted array systems in these regions.

The Company's near term strategy is to commercialize the GeneChip® system and spotted array system for research use only and to seek regulatory approval for and to commercialize GeneChip probe arrays for clinical use through partnerships with established firms in the diagnostics industry. The Company believes that the primary near-term market for genomics and disease management GeneChip® applications will be pharmaceutical and biotechnology companies, academic research centers and clinical reference laboratories. Longer term, the Company believes that the primary market for its disease management GeneChip® applications will be clinical diagnostic laboratories.

Affymetrix has marketing, selling and technical support groups that promote and service its GeneChip products, which the Company intends to expand as necessary.

The Company has experienced and anticipates long sales cycles to market the GeneChip® system to its potential customers. There can be no assurance that the Company will be able to maintain existing relationships or establish additional agency or distribution arrangements to market and sell its products or that any such agreement will be successful (See Item 1. "Business—Risk Factors").

RESEARCH AND DEVELOPMENT

The Company believes that substantial investment in research and development is essential to obtaining a long-term competitive position in the expression monitoring, polymorphism analysis and disease management fields. Affymetrix focuses on four types of research and development: basic research to explore and expand the potential uses of DNA probe arrays and to discover new technologies; applied research, primarily aimed at generating polymorphism databases and products; core technology development, such as the design of fully integrated systems for complex genetic information management; and novel manufacturing methods to improve the efficiency of the Company's probe array production processes.

BASIC RESEARCH

Affymetrix' basic research efforts are focused on expanding the applications of the GeneChip technology and developing related new technologies. These efforts include development of new probe array products, improving the overall performance of the GeneChip assays, increasing information capacity per probe array and simplifying the process for conducting highly complex assays. In addition, the Company's recent acquisition of Neomorphic, Inc., a privately-held computational genomics company, will allow it to focus on integrating and applying Neomorphic's computational genomics and bioinformatics capabilities to develop new products based on information from the Human Genome Project and from the genomes of model organisms such as mouse, rat, Drosophila and Arabidopsis.

APPLIED RESEARCH

Affymetrix is focusing its applied research efforts on the development of assays and databases to link genetic polymorphisms to human disease. The Company believes that such databases will ultimately lead to the discovery of novel therapeutics and the identification of diagnostic markers useful in cost-effective disease management. The Company has established relationships with several academic and commercial research organizations to identify genetic markers that can be used to design probe arrays that rapidly obtain high-resolution maps or genotypes of individual human genomes and thereby identify differences among those genomes that are characteristic of particular diseases. In October 2000, Affymetrix formed Perlegen Sciences, Inc., a new genomics subsidiary. Perlegen plans to employ third party financing and a non-commercial form of Affymetrix' DNA array technology to read 50 genomes and identify the genetic variations between individuals and find patterns in those variations. Perlegen believes that such patterns will be marketable to pharmaceutical companies seeking to associate such patterns with health factors and drug responses in testing the viability of drugs. Affymetrix expects that it will become a major supplier of Perlegen and that it will receive certain rights to data generated by Perlegen. Affymetrix currently intends to retain a substantial equity position in Perlegen.

CORE TECHNOLOGY DEVELOPMENT

The Company conducts research in several core areas, including the development of miniaturized immobilized nucleic acid detection devices. The intent of these development programs is to create advanced systems for ascertaining and analyzing complex genetic information and products that can eventually be developed by diagnostic partners for use in hospitals, clinical reference laboratories and point-of-care testing.

NOVEL MANUFACTURING METHODS

The Company conducts research aimed at improving the photolithographic manufacturing process currently employed in the production of the Company's GeneChip probe arrays. The Company is also pursuing research aimed at further improving its manufacturing technology. In the Company's photoresist manufacturing research program, the Company has demonstrated an ability to manufacture probe arrays with 5 micron feature sizes, as compared to the 20-24 micron feature sizes used on most of the Company's current probe arrays.

The Company's research and development expenses for the years ended December 31, 2000, 1999 and 1998, were $57.4 million, $40.5 million and $35.9 million, respectively.

INTELLECTUAL PROPERTY

Affymetrix has been issued 105 patents in the United States and holds numerous pending United States patent applications. Many of these patents and applications have been filed and/or issued in one or more foreign countries. Affymetrix also relies upon copyright protection, trade secrets, know-how,

continuing technological innovation and licensing opportunities to develop and maintain its competitive position. The Company's success will depend in part on its ability to obtain patent protection for its products and processes, to preserve its 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 the Company's GeneChip technology.

The Company is party to various option, supply and license agreements with third parties (including Beckman, Concordia University, Cooperative Research Centre for Diagnostic Technologies, Enzo, Gene Logic, Molecular Dynamics, New York Public Health Research Institute, Oxford Gene Technology, Scientific Generics, Ltd., Stanford University, The Imperial Cancer Research Foundation, the University of California and Xenometrix, Inc.) and Genzyme which give it rights to use certain technologies. Failure of the Company to maintain rights to such technology could have a material adverse effect on the Company's business, financial condition and results of operations.

The patent positions of pharmaceutical and biotechnology companies, including the Company, are generally uncertain and involve complex legal and factual questions. There can be no assurance that any of the Company's pending patent applications will result in issued patents, that the Company will develop additional proprietary technologies that are patentable, that any patents issued to the Company or its strategic partners will provide a basis for commercially viable products or will provide the Company with any competitive advantages or will not be challenged by third parties, or that the patents of others will not have an adverse effect on the ability of the Company to do business. In addition, patent law relating to the scope of claims in the technology fields in which the Company operates is still evolving. The degree of future protection for the Company's proprietary rights, therefore, is uncertain. Furthermore, there can be no assurance that others will not independently develop similar or alternative technologies, duplicate any of the Company's technologies, or, if patents are issued to the Company, design around or invalidate the patented technologies developed by the Company. In addition, the Company expects to incur substantial costs in litigation to defend itself in patent suits brought by third parties and when it initiates such suits. In addition, administrative proceedings such as "interferences," in the United States Patent and Trademark Office ("PTO") could substantially impact the scope of the Company's patent protection as well as result in the expenditure of substantial funds in legal fees.

The commercial success of the Company also depends in part on the Company neither infringing patents or proprietary rights of third parties nor breaching any licenses that may relate to the Company's technologies and products. For example, the Company, its collaborators and customers may need to acquire a license for an amplification technology to use the GeneChip system in certain applications, and there is no assurance that such a license will be available on commercially reasonable terms. Furthermore, the Company is aware of third-party patents that may relate to the Company's technology, including reagents used in probe array synthesis and in probe array assays, probe array scanners, synthesis techniques, polynucleotide amplification techniques, assays, and probe arrays. In addition, the Company has received and may in the future receive notices claiming infringement from third parties as well as invitations to take licenses under third party patents. There can be no assurance that the Company will not infringe on these patents or other patents or proprietary rights of third parties or that the Company would be able to obtain a license to such patents or proprietary rights on commercially acceptable terms, if at all.

Affymetrix is a party to significant litigation, which will consume substantial financial and managerial resources and which could adversely affect its business, financial condition and results of operations. Further, because of the substantial amount of discovery required in connection with any such litigation, there is a risk that confidential information could be compromised by disclosure. For a complete discussion of Affymetrix' legal proceedings, see Item 3. "Legal Proceedings."

There are a significant number of United States and foreign patents and patent applications in the Company's areas of interest, and the Company believes that there will 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 those of the Company or those of its licensors. To determine the priority of inventions, the Company will have to participate in interference proceedings declared by the United States Patent and Trademark Office that could result in substantial cost to the Company. Interferences have currently been declared with (i) a pending application of the Company and Oxford Gene Technologies and (ii) the Company's U.S. Patent No. 5,795,716. No assurance can be given that any such patent application will not have priority over patent applications filed by the Company.

The enactment of legislation implementing the General Agreement on Trade and Tariffs has resulted in certain changes in United States patent laws that became effective on June 8, 1995. Most notably, the term of patent protection for patent applications filed on or after June 8, 1995 is no longer a period of seventeen years from the date of grant. The new term of United States patents will commence on the date of issuance and terminate twenty years after the earliest effective filing date of the application. Because the time from filing to issuance of biotechnology patent applications in the Company's area of interest is often more than three years, a twenty-year term after the effective date of filing is expected to result in a substantially shortened term of the Company's patent protection, which may adversely affect the Company's business, financial condition and results of operations.

The Company also relies upon copyright and trade secret protection for its confidential and proprietary information. There can be no assurance, however, that such measures will provide adequate protection for the Company's copyrights, trade secrets or other proprietary information. In addition, there can be no assurance that trade secrets and other proprietary information will not be disclosed, that others will not independently develop substantially equivalent proprietary information and techniques or otherwise gain access to or disclose the Company's trade secrets and other proprietary information. There can be no assurance that the Company can effectively protect its copyrights, trade secrets or other proprietary information.

The Company's academic collaborators have certain rights to publish data and information in which the Company has rights. There is considerable pressure on academic institutions to publish discoveries in the genetics and genomics fields. There can be no assurance that such publication would not adversely affect the Company's ability to obtain patent protection for information in which it may have a commercial interest.

GOVERNMENT REGULATION

The manufacturing, labeling, distribution and marketing of some or all of the Company's disease management products are subject to government regulation in the United States and in certain other countries.

In the United States, the FDA regulates, as medical devices, most diagnostic tests, including analyte specific reagents and other components of the tests, including those sold to laboratories certified under the Clinical Laboratory Improvement Amendments of 1988 ("CLIA"). The Company intends to market some diagnostic products as finished test kits or equipment and others as individual components; consequently, these products are regulated as medical devices.

The Food, Drug, and Cosmetic Act requires that medical devices introduced to the United States market, unless exempted by regulation, be the subject of either a premarket notification clearance (known as a "510(k)") or an approved premarket approval ("PMA"). Some of the Company's products and those of its collaborators may require a PMA and others may require a 510(k). With respect to devices reviewed through the 510(k) process, a company may not market a device until an order is

issued by the FDA finding the product to be substantially equivalent to a legally marketed device known as a "predicate device." A 510(k) submission may involve the presentation of a substantial volume of data, including clinical data, and may require a substantial review. The FDA may agree that the product is substantially equivalent to a predicate device and allow the product to be marketed in the United States. The FDA, however, may (i) determine that the device is not substantially equivalent and require a PMA, or (ii) require further information, such as additional test data, including data from clinical studies, before it is able to make a determination regarding substantial equivalence. By requesting additional information, the FDA can further delay market introduction of a company's products. If the FDA indicates that a PMA is required for any of the Company's products, the application will require extensive clinical studies, manufacturing information (including demonstration of compliance with quality systems requirements) and likely review by a panel of experts outside the FDA. Clinical studies to support either a 510(k) submission or a PMA application would need to be conducted in accordance with FDA requirements. Failure to comply with FDA requirements could result in the FDA's refusal to accept the data or the imposition of regulatory sanctions. FDA review of a PMA application could take significantly longer than that for a 510(k).

Even where a device is exempted from 510(k) clearance or PMA approval, the FDA may impose restrictions on its marketing. For example, the FDA has exempted many in vitro reagents not sold as finished test kits from obtaining 510(k) clearance or PMA approval. These reagents, however, may be marketed by the Company only to clinical reference laboratories certified under CLIA as high complexity laboratories and are subject to a number of requirements, including labeling and the FDA's Good Manufacturing Practices ("GMP") regulations.

There can be no assurance that the Company or its collaborators will be able to meet the FDA's requirements or that any necessary approval will be received. Once granted, a 510(k) clearance or PMA approval may place substantial restrictions on how the device is marketed or to whom it may be sold. Even where a device is exempted from 510(k) clearance or PMA approval, the FDA may impose restrictions on its marketing. In addition to requiring clearance or approval for new products, the FDA may require clearance or approval prior to marketing products that are modifications of existing products. There can be no assurance that any necessary GMP clearance, 510(k) clearance or PMA approval will be granted on a timely basis or at all. FDA imposed restrictions could limit the number of customers to whom particular products could be marketed or what may be communicated about particular products. Delays in receipt of or failure to receive any necessary GMP clearance, 510(k) clearance or PMA approval, or the imposition of stringent restrictions on the Company's labeling and sales of its products could have a material adverse effect on the Company.

As a medical device manufacturer, the Company is required to register and list its products with the FDA. In addition, the Company will be required to comply with the FDA's GMP regulations, which require that medical devices be manufactured and records be maintained in a prescribed manner with respect to manufacturing, testing and control activities. Further, the Company would be required to comply with FDA requirements for labeling and promotion of its medical devices. For example, the FDA prohibits cleared or approved devices from being marketed for uncleared or unapproved uses. In addition, the medical device reporting regulation would require that the Company provide information to the FDA whenever there is evidence to reasonably suggest that one of its devices may have caused or contributed to a death or serious injury, or that there has occurred a malfunction that would be likely to cause or contribute to a death or serious injury if the malfunction were to recur.

Medical device manufacturers are subject to periodic inspections by the FDA and state agencies. Additionally, the FDA will conduct a preapproval inspection for all PMA devices and in some cases for 510(k) devices as well. If the FDA believes that a company is not in compliance with applicable laws or regulations, it can institute proceedings to issue a warning or other letter apprising of violative conduct, impose civil penalties, detain or seize products, issue a recall, ask a court to seize products, enjoin future violations or assess civil and criminal penalties against the company, its officers or its employees.

In addition, clearances or approvals could be suspended or withdrawn in appropriate circumstances. Failure to comply with regulatory requirements or any adverse regulatory action could have a material adverse effect on the Company's business, financial condition or results of operations.

Medical device laws and regulations are also in effect in many of the countries in which the Company may do business outside the United States. These range from comprehensive device approval requirements for some or all of the Company's medical device products to requests for product data or certifications. The number and scope of these requirements are increasing. There can be no assurance that the Company will obtain regulatory approvals in such countries or that it will not be required to incur significant costs in obtaining or maintaining its foreign regulatory approvals. In addition, the export by the Company of certain of its products which have not yet been cleared for domestic commercial distribution may be subject to FDA export restrictions. The failure to obtain product approvals in a timely fashion or to comply with state or foreign medical device laws and regulations may have a material adverse effect on the Company's business, financial condition or results of operations. Medical device laws and regulations are also in effect in some states in which the Company does business.

In addition, federal, state and foreign laws and regulations regarding the manufacture and sale of medical devices are subject to future changes. The Company cannot predict what impact, if any, such changes might have on its business; however, such changes could have a material effect on the Company.

Any of the Company's customers using its diagnostic devices for clinical use in the United States may be regulated under CLIA. CLIA is intended to ensure the quality and reliability of clinical laboratories in the United States by mandating specific standards in the areas of personnel qualifications, administration, participation in proficiency testing, patient test management, quality control, quality assurance and inspections. The regulations promulgated under CLIA establish three levels of diagnostic tests ("waived," "moderately complex" and "highly complex") and the standards applicable to a clinical laboratory depend on the level of the tests it performs. CLIA requirements may prevent some clinical laboratories from using certain of the Company's diagnostic products. In addition, the FDA has promulgated regulation of certain "analyte specific reagents" used in clinical reference laboratories. There can be no assurance that the CLIA regulations and future administrative interpretations of CLIA or future regulatory requirements of the FDA will not have a material adverse impact on the Company by imposing new regulatory requirements or by limiting the potential market for the Company's products.

The Company is also subject to numerous environmental and safety laws and regulations, including those governing the use, storage and disposal of hazardous and biological materials, and construction of new facilities. There can be no assurance that the Company will be able to obtain or maintain the necessary permits to operate its facilities, including its new manufacturing facility in West Sacramento, California. Any violation of, and the cost of compliance with, these regulations or permit requirements could have a material adverse effect on the Company's business, financial condition and results of operations.

REIMBURSEMENT

The ability of the Company, its collaborators and other pharmaceutical and biotechnology companies to successfully commercialize their products may depend on their ability to obtain adequate levels of reimbursement for certain health care products and services in the United States, Europe and other countries. The availability of third-party reimbursement for such products and services may be limited or uncertain, particularly with respect to genetic tests and other disease management products.

In the United States, the cost of medical care is funded, in substantial part, by government insurance programs, such as Medicare and Medicaid, and private and corporate health insurance plans.

Third-party payors may deny reimbursement if they determine that a prescribed 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 payor, or is experimental, unnecessary or inappropriate. The ability of the Company, its collaborators and other pharmaceutical and biotechnology companies to commercialize certain of their products and services successfully may depend on the extent to which appropriate reimbursement levels for the costs of such products and services are obtained from government authorities, private health insurers and other organizations, such as health maintenance organizations ("HMOs"). Third-party payors are increasingly challenging the prices charged for health care products and services. The trend towards managed health care in the United States and the concurrent growth of organizations such as HMOs, which could control or significantly influence the purchase of health care products and services, as well as legislative proposals to reform health care or reduce government insurance programs, may all result in lower prices for health care products and services commercialized by customers and collaborative partners of the Company. This could reduce the amount of future royalty payments that may be due to the Company on such product sales or services. The cost containment measures that health care providers are instituting and the impact of any health care reform may also adversely affect the profits of the Company's customers and collaborative partners. As a result, pharmaceutical and biotechnology companies may choose to reduce or eliminate certain research and development programs that utilize the Company's products. A reduction of royalty payments to the Company or the reduction or cancellation of research programs that utilize the Company's products could have a material adverse effect on the Company's business, financial condition and results of operations.

COMPETITION

Competition in expression monitoring, polymorphism analysis and disease management is intense and expected to increase. Further, the technologies for monitoring gene expression and discovering and analyzing polymorphisms associated with significant diseases and approaches for commercializing those discoveries are new and rapidly evolving. Currently, the Company's principal competition comes from existing technologies and other DNA array technologies that are used to perform many of the same functions for which the Company markets its GeneChip systems.

In the expression monitoring and polymorphism analysis fields, existing competitive technologies include gel-based sequencing using instruments provided by companies such as PE Biosystems and Amersham Pharmacia Biotech. Other companies developing potentially competitive DNA array technology include: Agilent Technologies, Axon Instruments, Clonetech, Inc., CombiMatrix Corporation, Corning, Inc., CuraGen, Inc., Digital Gene Technologies, Inc., Genomic Solutions, Inc., Hyseq, Ilumina, Inc., Lynx Therapeutics, Inc., Molecular Dynamics, Motorola Inc., Nanogen, Inc., NEN Life Science Products, Inc., Packard Instruments Company, Protogene, Inc., Sequenome, Inc., Synteni (Incyte), Texas Instruments, Inc., Visible Genetics, Inc. and Vysis. In order to compete against existing and emerging technologies, the Company will need to be successful in demonstrating to customers that the GeneChip system provides a competitive advantage.

The Company's sales representative in Japan, Amersham Pharmacia Biotech KK and its wholly owned subsidiary, Molecular Dynamics are competitors, suppliers of the Company's reagents and licensees of the Company. In addition, the Company has several other third party licensees that could offer products that compete with the Company's product offering. There can be no assurance that Amersham Pharmacia Biotech's, Molecular Dynamics' and other third party licensees' commercial activities will not adversely impact the Company's sales and supply agreements.

Similarly, Agilent Technologies supplies the Company with its Genechip scanners and has publicly announced its intention to commercialize its own DNA array technology. There can be no assurance that Agilent Technologies' commercial activity will not adversely impact the Company's sales and supply agreements. In addition, Agilent has a life sciences instrumentation business, providing it with an

existing sales and support infrastructure. There can be no assurance that Agilent's commercial activities will not adversely impact the market potential for Affymetrix or other genetic analysis technologies.

Future competition in the expression monitoring, polymorphism analysis and disease management fields will likely come from existing competitors as well as other companies seeking to develop new technologies for sequencing and analyzing genetic information. 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.

The Company expects that the market for disease management products derived from gene discovery is currently limited and will be highly competitive. Competition will likely come from established diagnostic companies such as Abbott Laboratories, Becton Dickinson, Bayer A.G., Roche Boehringer Mannheim and Johnson & Johnson. These companies offer a variety of diagnostic technologies including immunoassays, histochemistry, flow cytometry and culture, and newer DNA probe diagnostics to analyze certain limited amounts of genetic information. Many companies are developing and marketing DNA probe tests for genetic and other diseases. Other companies are conducting research on new technologies for diagnostic tests based on advances in genetic information. Established diagnostic companies could provide competition to Affymetrix through the development of new products. These companies 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. These companies also have an installed base of instruments in several markets, including clinical and reference laboratories, which are not compatible with the GeneChip system. 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.

EMPLOYEES

As of December 31, 2000, Affymetrix had 744 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 the Company's employees are represented by a collective bargaining agreement, nor has the Company experienced work stoppages. The Company believes that it maintains good relationships with its employees. Affymetrix' success will depend in large part on its ability to attract and retain skilled and experienced employees. There can be no assurance that the Company will be successful in hiring or retaining qualified personnel, and its failure to do so could have a material adverse impact on the Company's business, financial condition and results of operations.

RISK FACTORS

All statements in this annual report that do not discuss past results are forward-looking statements. Forward-looking statements are based on management's current expectations and are therefore subject to certain risks and uncertainties. Any of the following risks could seriously harm the Company's business, financial condition or results of operations. As a result, these risks could cause the decline of the trading price of the Company's common stock and the reader should carefully consider the risks described below before making an investment decision. The risks described below, however, are not the only ones that the Company faces. The reader should also refer to the other information set forth in this annual report, including the Company's financial statements and the related notes.

THE COMPANY HAS A HISTORY OF OPERATING LOSSES AND MAY INCUR FUTURE LOSSES.

The Company has experienced significant operating losses each year since its inception. For example, it experienced net losses of approximately $26.8 million in 1998, $25.5 million in 1999 and $54.0 million in 2000. It had an accumulated deficit of approximately $124.2 million as of December 31, 1999 and approximately $178.2 million as of December 31, 2000. Its losses have resulted principally from costs incurred in research and development and from general and administrative costs associated with its operations. Historically, these costs have exceeded revenues and interest income, which, to date, have been generated principally from product sales and technology access fees, license fees and royalties, collaborative research and development agreements, government research grants and cash and investment balances.

THE COMPANY HAS HAD ONLY ONE QUARTER OF PROFITABILITY AND MAY NEVER ACHIEVE SUSTAINED PROFITABILITY.

Although the Company's operating results for the quarter ended September 30, 2000 marked the first profitable quarter in the Company's history, the Company incurred a net loss of $54.0 million for the year ended December 31, 2000 and cannot guarantee future profitability. Among other things, the Company's ability to achieve sustained profitability will depend upon its ability to:

- maintain its commercial manufacturing capability for probe arrays and consistently achieve acceptable yields from those capabilities;
- develop products that are accurate and effective;
- develop products that are protected from competition by others;
- cost-effectively manufacture components of the GeneChip® system;
- develop its marketing capabilities cost effectively;
- establish sales and distribution capabilities cost-effectively;
- establish administrative capabilities and systems that cost effectively support its business
- enter into sufficiently profitable supply agreements with customers desiring to use its products;
- develop products that are accepted by the marketplace;
- create a product mix that is appealing to pharmaceutical and biotechnology companies, academic research centers and clinical reference laboratories;
- avoid infringing on the intellectual property rights of others;
- enforce its intellectual property rights against others;
- obtain necessary regulatory approvals in a timely manner; and
- hire and retain qualified key personnel.

In addition, any delays in receipt of any necessary regulatory approvals or any adverse developments with respect to its ability to enforce its intellectual property relative to its competitors could seriously harm the successful commercialization of its technologies and could have a material adverse effect on its business, financial condition and results of operations.

THE COMPANY'S QUARTERLY RESULTS OF OPERATION HAVE HISTORICALLY FLUCTUATED SIGNIFICANTLY PERIOD-TO-PERIOD, AND ITS STOCK MAY DECREASE IN VALUE SIGNIFICANTLY FOLLOWING AN EARNINGS RELEASE.

Although the Company believes that period-to-period comparisons of its results of operations are not a good indication of its future performance, its operating results may fall below the expectations of public market analysts or investors in future quarters and the market price of its common stock may fall significantly.

SALES OF THE COMPANY'S GENECHIP® AND SPOTTED ARRAY PRODUCTS AND ITS OPERATING RESULTS MAY FLUCTUATE UNPREDICTABLY FROM PERIOD TO PERIOD.

The Company expects that its customers' supply requirements and orders will depend, among other things, on the frequency of experiments conducted by them, their inventory of GeneChip and spotted array products and their expectations as to how long it will take for the Company to fill future orders. In addition, the Company expects that from time to time it will receive relatively large orders with short lead times. As a result, its revenues and operating results may fluctuate significantly from period to period due in part to factors that are outside of its control and which it cannot predict.

THE COMPANY MAY LOSE CUSTOMERS UNLESS IT IMPROVES ITS ABILITY TO MANUFACTURE ITS PRODUCTS AND ENSURE THEIR PROPER PERFORMANCE.

The Company produces its GeneChip® and spotted array products in an innovative and complicated manufacturing process. It has experienced and may experience in the future significant variability in the manufacturing yield of its GeneChip products which has reduced, and may reduce in the future, its gross margins and harm its business. The Company has also experienced, and anticipates that it may continue to experience, difficulties in meeting customer, collaborator and internal demand for some of its probe array products. If the Company cannot deliver products in a timely manner, it could lose customers or be required to delay introduction of new products, and demand for the Company's products could decline. Furthermore, if the Company cannot deliver products to its customers that consistently meet their performance expectations, demand for its products will decline. Because the Company has a limited manufacturing history, it does not fully understand all of the factors that affect its manufacturing processes. As a result, manufacturing and quality control problems have arisen in the past and the Company expects them to continue to arise as it attempts to increase the production rate at its manufacturing facilities. The Company may not be able to increase production rates at these facilities in a timely and cost-effective manner or at commercially reasonable costs.

IF THE COMPANY CANNOT CONTINUOUSLY DEVELOP AND INTRODUCE NEW PRODUCTS AND KEEP PACE WITH THE LATEST TECHNOLOGICAL CHANGES IT WILL NOT BE ABLE TO COMPETE SUCCESSFULLY IN ITS HIGHLY COMPETITIVE AND RAPIDLY CHANGING MARKET; IF THE COMPANY CANNOT COMPETE EFFECTIVELY, ITS REVENUES MAY DECLINE.

The Company competes in markets that are new, intensely competitive, highly fragmented and rapidly changing, and many of its current and potential competitors have significantly greater financial, technical, marketing and other resources. In addition, many current and potential competitors have greater name recognition, more extensive customer bases and access to proprietary genetic content. The Company may not survive and its revenues may decline if it fails to respond quickly to new or emerging technologies and changes in customer requirements.

Currently, the Company's principal competition comes from existing DNA probe array and other technologies that are used to perform many of the same functions for which the Company markets its GeneChip® products. In order to compete against existing and newly developed technologies and maintain pricing and gross margins, the Company needs to successfully demonstrate to potential customers that its GeneChip products provide improved performance and capabilities at an acceptable price. A large number of publicly traded and privately held companies including Agilent Technologies, Inc., Corning, Inc., CuraGen, Inc., Gene Logic, Inc., General Scanning, Inc., Genome Solutions, Inc., Hitachi, Ltd., Illumina, Inc., Incyte Pharmaceuticals, Inc./Synteni, Inc., Lynx Therapeutics, Inc., Motorola, Inc. and Sequenome, Inc. also are developing or have developed DNA probe based assays or other products and services, some of which may be competitive with the Company's.

If the Company is unable to develop the enhancements to its technology necessary to compete successfully with newly emerging technologies and competitors, or if the Company is unable to develop products based on these technologies, its business, financial condition and results of operations will suffer. Moreover, to maintain or gain market acceptance of the Company's products in the face of new products introduced by the Company's competitors, Affymetrix may have to reduce or discount the price of its products resulting in an adverse impact on revenues and gross margins.

THE COMPANY EXPECTS TO FACE INCREASING COMPETITION IN THE FUTURE.

Future competition in existing and potential markets will likely come from existing competitors as well as other companies seeking to develop new technologies for sequencing and analyzing genetic information. 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.

In the disease management field, competition will likely 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.

Established diagnostic companies could compete with the Company by developing new products. Companies such as Abbott Laboratories, Becton Dickinson, Bayer A.G., Roche Boehringer Mannheim and Johnson & Johnson 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 the GeneChip® system and could deter acceptance of the Company's 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.

AS THE COMPANY CONTINUES TO SCALE UP MANUFACTURING OF ITS PRODUCTS, IT MAY ENCOUNTER PROBLEMS DUE TO A RELATIVELY LIMITED MANUFACTURING HISTORY, THE COMPLEXITY OF ITS PRODUCTS AND AMBIGUITIES IN GENETIC SEQUENCE DATABASES UPON WHICH ITS PRODUCTS ARE BASED.

The GeneChip® system is a complex set of products and includes DNA probe arrays, which are produced in an innovative and complicated manufacturing process. The Company tests only selected probe arrays from each wafer and only selected probes on such probe arrays. The Company therefore relies on internal quality control procedures to verify the correct completion of the manufacturing process. Also, the Company and its customers rely on the accuracy of genetic sequence information contained in databases upon which its products are based. It is therefore possible that probe arrays that

do not meet all of the Company's performance specifications may not be identified before they are shipped. Due to the complexity and limited operating history of these products, the Company has from time to time experienced technical problems. The Company has plans to continue to invest substantial resources to ensure the accuracy of the sequence information used to design its probe arrays prior to the commercial release of its products but there can be no assurance that additional technical problems will not occur. The Company believes its recent acquisition of Neomorphic, Inc., a privately held bioinformatics company, will further enable it to refine and ensure the accuracy of the public domain sequence databases. Despite these efforts, because of the rapidly evolving nature of the public domain sequence databases, sequence errors and ambiguities may not be found prior to the commercial release of a product. The magnitude and importance of these errors depends on multiple and complex factors that the Company considers in determining appropriate actions to meet customer needs.

For example, the Company has recently discovered ambiguities in the UniGene U74 database build that was used in the design of the Murine Genome U74 Set of GeneChip® arrays. As a result, the Company has begun the redesign of these arrays and has initiated discussions with its affected customers to address their individual needs and to offer certain replacement arrays to these customers. The Company has evaluated the financial impact of providing these replacement arrays and has taken a charge in the fourth quarter of 2000 of $1.8 million and estimates an additional charge of approximately $1.0 million in the first quarter of 2001. In addition, due to customer concern over the accuracy of the probe sequences on its arrays, sales of the Murine Genome U74 set of arrays as well as other products may be delayed or negatively impacted. The inability of the Company to timely deliver acceptable products would likely adversely affect the Company's relationship with its customers, and could have a material adverse effect on its business, financial condition and results of operations.

PATENT POSITIONS IN THE COMPANY'S INDUSTRY ARE GENERALLY UNCERTAIN AND LITIGATION IS PREVALENT.

The patent positions of pharmaceutical and biotechnology companies are generally uncertain and involve complex legal and factual questions. In addition, the Company believes that there will continue to be significant litigation in the industry regarding patent and other intellectual property rights. As a result, the Company cannot guarantee any of the following:

- that any of its pending patent applications will result in issued patents;
- that the Company will develop additional technologies that are patentable;
- that any patents issued to the Company or its strategic partners will provide a basis for commercially viable products;
- that any patents issued to the Company or its strategic partners will provide the Company with any competitive advantages;
- that any patents issued to the Company or its strategic partners will not be challenged by third parties; or
- that the patents of others will not have an adverse effect on its ability to do business.

In addition, patent law relating to the scope of claims in the technology fields in which the Company operates is still evolving and the extent of future protection for its proprietary rights is uncertain.

Others may independently develop similar or alternative technologies, duplicate any of its technologies, or design around or invalidate the Company's patented technologies. In addition, the Company has and expects to continue to incur substantial costs in litigation to defend against the patent suits brought by third parties and when the Company initiates such suits. In addition, administrative proceedings such as "interferences," in the United States Patent Office could

substantially impact the scope of the Company's patent protection as well as result in the expenditure of substantial funds in legal fees.

Others have filed, and in the future are likely to file, patent applications that are similar or identical to those of the Company or those of its licensors. To determine the priority of inventions, the Company will have to participate in interference proceedings declared by the United States Patent and Trademark Office that could result in substantial cost to the Company. The Company cannot assure investors that any such patent applications will not have priority over its patent applications. See Item 1. "Business—Intellectual Property."

Moreover, even if the Company defends and enforces its intellectual property rights, others may independently develop similar or alternative technologies, duplicate any of its technologies, or design around or invalidate its patented technologies. These developments would reduce the value of the Company's intellectual property assets.

THE COMPANY MAY BE EXPOSED TO LIABILITY DUE TO PRODUCT DEFECTS.

The Company's business exposes it to potential product liability claims that are inherent in the testing, manufacturing, marketing and sale of human diagnostic and therapeutic products. The Company intends to acquire additional insurance, should it be desirable, for clinical liability risks. The Company may not be able to obtain such insurance or general product liability insurance on acceptable terms or at reasonable costs. In addition, such insurance may not be in sufficient amounts to provide the Company with adequate coverage against potential liabilities. A product liability claim or recall could have a serious adverse effect on the Company's business, financial condition and results of operations.

THE COMPANY IS ENGAGED IN SIGNIFICANT LITIGATION WITH ITS COMPETITORS REGARDING ITS INTELLECTUAL PROPERTY RIGHTS AND ITS SURVIVAL DEPENDS ON ITS ABILITY TO AVOID INFRINGING THE INTELLECTUAL PROPERTY OF OTHERS.

Intellectual property rights are essential to the Company's business. The Company is engaged in significant litigation with its competitors regarding its intellectual property rights. The Company has filed patent infringement actions against Incyte Genomics and Synteni to enforce its U.S. Patent Nos. 5,445,934, 5,744,305, 5,800,992, 6,040,193 and 5,871,928. Incyte has filed patent infringement claims against the Company alleging infringement of certain of its patents and also has asserted various state law claims against the Company in the cases. Incyte and Synteni have also asserted that certain of Affymetrix' patents that are the subject of the litigation are not infringed, are invalid and are unenforceable. In addition, Hyseq has filed three patent infringement actions against the Company and the Company has filed suits against Hyseq to enforce its U.S. Patent Nos. 5,795,716, 5,744,305 and 5,800,992. On January 25, 2001, the U.S. District Court for the Northern District of California issued a Markman ruling interpreting the claims in certain of the U.S. patents that the Company has asserted in litigation against Incyte and Hyseq. Subsequently, Incyte has filed a summary judgment motion asserting some of its patents are not covered by some of the claims asserted by the Company.

On January 10, 2001, the Board of Patent Appeals and Interferences of the United States Patent and Trademark Office ("PTO") issued to the Company a Notice Declaring Interference and has ordered the commencement of an interference proceeding between the Company and OGT involving certain claims of a patent application relating to nucleic acid arrays owned by the Company, and certain claims of OGT's United States Patent 6,054,270 relating to nucleic acid arrays. Further, on January 30, 2001, the PTO issued to Affymetrix a Notice Declaring Interference and has ordered the commencement of an interference proceeding between Affymetrix and Hyseq involving certain claims of Affymetrix' '716 Patent, and certain claims of Hyseq's patent application.

In addition, on July 6, 2000, Applera Corporation ("Applera") filed a patent infringement action against the Company alleging that certain Affymetrix products infringe five patents related to reagents that Affymetrix purchases from Applera licensed vendors.

All of these cases are pending and consume, and will continue to consume, substantial portions of the Company's financial and managerial resources. A loss of a significant litigation could prevent the Company from producing its current products or developing new ones and could also result in the payment of significant penalties and royalties, which could make it too costly to produce some or all of its products. For a complete discussion of the Company's legal proceedings, see Item 3. "Legal Proceedings."

THE COMPANY'S SURVIVAL DEPENDS ON ITS ABILITY TO MAINTAIN, ENFORCE AND OBTAIN INTELLECTUAL PROPERTY RIGHTS NECESSARY TO CONTINUE OR EXPAND ITS BUSINESS; IF THE COMPANY IS SUBJECT TO ADDITIONAL LITIGATION CLAIMS ON ITS INTELLECTUAL PROPERTY RIGHTS, THEY COULD BE COSTLY AND DISRUPT THE COMPANY'S BUSINESS.

If the Company cannot maintain, enforce or obtain intellectual property rights, competitors can design probe array systems with similar competitive advantages to the Company's GeneChip® technology without paying the Company royalties. In order to continue the Company's current business, the Company must successfully:

- defend against third parties asserting that it infringes their intellectual property rights;
- enforce its intellectual property rights against third parties infringing its rights;
- meet applicable regulatory standards in a timely manner;
- obtain licenses to the intellectual property it needs to continue or expand its business;
- obtain enforceable patent rights to its product and process innovations; and
- defend the scope of its existing or pending patents in administrative proceedings, such as oppositions or interferences.

Moreover, even if the Company defends and enforces its intellectual property rights, others may independently develop similar or alternative technologies, duplicate any of its technologies, or design around or invalidate its patented technologies. These developments would reduce the value of the Company's intellectual property assets. Additional litigation involving the Company regarding its intellectual property rights could consume substantial portions of the Company's financial and managerial resources.

THE COMPANY'S FACILITIES IN CALIFORNIA ARE VULNERABLE TO POWER OUTAGES WHICH COULD DISRUPT THE COMPANY'S OPERATIONS AND INCREASE ITS EXPENSES.

Several of the Company's facilities, including key manufacturing sites, are located in the state of California, which presently is experiencing a severe shortage of electrical power. Because of California's current energy crisis, the Company may experience increased electricity prices, power shortages and rolling blackouts. Although the company maintains backup generators to supply electricity for key operations, it cannot provide any assurances that such generators will be sufficient to provide adequate power to the Company, if any, in the event of a blackout. If blackouts interrupt the Company's power supply, the Company may be temporarily unable to continue operations at its California facilities. Any such interruption in the Company's ability to continue operations at it facilities could delay its ability to develop or provide its products, which could result in lost revenue and seriously harm its business, financial condition and results of operations. The Company cannot be sure that the insurance it

maintains against general business interruptions will be adequate to cover its losses in this particular case, if at all.

RISKS ASSOCIATED WITH EXPORT SALES AND OPERATIONS.

The Company intends to continue to expand its international presence in order to increase its export sales. Export sales to international customers entail a number of risks, including:

- unexpected changes in, or impositions of, legislative or regulatory requirements;
- delays resulting from difficulty in obtaining export licenses for certain technology, tariffs, quotas and other trade barriers and restrictions;
- longer payment cycles and greater difficulty in accounts receivable collection;
- potentially adverse taxes;
- currency exchange fluctuations;
- the burdens of complying with a variety of foreign laws; and
- other factors beyond the Company's control.

The Company is also subject to general geopolitical risks in connection with international operations, such as political, social and economic instability, potential hostilities and changes in diplomatic and trade relationships. Although the Company has not to date experienced any material adverse effect on its operations as a result of such regulatory, geopolitical and other factors, the Company cannot assure investors that such factors will not adversely affect its operations in the future or require it to modify its current business practices. The Company cannot assure the investors that one or more of the foregoing factors will not have a material adverse effect on its business, financial condition and operating results or require it to modify its current business practices.

THE LOSS OF A KEY CUSTOMER COULD SUBSTANTIALLY REDUCE THE COMPANY'S REVENUES AND BE PERCEIVED AS A LOSS OF MOMENTUM IN THE COMPANY'S BUSINESS.

The Company's customers are concentrated in a small number of pharmaceutical and biotechnology companies, academic research centers and clinical reference laboratories. The Company expects that a small number of customers, such as Aventis Pharma, Ltd., F. Hoffman-La Roche, Ltd., American Home Products Inc., Gene Logic, Inc. and other key customers, will in aggregate continue to account for a substantial portion of revenues for the foreseeable future.

THE COMPANY DEPENDS ON A LIMITED NUMBER OF SUPPLIERS AND IT WILL BE UNABLE TO MANUFACTURE ITS PRODUCTS IF SHIPMENTS FROM THESE SUPPLIERS ARE DELAYED OR INTERRUPTED.

Key parts of the GeneChip® product line, such as the scanner, certain reagent kits and lithographic masks as well as certain raw materials used in the synthesis of probe arrays, are currently available only from a single source or limited sources. The Company relies on Agilent Technologies to manufacture its scanners and on Enzo Diagnostics, Inc. to manufacture key expression analysis reagents used with probe arrays and various labeling kits recommended for the processing of samples. In addition, components of the Company's manufacturing equipment and certain raw materials used in the synthesis of probe arrays are available from one of only a few suppliers. In the event that supplies from these vendors were delayed or interrupted for any reason, the Company would not be able to get manufacturing equipment, produce probe arrays, or sell scanners or other components for its GeneChip® product in a timely fashion or in sufficient quantities or under acceptable terms.

Even if alternative sources of supply are available, it could be time consuming and expensive for the Company to qualify new vendors. In addition, it 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 were delayed or interrupted for any reason, the Company could be delayed in its ability to develop and deliver products to its customers.

IF THE COMPANY IS UNABLE TO MAINTAIN ITS RELATIONSHIPS WITH COLLABORATIVE PARTNERS, IT MAY HAVE DIFFICULTY SELLING ITS PRODUCTS AND SERVICES.

The Company believes that its success in penetrating its target markets depends in part on its ability to develop and maintain collaborative relationships with key companies as well as with key academic researchers. The Company's collaborative partners, however, may not be able to perform their obligations as expected or devote sufficient resources to the development, clinical testing, supply or marketing of its potential products developed under these collaborations.

Currently, the Company's significant collaborative partners include Agilent Technologies in the making of its scanners, Amersham Pharmacia Biotech KK and Takara Shuzo Co., Ltd. in distributing its products in Japan, MWG-Biotech AG in distributing its products in Europe, and Roche Molecular Systems and bioMerieux in the development of its diagnostic chip products. Relying on these or other collaborative relationships is risky to the Company's future success because:

- its partners may develop technologies or components competitive with its GeneChip® product such as Agilent Technologies, which has announced its intention to commercialize a competing DNA array technology platform;
- its existing collaborations may preclude it from entering into additional future arrangements;
- its partners may not obtain regulatory approvals necessary to continue the collaborations in a timely manner;
- some of its agreements may prematurely terminate due to disagreements between it and its partners;
- its partners may not devote sufficient resources to the development and sale of its products;
- its partners may be unable to supply products to it on a timely basis;
- its collaborations may be unsuccessful; or
- it may not be able to negotiate future collaborative arrangements on acceptable terms.

THE COMPANY'S CURRENT SALES, MARKETING AND TECHNICAL SUPPORT ORGANIZATION MAY LIMIT ITS ABILITY TO SELL ITS PRODUCTS.

The Company currently has limited sales, marketing and technical support services. To assist its sales and support activities, the Company entered into distribution agreements through certain distributors, principally in Japan. In addition, the Company also has in place with several third parties a series of distribution agreements covering the Affymetrix spotted array instruments product line that was acquired in the GMS acquisition. These and other third parties, such as Amersham Pharmacia Biotech KK on whom the Company relies for sales, marketing and technical support may decide to develop and sell competitive products or otherwise become its competitors, which could harm its business. For instance, Agilent Technologies has announced its intention to commercialize a competing DNA array technology platform. Although the Company has invested significant other resources to expand its direct sales force and its technical and support staff, it may not be able to establish a sufficiently sized sales, marketing or technical support organization to sell, market or support its products.

BECAUSE THE COMPANY'S BUSINESS IS HIGHLY DEPENDENT ON KEY EXECUTIVES AND SCIENTISTS, ITS INABILITY TO RECRUIT AND RETAIN THESE PEOPLE COULD HINDER ITS BUSINESS EXPANSION PLANS.

The Company is highly dependent on its executive officers and its senior scientists and engineers, including scientific advisors. The Company's product development and marketing efforts will be delayed or curtailed if it loses the services of any of these people.

The Company relies on its scientific advisors and consultants to assist it in formulating its research, development and commercialization strategy. All of these individuals are engaged by employers other than the Company and have commitments to other entities that may limit their availability to the Company. Some of them also consult for companies that may be competitors of the Company's. A scientific advisor's other obligations may prevent him or her from assisting the Company in developing its technical and business strategies.

To expand its research, product development and sales efforts the Company needs 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 their turnover rate is high. The Company will not be able to expand its business if it is unable to hire, train and retain a sufficient number of qualified employees.

BECAUSE GLAXO WELLCOME OWNS A SUBSTANTIAL PORTION OF THE COMPANY'S OUTSTANDING CAPITAL STOCK, GLAXO MAY BE ABLE TO INFLUENCE THE OUTCOME OF STOCKHOLDER VOTES OR THE MARKET PRICE OF THE COMPANY'S STOCK.

As of March 26, 2001, Glaxo Wellcome plc, (''Glaxo'') and its affiliates beneficially own approximately 15% of the Company's outstanding common stock. Accordingly, Glaxo may be able to exercise significant influence over the Company's business and over matters subject to stockholder votes, including votes concerning the election of directors, adoption of amendments to the Company's certificate of incorporation and bylaws and approval of mergers and other significant corporate transactions. Moreover, the Company's stock price may drop if Glaxo or any of its affiliates sells a significant amount of the Company's stock or if investors interpret any sale of the Company's stock by Glaxo or any of its affiliates as a sign of weakness in the Company's business.

THE COMPANY MAY NOT BE ABLE TO REALIZE THE BENEFITS OF RECENT ACQUISITIONS.

The Company acquired Genetic MicroSystems, Inc., a privately held instrumentation company specializing in DNA array technology in February, 2000 and Neomorphic, Inc., a privately-held, computational genomics company in October, 2000. These transactions may not be as beneficial to the Company as it expects.

FUTURE ACQUISITIONS MAY DISRUPT THE COMPANY'S BUSINESS AND DISTRACT COMPANY MANAGEMENT.

The Company has recently engaged in acquisitions and expects to continue to do so. The Company may not be able to identify suitable acquisition candidates, and if the Company does identify suitable candidates, it may not be able to make such acquisitions on commercially acceptable terms or at all. If the Company acquires another company, the Company may not be able to successfully integrate the acquired business into the Company's existing business in a timely and non-disruptive manner or at all. The Company may have to devote a significant amount of time and resources to do so. Even with this investment of time and resources, an acquisition may not produce the revenues, earnings or business synergies that the Company anticipates. If the Company fails to integrate the acquired business effectively or if key employees of that business leave, the anticipated benefits of the acquisition would be jeopardized. The time, capital management and other resources spent on an acquisition that fails to

meet the Company's expectations could cause the Company's business and financial condition to be materially and adversely affected. In addition, acquisitions can involve non-recurring charges and amortization of significant amounts of goodwill and deferred stock compensation that could adversely affect the Company's results of operations.

PERLEGEN SCIENCES, INC. MAY NOT BE ABLE TO RAISE THIRD PARTY FINANCING ON FAVORABLE TERMS, IF AT ALL.

Affymetrix formed Perlegen Sciences, Inc., a genomics subsidiary that plans to use a non-commercial form of Affymetrix' DNA array technology to read 50 genomes and identify genetic variations between individuals and to find patterns in those variations. Perlegen believes that such patterns will be marketable to pharmaceutical companies seeking to associate such patterns with health factors and drug responses in testing the viability of drugs. There is no guarantee, however, that any third party financing that Perlegen obtains will be on favorable terms or that the funding from outside sources will be sufficient to fund Perlegen's operations. Affymetrix cannot assure the success of Perlegen and if Perlegen is unable to obtain sufficient funding from outside sources, Affymetrix may decide to abandon the Perlegen project or bear the costs of financing Perlegen itself. This may divert Affymetrix' resources from other potential uses and also require Affymetrix to recognize Perlegen's operating losses in its consolidated results.

THE MARKET PRICE OF THE COMPANY'S COMMON STOCK IS EXTREMELY VOLATILE, AND THE VALUE OF ITS COMMON STOCK MAY DECREASE SUDDENLY.

For a number of reasons, the market price of the Company's common stock is extremely volatile, and the value of its common stock may be significantly less than the market value of that stock today. To demonstrate the volatility of the Company's stock price, during the twelve month period ending on March 20, 2001, the volume of its common stock traded on any given day has ranged from 271,000 to 11,548,500 shares, a 4,161% difference. Moreover, during that period, its common stock has traded as low as $35.63 per share and as high as $110.81 per share, a 211% difference. The market price of its common stock has changed as much as $18.19 per share in a single day and its stock price has changed more than $10 in a single day 28 times in the twelve month period ending March 20, 2001.

THE COMPANY IS AT RISK OF SECURITIES CLASS ACTION LITIGATION DUE TO STOCK PRICE VOLATILITY

In the past, securities class action litigation has often been brought against a company following periods of volatility in the market price of its securities. Due to the potential volatility of its stock price, the Company may be the target of such litigation in the future. Securities litigation could result in substantial costs and divert management's attention and resources, which could seriously harm the Company's business, financial condition and results of operations.

ITEM 2. PROPERTIES

Affymetrix leases two facilities in Santa Clara, California, totaling 93,000 square feet for research and development laboratories and administrative offices under leases expiring in 2003. The Company has an option to renew the leases on these facilities for an additional three years. The Company leases 20,000 square feet of space for manufacturing operations in Sunnyvale, California, under a lease that expires in 2003. The Company also leases 31,000 square feet of research and development space in Sunnyvale, California under a lease that expires in 2002. In October 1999, Affymetrix acquired an additional 57,000 square feet of office and light manufacturing space in Sunnyvale, California, under a lease that expires in 2004. The Company also leases 11,000 square feet of software development space in Emeryville, California under a lease that expires in 2005. The Company also leases 80,000 square feet of space for research and development, manufacturing and administrative operations in Bedford,

Massachusetts under a lease that expires in 2011. The Company also leases 10,000 square feet of space for administrative operations in Wooburn-Green, England under a lease that expires in 2015. In February 1998, the Company purchased approximately ten acres of land in West Sacramento, California, upon which the Company has built a 52,000 square foot manufacturing facility. The Company expects to continue to expand its manufacturing and other operating facilities over the next few years.

ITEM 3. LEGAL PROCEEDINGS

GENERAL

Affymetrix is a party to significant litigation, which will consume substantial financial and managerial resources and which could adversely affect its business, financial condition and results of operations. If in any pending or future intellectual property litigation Affymetrix or its collaborative partners is found to have infringed the valid intellectual property rights of third parties, Affymetrix or its collaborative partners could be subject to significant liability for damages, could be required to obtain a license from a third party, which may not be available on reasonable terms or at all, or could be prevented from manufacturing and selling its products. In addition, if Affymetrix is unable to enforce its patents and other intellectual property rights against others, or if its patents are found to be invalid, third parties may more easily be able to introduce and sell DNA array technologies that compete with Affymetrix' GeneChip® technology, and Affymetrix' competitive position could suffer. Affymetrix expects to devote substantial financial and managerial resources to protect its intellectual property rights and to defend against the claims described below as well as any future claims asserted against it. Further, because of the substantial amount of discovery required in connection with any litigation, there is a risk that confidential information could be compromised by disclosure.

OXFORD GENE TECHNOLOGY SETTLEMENT

On March 23, 2001 Affymetrix and Oxford Gene Technology, Ltd. ("OGT") entered into a settlement agreement resolving all existing litigation between the two companies.

The settlement encompasses a number of lawsuits and other adverse proceedings involving the parties' respective patents, patent applications and patent license rights in various countries as well as litigation over the transfer to Affymetrix of Beckman Coulter's ("Beckman") license to certain OGT patents through Affymetrix' 1999 purchase of Beckman's array business. Key components of the settlement include:

- OGT and Affymetrix will dismiss the pending lawsuits in the Delaware Federal Court.
- OGT will drop its infringement actions and both parties will drop their revocation actions challenging each others' patents in the United Kingdom.
- OGT will withdraw its petition for leave to appeal to the House of Lords in the license action in the United Kingdom.
- OGT will recognize the validity of Affymetrix' license obtained from Beckman.
- Both parties will cease their involvement in opposition proceedings against the other's European patent in the European Patent Office.

As a result of the settlement, Affymetrix did not receive any additional license rights from OGT and the terms of the existing license to OGT's technology obtained from Beckman remains unchanged. As a result of the settlement, the Company will record an additional charge of approximately $18.6 million in the quarter ended December 31, 2000. In addition, the Company may be required to record a smaller charge in the first quarter of 2001 as a result of a fee arrangement entered into with the Company's legal counsel. While the settlement agreement settles all outstanding litigation and ensures that the Company is licensed under certain OGT patents, it does not require the withdrawal of undeclared interferences or ensure that the parties will not be involved in future administrative and other proceedings, such as interferences, arbitration proceedings, or litigation proceedings. Such proceedings could have a material, adverse effect on the Company as a result of expenses incurred, distraction of management, or narrowing or elimination of some of its patent rights.

HYSEQ, INC. LITIGATION

On March 3, 1997, Hyseq, Inc. ("Hyseq") filed a lawsuit in United States District Court for the Northern District of California (San Jose Division) alleging that Affymetrix' products infringe United States Patent Nos. 5,202,231, or the '231 Patent, and 5,525,464, or the '464 Patent. In addition, in December 1997, Hyseq filed a second action claiming that Affymetrix' products infringe a related patent, United States Patent 5,695,940, or the '940 Patent. On October 26, 1999, Hyseq filed a third action in United States District Court for the Northern District of California claiming that Affymetrix' products infringe a related patent, United States Patent No. 5,972,619, or the '619 Patent. The action also requests a declaration that Affymetrix' United States Patent No. 5,795,716 or the '716 Patent is invalid based on the '619 Patent. On November 2, 2000, Hyseq was granted permission to file a supplemental complaint in United States District Court for the Northern District of California alleging that Affymetrix' products infringe an additional related patent, United States Patent No. 6,018,041, or the '041 Patent. No trial date in these matters has been set.

On October 26, 1999, the United States District Court for the Northern District of California issued a claims construction order interpreting various terms of the '231, '464, and '940 Patents. Following Hyseq's motion for reconsideration of that claims construction order, the United States District Court for the Northern District of California on July 28, 2000, issued a revised claims construction order interpreting various terms of the '231, '464 and '940 Patents. The parties have briefed claim construction issues on the '619 Patent, and a tentative claims construction decision was issued by the court on March 20, 2001 regarding the '619 Patent. Claim construction rulings are a pre-trial proceeding that provide interpretations of specific language in claims of the relevant patents.

The Hyseq actions seek damages based on the sale of Affymetrix' products and processes and seek to enjoin commercial activities relating to those products and processes. In addition to subjecting Affymetrix to potential liability for damages, these actions, and any other similar legal actions against Affymetrix or its collaborative partners, could require Affymetrix or its collaborative partners to obtain a license in order to continue to manufacture, market or use the affected products and processes. While Affymetrix believes that the Hyseq complaints are without merit, Affymetrix may not prevail in these actions and Affymetrix or its collaborative partners may not prevail in any other related action. Moreover, in the event Affymetrix does not prevail in the Hyseq actions and Affymetrix, its partners or its customers are required to obtain a license to continue to manufacture, market or use the affected products and processes, Affymetrix, its partners or its customers may not be able to obtain such a license on commercially acceptable terms, if at all. Furthermore, Affymetrix has expended and is likely to continue to expend substantial financial and managerial resources in defending against the claims filed by Hyseq.

On August 18, 1998, Affymetrix filed a lawsuit in United States District Court for the Northern District of California against Hyseq alleging infringement of United States Patent Nos. 5,795,716, or the '716 Patent, and 5,744,305, or the '305 Patent. On September 1, 1998, Affymetrix added its United

States Patent No. 5,800,992, or the '992 Patent, to the complaint of infringement against Hyseq. On November 23, 1998, Hyseq filed an answer to Affymetrix' complaint, alleging that Affymetrix' three asserted patents are invalid. On January 25, 2001, the United States District Court for the Northern District of California issued a claims construction order interpreting various terms of the '716, '305 and '992 Patents. On January 30, 2001, the Board of Patent Appeals and Interferences of the United States Patent and Trademark Office issued to Affymetrix a Notice Declaring Interference and has ordered the commencement of an interference proceeding between Affymetrix and Hyseq involving certain claims of Affymetrix' '716 Patent, and certain claims of Hyseq's patent application. No trial dates have been set in these cases.

INCYTE GENOMICS AND SYNTENI LITIGATION AND PROCEEDINGS

On January 6, 1998, Affymetrix filed a patent infringement action in the United States District Court for the District of Delaware alleging that certain of Incyte Genomics, Inc.'s ("Incyte") and Synteni, Inc.'s ("Synteni") products infringe United States Patent No. 5,445,934, or the '934 Patent. On September 1, 1998, Affymetrix filed a complaint against Incyte and Synteni in United States District Court for the District of Delaware alleging infringement of the '305 Patent and the '992 Patent. These actions were transferred to the United States District Court for the Northern District of California on November 18, 1998. The actions seek to enjoin commercial activities of Incyte and Synteni relating to Affymetrix' patents and, in regard to the '992 Patent, sought a preliminary injunction. Incyte and Synteni moved for summary judgment that certain claims of the '992 Patent were invalid. On May 4, 1999, the court denied Affymetrix' motion for preliminary injunction and denied Incyte and Synteni's motion for summary judgment.

On April 17, 1998, Incyte filed a response and counterclaim, asserting that the '934 Patent is invalid and not infringed. On April 17, 1998, Incyte also filed a counterclaim alleging that a patent license agreement Affymetrix entered into in December 1997 with Molecular Dynamics interfered with an agreement between Incyte and Molecular Dynamics. In the counterclaim, Incyte alleges that the terms of Affymetrix' patent license to Molecular Dynamics prevented Molecular Dynamics from meeting its obligations to Incyte. Incyte seeks damages from Affymetrix. On September 21, 1998, Incyte and Synteni filed an answer asserting various defenses to the lawsuits in relation to the '992 Patent and the '305 Patent, and asserted several counterclaims, including:

- a request for declaration of non-infringement and invalidity;
- an assertion of unfair competition;
- a request for a declaration that Synteni and Dari Shalon, who was a one-time employee of Synteni, have not misappropriated any of Affymetrix' trade secrets;
- a claim of tortious interference with Incyte's and Synteni's economic advantage; and
- a claim of slander of title of a patent and a claim of trade libel.

On August 11, 2000, Incyte and Synteni asserted that the '934, '305 and '992 Patents are unenforceable. On August 17, 2000 Incyte filed a lawsuit against Affymetrix in the United States District Court for the Northern District of California alleging infringement of U.S. Patent Nos. 5,716,785 and 5,891,636 and asserting various state law claims. On September 6, 2000, Affymetrix filed its answer in this lawsuit and also filed counterclaims against Incyte alleging infringement of Affymetrix' U.S. Patent Nos. 6,040,193 or '193 and 5,871,928 or '928. In response to Affymetrix' counterclaims, Incyte has filed various state law counterclaims against Affymetrix and requests for declaration that the '193 and '928 patents are not infringed, are invalid and are unenforceable.

On January 25, 2001, the United States District Court for the Northern District of California issued a claims construction order interpreting various terms of the '934, '305 and '992 Patents.

Subsequently, Incyte has filed a summary judgment motion asserting some of its products are not covered by some of the claims asserted by the Company. No trial dates have been set for these matters.

On April 2, 1999, the United States Patent and Trademark Office, or USPTO, notified Affymetrix that Stanford University presented claims that relate to substantially the same subject matter as certain claims from the '992 patent and all of the claims of the '305 patent. The Stanford application is alleged to be exclusively licensed to Incyte. The USPTO notified Affymetrix on April 2, 1999 that it had declared an interference proceeding relating to these patents and claims of patents. The USPTO conducted proceedings and determined on September 10, 1999 that Incyte and Synteni did not meet the burden of proof required to establish a case that the claims should be further evaluated in a full interference proceeding. Incyte and Synteni appealed this decision in the United States Court for the Northern District of California on November 8, 1999.

Affymetrix believes that Incyte's claims and counterclaims are without merit. However, Affymetrix has expended and is likely to continue to expend significant financial and managerial resources defending against these and any other counterclaims filed by Incyte and Synteni and others. Affymetrix' failure to successfully enforce its patent rights or defend against counterclaims of Incyte, Synteni, or others could result in a material adverse effect on Affymetrix' business, financial condition and results of operations.

APPLERA CORPORATION LITIGATION

On July 5, 2000, Applera Corporation, previously known as PE Corporation ("Applera"), filed a lawsuit in the United States District Court for the District of Delaware alleging that certain Affymetrix products infringe five Applera patents related to reagents that Affymetrix purchases from Applera licensed vendors. Applera served Affymetrix with the complaint on October 16, 2000 and on December 14, 2000, Affymetrix filed its response to the complaint and asserted various counterclaims against Applera. On January 25, 2001, Affymetrix filed a declaratory judgement action against Applera in the United States District Court for the District of New York seeking, among other things, a declaration that Affymetrix has not infringed any of Applera's subject patents. On January 30, 2001, Affymetrix filed a motion in the Delaware court to dismiss Applera's claims for lack of subject matter jurisdiction. On March 21, 2001, the District Court for the District of New York held a hearing and stayed the New York action pending a ruling from the Deleware court on Affymetrix' motion to dismiss for lack of subject matter jurisdiction. No trial dates have been set in these actions.

Affymetrix believes that Applera's claims are without merit. However, Affymetrix cannot be sure that it will prevail in these matters.

ADMINISTRATIVE LITIGATION AND PROCEEDINGS

Affymetrix' intellectual property is expected to be subject to significant additional administrative and litigation actions. For example, in Europe and Japan, third parties are expected to oppose significant patents owned or controlled by Affymetrix. Currently, OGT, Incyte, Multilyte Ltd. and ProtoGene Laboratories, Inc. have filed oppositions against Affymetrix' EP 0-619-321 Patent in the European Patent Office. This procedure will result in the patent being either upheld in its entirety, allowed to grant in amended form in designated European countries, or revoked.

Further, in the United States, it is expected that third parties will continue to "copy" the claims of Affymetrix' patents in order to provoke interferences in the United States Patent Office. These proceedings could result in Affymetrix' patent protection being significantly modified or reduced, and could result in significant costs and consume substantial managerial resources.

ITEM 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS

No matters were submitted during the fourth quarter of the year ended December 31, 2000.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY AND RELATED STOCKHOLDER MATTERS

The Company's common stock is traded on the Nasdaq National Market System under the symbol of AFFX. The following table sets forth, for the periods indicated, the low and high bid prices per share for the Company's common stock as reported by the Nasdaq National Market adjusted for the 2 for 1 stock split effective August 23, 2000.

	Low	High
1999		
First Quarter	$11.81	$ 21.60
Second Quarter	$16.25	$ 26.10
Third Quarter	$24.63	$ 63.50
Fourth Quarter	$36.31	$ 97.56
2000		
First Quarter	$61.25	$162.06
Second Quarter	$42.31	$103.75
Third Quarter	$49.00	$ 102.5
Fourth Quarter	$44.89	$ 92.00

As of March 20, 2001 there were approximately 427 holders of record of the Company's common stock.

No dividends have been paid on the common stock. The Company currently intends to retain all future earnings, if any, for use in its business and does not anticipate paying any cash dividends on its common stock in the foreseeable future.

ITEM 6. SELECTED FINANCIAL DATA

The following selected historical information has been derived from the audited consolidated financial statements of the Company. The balance sheet data as of December 31, 2000 and 1999 and statements of operations data for each of the three years in the period ended December 31, 2000 are derived from audited consolidated financial statements included in this Form 10-K. The table should be read in conjunction with Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations," and Item 8, "Financial Statements and Supplementary Data."

	Year Ended December 31,				
	2000	1999	1998	1997	1996
	(In thousands, except per share amounts)				
Statement of Operations Data:					
Revenue:					
Product	$ 173,546	$ 98,168	$ 36,932	$ 4,789	$ 1,389
Research	5,780	8,059	14,522	14,976	10,583
License fees and royalties	21,504	2,847	959	—	—
Total revenue	200,830	109,074	52,413	19,765	11,972
Cost and expenses:					
Cost of product revenue	70,884	42,219	15,226	4,559	2,178
Research and development	57,384	43,524	38,433	28,590	18,762
Selling, general and administrative(1)	113,429	53,590	31,640	14,756	7,569
Merger related costs(2)	2,395	—	—	—	—
Amortization of deferred stock compensation(2)	2,118	—	—	—	—
Amortization of purchased intangibles(2)	997	—	—	—	—
Charge for in-process technology(2)	14,989	—	—	—	—
Total costs and expenses	262,196	139,333	85,299	47,905	28,509
Loss from operations	(61,366)	(30,259)	(32,886)	(28,140)	(16,537)
Interest income, net	7,976	4,755	4,817	5,190	4,310
Loss before income tax benefit	(53,390)	(25,504)	(28,069)	(22,950)	(12,227)
Income tax (provision)/benefit	(600)	—	1,269	170	—
Net loss	(53,990)	(25,504)	(26,800)	(22,780)	(12,227)
Preferred stock dividends	—	(2,055)	(2,321)	—	—
Net loss attributable to common stockholders	$ (53,990)	$ (27,559)	$ (29,121)	$ (22,780)	$ (12,227)
Basic and diluted net loss per common share(3)	$ (0.98)	$ (0.54)	$ (0.62)	$ (0.50)	$ (0.30)
Shares used in computing basic and diluted net loss per common share(3)	55,035	51,167	46,932	45,294	40,262
Balance Sheet Data:					
Cash, cash equivalents, and available-for-sale securities	$ 436,030	$ 226,440	$ 84,933	$ 73,125	$108,982
Working capital	418,302	231,382	84,883	72,270	107,668
Total assets	620,780	326,587	142,185	102,828	118,900
Long-term obligations(4)	383,000	158,000	8,261	513	741
Convertible Redeemable Preferred Stock	—	—	49,857	—	—
Accumulated deficit	(178,193)	(124,203)	(96,644)	(67,523)	(44,743)
Total stockholders' equity	147,130	131,932	68,915	91,848	112,533

(1) Selling, general and administrative expense in 2000 includes a charge of approximately $18.6 million related to the March 23, 2001 settlement of outstanding litigation and disputes with OGT.

(2) See Note 17 to the Consolidated Financial Statements included in this report.

(3) See Note 1 to the Consolidated Financial Statements included in this report.

(4) In February 2000, the Company issued $225 million principal amount of 4.75% convertible subordinated notes.

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

All statements in this discussion that are not historical are forward-looking statements within the meaning of Section 21E of the Securities Exchange Act, including statements regarding the Company's "expectations", "beliefs", "hopes", "intentions", "strategies" or the like. Such statements are subject to risks and uncertainties that could cause actual results to differ materially for Affymetrix from those projected, including, but not limited to, uncertainties relating to technological approaches, product development, manufacturing and market acceptance, uncertainties related to cost and pricing of Affymetrix products, dependence on collaborative partners, uncertainties relating to sole source suppliers, uncertainties relating to FDA and other regulatory approvals, competition, risks relating to intellectual property of others and the uncertainties of patent protection and litigation. 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.

OVERVIEW

Affymetrix, Inc. has developed and intends to establish its GeneChip® system and related microarray technology as the platform of choice for acquiring, analyzing and managing complex genetic information. The Company's GeneChip® system consists of disposable DNA probe arrays containing gene sequences on a chip, certain reagents for use with the probe arrays, a scanner and other instruments to process the probe arrays, and software to analyze and manage genetic information from the probe arrays. Related microarray technology offered by the Company includes instrumentation, software and licenses for fabricating, scanning and collecting and analyzing results from low density microarrays. The Company commenced commercial sales of the GeneChip system for research use in April 1996 and currently sells its products directly to pharmaceutical and biotechnology companies, academic research centers and clinical reference laboratories in the United States and Europe. The Company also sells some of its products through certain distributors, principally in Japan.

In February 2000, Affymetrix completed its acquisition of Genetic MicroSystems, Inc. ("GMS"), a privately-held Massachusetts instrumentation company specializing in DNA array technology. Under the terms of the acquisition, the outstanding shares of GMS common and preferred stock were converted into an aggregate of 1,939,798 shares of Affymetrix' common stock. In addition, the Company assumed GMS' stock options and warrants, which if fully vested and exercised, would result in the issuance of 200,202 shares of the Company's common stock. The merger has been accounted for as a pooling of interests and accordingly, the consolidated financial statements discussed herein and all historical financial information have been restated to reflect the combined operations of both companies.

In October 2000, Affymetrix acquired Neomorphic, Inc. ("Neomorphic"), a privately-held, computational genomics company. Under the terms of the merger agreement, Neomorphic became a wholly owned subsidiary of the Company. The Company issued 1,285,636 shares of its common stock and $2.4 million in cash in exchange for all of Neomorphic's outstanding capital stock. In addition, the Company assumed Neomorphic's stock options, which if fully vested and exercised, would result in the issuance of 122,797 shares of the Company's common stock. The transaction was accounted for as a purchase and the results of Neomorphic's operations have been included in the consolidated results from the date of acquisition. Approximately $15.0 million of the purchase price was expensed in the fourth quarter of 2000 for the purchase of in-process research and development. The remaining $29.6 million purchase price, was allocated to goodwill ($23.1 million), existing technology ($3.4 million), the assembled workforce ($1.3 million), notes receivable ($0.9 million) and various assets ($0.9 million). The allocation was based on an independent valuation. Goodwill and intangible assets are being amortized on a straight-line basis over five years and three years, respectively.

The Company has incurred operating losses in each year since its inception, including a loss of approximately $54.0 million during the year ended December 31, 2000 and, as of such date, had an accumulated deficit of approximately $178.2 million. The Company's losses have resulted principally from costs incurred in research and development, manufacturing and from selling, general and administrative costs associated with the Company's operations, including the costs of patent related litigation. These costs have exceeded the Company's revenues and interest income, which to date have been generated principally from product sales, technology access and other license fees, royalties, collaborative research and development agreements, government research grants and from interest earned on cash and investment balances. The Company's ability to generate significant revenues and become profitable is dependent in large part on the ability of the Company to enter into additional supply, license and collaborative arrangements and on the ability of the Company and its collaborative partners to successfully manufacture and commercialize products incorporating the Company's technologies.

The Company's operating results vary and depend on numerous factors. Revenues are principally impacted by the volume and price of product sales; the timing of orders and deliveries of products, design fees, royalties, license fees, and other research revenues under collaborative and licensing agreements. Expenses are principally impacted by the cost of goods for products, the magnitude and duration of research and development, sales and marketing and general and administrative expenses. General and administrative expenses are particularly subject to variation as a result of fluctuations in the intensity of legal activities associated with the Company's on-going intellectual property litigation.

The Company's operating results may also fluctuate significantly depending on other factors. To maintain or gain market acceptance of the Company's products in the face of the introduction of new products by the Company's competitors, Affymetrix may have to reduce or discount the price of its products resulting in an adverse impact on revenues and gross margins. Other factors that may significantly impact the Company's operating results include: the outcome of on-going or future litigation; the need for additional royalty bearing licenses; adoption of new technologies; the cost, quality and availability of reagents and components; regulatory actions; and third-party reimbursement policies.

RESULTS OF OPERATIONS

YEARS ENDED DECEMBER 31, 2000 AND DECEMBER 31, 1999

PRODUCT REVENUE. Product sales increased to $173.5 million in 2000, up 77% from $98.2 million in 1999. The increase primarily resulted from growth in the volume of sales of GeneChip probe arrays and GeneChip systems, as well as Affymetrix 417 Arrayers and Affymetrix 418 and 428 Array Scanners (previously marketed by GMS).

LICENSE FEES AND ROYALTY REVENUES. License fees and royalty revenues increased to $21.5 million in 2000, up from $2.8 million in 1999. The increase was attributed primarily to the signing of additional licenses and the expansion of existing licensing arrangements. Licenses granted permit the licensees to utilize the Company's intellectual property on a non-exclusive basis over specified periods for either internal research and development, or in some cases, for commercialization of products. The Company generally has no continuing obligations under these agreements.

RESEARCH REVENUE. Research revenue includes custom probe array design fees, milestones, full-time-equivalent ("FTE") research support and grant funding. Research revenue decreased to $5.8 million for 2000 from $8.1 million for 1999. The decrease is primarily due to lower activity under government grants primarily due to the completion of the ATP grant in January 2000.

COST OF PRODUCT REVENUES AND GROSS MARGINS. Cost of product revenue increased to $70.9 million in 2000, up from $42.2 million in 1999. The increase in cost of product revenues resulted principally from the growth in product sales. Gross margins increased to 59% in 2000 up from 57% in 1999. Principal factors that favorably impacted gross margins included: improved manufacturing yields for GeneChip probe arrays, increased production volumes of probe arrays and favorable changes in product sales mix. Factors negatively impacting gross margins included the payment of royalties to OGT upon obtaining a license to OGT's technology in June 1999 and unanticipated warranty and obsolete inventory expenses arising in 2000 from the Company's decision in March 2001 to replace Murine Genome U74 arrays that contained incorrect probe sequences. Specifically, in the fourth quarter of 2000, the Company recorded an incremental warranty expense of $1.8 million to cover costs associated with the replacement of Murine Genome U74 set of arrays sold in calendar year 2000. The Company currently estimates that it will record an additional charge of approximately $1.0 million in the first quarter of 2001 to cover replacement costs of the Murine Genome U74 arrays sold in the quarter. The charges recorded in 2000 and estimated for the first quarter of 2001 are based upon estimates of the number of replacement arrays and other compensation deemed necessary to maintain appropriate customer satisfaction. In addition, due to customer concern over the accuracy of the probe sequences on its arrays, sales of the Murine Genome U74 set of arrays as well as other products are expected to be delayed or negatively impacted. The magnitude of the impact on future sales is not known.

RESEARCH AND DEVELOPMENT EXPENSES. Research and development expenses, which primarily consist of basic research, product development and manufacturing process improvement, increased to $57.4 million for 2000 compared to $43.5 million for 1999. The increase in research and development expenses was attributable primarily to the hiring of additional research and development personnel including a growth in research and development personnel associated with the acquisitions of Neomorphic and GMS, as well as the formation of Perlegen Sciences. In addition, the Company contributed $3.5 million to the Mouse Genome Consortium. The Company expects research and development spending to increase as product development and core research efforts continue to expand. The Company expects to continue to fund Perlegen's activities until Perlegen is able to raise capital from third party investors to fund future operations.

SELLING, GENERAL AND ADMINISTRATIVE EXPENSES. Selling, general and administrative expenses increased to $113.4 million in 2000 compared to $53.6 million for 1999. The increase in selling, general and administrative expenses resulted primarily from the Company's expansion of commercial activities and increased legal costs arising from ongoing patent litigation. On March 23, 2001, the Company and OGT entered into a settlement agreement resolving existing litigation between the two companies. The settlement encompasses a number of lawsuits. As a result of the settlement, the Company recorded a charge of $18.6 million in the quarter ended December 31, 2000. In addition, the Company may be required to record a smaller charge in the first quarter of 2001 as a result of a fee arrangement entered into with the Company's legal counsel. Selling, general and administrative expenses are expected to continue to increase as the Company expands sales, marketing, and technical support functions, increases headcount in management and administrative functions, prosecutes and defends its intellectual property position and defends against claims made by third parties in ongoing litigation. In particular, the Company expects legal costs to vary substantially as the intensity of legal activity changes in on-going patent litigation with Hyseq, Inc., Incyte Pharmaceuticals, Inc./Synteni and Applera Corporation. Depending on the outcome of these lawsuits the Company may be entitled to damages or may be obligated to pay damages. There can be no assurance that Company has adequately estimated its potential damages exposure.

ACQUISITION RELATED COSTS. The Company incurred $2.4 million of one-time merger related costs arising from the acquisition of GMS. As a result of the acquisition of Neomorphic, the Company incurred charges of $2.1 million of amortization of deferred stock compensation, $1.0 million

of amortization of purchased intangibles and $15.0 million of one-time charges for purchased in-process research and development. There were no acquisition-related costs for 1999. The Company expects amortization of deferred stock compensation and purchased intangibles related to the Neomorphic acquisition to total approximately $17.6 million in 2001.

The Company allocated Neomorphic's purchase price based on the relative fair value of the net tangible and intangible assets acquired. In performing this allocation, the Company considered, among other factors, the technology research and development projects in process at the date of acquisition. Neomorphic's in-process research and development programs consisted of the development of software technologies that will enhance the Company's bioinformatics efforts. Specifically, Neomorphic is engaged principally in two research programs. The goal of the first research program is to develop tools that will enable researchers to improve the prediction of gene structures, increase the accuracy of gene identification and ascertain gene function. The projects in this program were from 15% to 80% complete and had a fair value of approximately $8.4 million at the time of the acquisition. The goal of the second research program is to develop software tools that will assist researchers in visualizing and managing genetic data. These projects were 50% to 60% complete at the time of the acquisition and had an estimated fair market value of approximately $6.6 million. The projects are expected to be completed in 2001 and 2002. The value assigned to purchased in-process R&D was determined by estimating the costs to develop Neomorphic's purchased in-process research and development into commercially viable products, currently estimated to be $3 to $4 million, estimating the resulting net cash flows from the projects and discounting the net cash flows to their present value. A discount rate of 20% was used for valuing the in-process research and development and is intended to be commensurate with Neomorphic's corporate maturity and the uncertainties in the economic estimates described above. Additionally, this project will require maintenance expenditures when and if it reaches a state of technological and commercial feasibility. Management believes the Company has positioned itself to complete the research and development program. However, there is risk associated with the completion of the projects, which includes the inherent difficulties and uncertainties of a development stage program and risks related to the impact of potential changes in future target markets. There is no assurance that the project will meet either technological or commercial success. The technology under development has no alternative future uses.

The estimates used by the Company in valuing in-process research and development were based upon assumptions the Company believes to be reasonable but which are inherently uncertain and unpredictable. The Company's assumptions may be incomplete or inaccurate, and no assurance can be given that unanticipated events and circumstances will not occur. Accordingly, actual results may vary from the projected results. Any such variance may materially affect the Company's ability to fully realize the value of the acquisition.

INTEREST AND OTHER INCOME, NET. Interest income was $26.3 million for 2000 compared to $7.0 million for 1999 due to higher cash investment balances from the sale of convertible subordinated notes. Interest expense increased to $18.4 million for 2000 compared to $2.3 million for 1999 primarily due to the interest expense associated with the convertible subordinated notes.

INCOME TAX PROVISION. The 2000 provision for income taxes of approximately $0.6 million consists entirely of current taxes paid on the profits attributable to the Company's foreign operations for 2000. No income tax provision or benefit was recorded for 1999. Statement of Financial Accounting Standards No. 109, "Accounting for Income Taxes" ("SFAS 109") provides for the recognition of deferred tax assets if realization of such assets is more likely than not. Based upon the weight of available evidence, which includes the historical operating performance and the reported cumulative net losses in all prior years, at December 31, 2000 the Company has provided a full valuation allowance against its net deferred tax assets. Management intends to evaluate the realizable value of the deferred tax assets on a quarterly basis.

YEARS ENDED DECEMBER 31, 1999 AND DECEMBER 31, 1998

PRODUCT REVENUE. Product sales increased to $98.2 million in 1999, up from $36.9 million in 1998. The increase primarily resulted from growth in placements of instruments which include GeneChip systems, Affymetrix 417 Arrayers (previously marketed by GMS) and Affymetrix 418 Scanners (previously marketed under GMS), sales of GeneChip probe arrays and related products, and subscription fees earned under EasyAccess™ contracts.

RESEARCH REVENUE. Research revenue includes custom probe array design fees, milestones, FTE research support and grant funding. Research revenue decreased to $8.1 million for 1999 from $14.5 million for 1998. The decrease is primarily due to timing of certain design fees and lower activity under government grants including grants from the Advanced Technology Program ("ATP") and the National Institutes of Health, National Center for Human Genome Project, which was completed in 1998.

LICENSE FEES AND ROYALTY REVENUES. License fees and royalty revenues increased to $2.8 million in 1999, up from $1.0 million in 1998. The increase was attributed primarily to the signing of additional licensees and the expansion of existing licensing arrangements.

COST OF PRODUCT REVENUES AND GROSS MARGINS. Cost of product revenue increased to $42.2 million in 1999, up from $15.2 million in 1998. The increase in cost of product revenue was due to the higher revenue base, increased manufacturing costs from the start-up of the Company's West Sacramento facility and variations in manufacturing capacity and yield.

RESEARCH AND DEVELOPMENT EXPENSES. Research and development expenses, which primarily consist of new technology, product and manufacturing process development, increased to $43.5 million for 1999 compared to $38.4 million for 1998. The increase in research and development expenses was attributable primarily to the hiring of additional research and development personnel and associated purchases of research supplies.

SELLING, GENERAL AND ADMINISTRATIVE EXPENSES. Selling, general and administrative expenses increased to $53.6 million in 1999 compared to $31.6 million for 1998. The increase in selling, general and administrative expenses resulted primarily from the Company's expansion of commercial activities and increased legal costs arising from ongoing patent litigations.

INTEREST AND OTHER INCOME, NET. Interest income was $7.0 million for 1999 compared to $4.9 million for 1998 due to higher cash investment balances from the sale of common stock and convertible subordinated notes. Interest expense increased to $2.3 million for 1999 compared to $0.1 million for 1998 primarily due to the interest expense associated with the issuance of convertible subordinated notes.

INCOME TAXES. No income tax provision was recognized for 1999. Income tax benefit of $1.3 million for 1998 resulted from the elimination of deferred tax liabilities. Statement of Financial Accounting Standards No. 109, "Accounting for Income Taxes" ("SFAS 109") provides for the recognition of deferred tax assets if realization of such assets is more likely than not. Based upon the weight of available evidence, which includes the historical operating performance and the reported cumulative net losses in all prior years, at December 31, 1999 the Company has provided a full valuation allowance against its net deferred tax assets.

LIQUIDITY AND CAPITAL RESOURCES

The Company has financed its operations primarily through the sale of equity and debt securities, government grants, collaborative agreements, interest income, product sales and licensing of its

technology. Proceeds raised through the sale of debt securities include net proceeds of $217.9 million from the private placement of convertible subordinated notes issued in February 2000.

Net cash used in operating activities was $20.7 million in 2000 compared to $32.1 million in 1999 and $21.9 million in 1998. The cash used for operations was primarily to fund the Company's operating losses as well as the Company's working capital requirements.

The Company's investing activities, other than purchases, sales and maturities of available-for-sale securities, consisted of capital expenditures, which totaled $26.0 million in 2000, $16.2 million in 1999 and $17.2 million in 1998. Capital expenditures during 2000 and 1999 included investments in facilities and production and laboratory equipment. The Company expects capital expenditures to increase in 2001 as the Company expands manufacturing and other commercial operations capabilities.

Net cash provided by financing activities was $241.0 million in 2000, $189.1 million in 1999 and $54.4 million in 1998. The 2000 cash flows from financing activities are primarily the result of the issuance of $225.0 million of convertible subordinated notes in February 2000. The convertible subordinated notes bear interest at 4.75% per annum and mature in 2007. The 1999 cash flows from financing activities are primarily the result of the issuance of $32.5 million of common stock in a private placement in March 1999 and $150.0 million of convertible subordinated notes in September 1999. The 1999 convertible subordinated notes bear interest at 5.0% per annum and mature in 2006. The 1998 cash flows from financing activities are primarily the result of the issuance of $49.9 million of redeemable preferred stock. The redeemable preferred stock was converted into common stock in 1999.

As of December 31, 2000, Affymetrix had cash, cash equivalents, and available-for-sale securities of approximately $436.0 million. The Company anticipates that its existing capital resources will enable it to maintain currently planned operations and planned capital expenditures for the foreseeable future. However, this expectation is based on the Company's current operating plan and capital expenditure plan, which is subject to change, and therefore the Company could require additional funding sooner than anticipated. In addition, the Company expects its capital requirements will remain substantial and may increase over the next several years as it expands its worldwide commercial operations, expands its manufacturing capabilities, increases its investments in third parties and expands its research and development efforts. The Company's long-term capital expenditure requirements will depend on numerous factors, including: the development of commercial scale manufacturing capabilities; its ability to maintain existing collaborative and customer arrangements and establish and maintain new collaborative and customer arrangements; the progress of its research and development programs; initiation or expansion of research programs and collaborations; the costs involved in preparing, filing, prosecuting, defending and enforcing intellectual property rights; the effectiveness of product commercialization activities and arrangements; the purchase of patent licenses; and other factors. The Company has no credit facility or other committed sources of capital. To the extent capital resources are insufficient to meet future capital requirements, the Company will have to raise additional funds to continue the development of its technologies. There can be no assurance that such funds will be available on favorable terms, or at all. To the extent that additional capital is raised through the sale of equity or convertible debt securities, the issuance of such securities could result in dilution to the Company's stockholders. If adequate funds are not available, the Company may be required to curtail operations significantly or to obtain funds by entering into collaboration agreements on unattractive terms. The Company's inability to raise capital would have a material adverse effect on the Company's business, financial condition and results of operations.

As of December 31, 2000, Affymetrix had federal and state net operating loss carryforwards for income tax purposes of approximately $152.0 million and $4.9 million, respectively, which will expire at various dates in 2001 through 2020, if not utilized. In addition, the Company has federal and state research and development credit carryforwards of approximately $4.4 million and $3.5 million, respectively, which expire at various dates beginning in 2007 through 2020, if not utilized. Utilization of

the net operating loss and tax credit carryforwards may be subject to substantial annual limitation due to the ownership change limitations provided by the Internal Revenue Code and similar state provisions. Management believes the effect of such limitations will not result in the expiration of the net operating loss and tax credit carryforward before utilization.

RECENT ACCOUNTING PRONOUNCEMENTS

In June 1998, the Financial Accounting Standards Board ("FASB") issued Statement of Financial Accounting Standards No. 133, "Accounting for Derivative Financial Instruments and for Hedging Activities" ("SFAS 133") which provides a comprehensive and consistent standard for hedging activities and the accounting for derivatives. In June 1999, FASB issued Statement of Financial Accounting Standards No. 137 which defers the effective date of SFAS 133 to years beginning after June 15, 2000. The Company will adopt SFAS 133 on January 1, 2001 and does not expect the adoption of SFAS 133 to have a material impact on the results of operations or financial condition as it presently does not hold or engage in hedging activities.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURE ABOUT MARKET RISK

INTEREST RATE RISK

The Company's exposure to interest rate risk relates primarily to its investment portfolio and its convertible subordinated notes. Fixed rate securities and borrowings 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 and floating rate borrowings may lead to additional interest expense if interest rates increase. Due in part to these factors, the Company's future investment income may fall short of expectations due to changes in interest rates or the Company 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 the Company's investment activities is to preserve principal while at the same time maximize yields without significantly increasing risk. To achieve this objective, the Company invests its excess cash in debt instruments of the U.S. Government and its agencies and high-quality corporate issuers, and, by policy, restricts its exposure to any single corporate issuer by imposing concentration limits. To minimize the exposure due to adverse shifts in interest rates, the Company maintains investments at an average maturity of generally less than two years.

The table below presents the principal amounts and weighted-average interest rates by year of maturity for the Company's investment portfolio subject to interest rate risk:

	2001	2002	2003	Thereafter	Total	Fair Value at December 31, 2000
	(Dollar amounts in thousands)					
ASSETS:						
Available-for-sale securities	$179,740	$221,182	$8,400	$ —	$409,322	$414,684
Average interest rate	6.22%	6.49%	6.15%			
LIABILITIES:						
5% convertible subordinated notes due 2006	$ —	$ —	$ —	$150,000	$150,000	$204,285
Average interest rate				5.00%		
4.75% convertible subordinated notes due 2007	$ —	$ —	$ —	$225,000	$225,000	$166,275
Average interest rate				4.75%		

The Company is exposed to equity price risks on the marketable portion of equity securities in its portfolio of investments entered into to further its business and strategic objectives. The Company typically does not attempt to reduce or eliminate its market exposure on these securities. A 20% adverse change in equity prices would result in a decrease of approximately $2.8 million in the Company's available-for-sale securities based on the Company's position at December 31, 2000. However, actual results may differ materially.

The Company derives a small portion of its revenues in foreign currencies, predominantly in Europe. The Company also has subsidiaries in Europe, for which activities to date have been insignificant. Due to the low volume of transactions from these two sources, the Company does not believe that it has significant exposure to foreign currency exchange rate risks. The Company currently does not use derivative financial instruments to mitigate this exposure.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS
AFFYMETRIX, INC.

REPORT OF ERNST & YOUNG LLP, INDEPENDENT AUDITORS

To the Board of Directors and Stockholders
Affymetrix, Inc.

We have audited the consolidated balance sheets of Affymetrix, Inc. as of December 31, 2000 and 1999, and the related consolidated statements of operations, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2000. Our audits also included the financial statement schedule listed in the Index at Item 14(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 auditing standards generally accepted in the 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, 2000 and 1999, and the consolidated results of its operations and its cash flows for each of the three years in the period ended December 31, 2000, in conformity with accounting principles generally accepted in the United States. 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.

ERNST & YOUNG LLP

Palo Alto, California,
January 29, 2001,
except for Note 19,
as to which the date is March 23, 2001

AFFYMETRIX, INC.

CONSOLIDATED BALANCE SHEETS

(In thousands, except per share amounts)

	December 31, 2000	December 31, 1999
ASSETS:		
Current assets:		
Cash and cash equivalents	$ 7,263	$ 12,677
Available-for-sale securities	428,767	213,763
	436,030	226,440
Accounts receivable, net of allowances for doubtful accounts of $1,584 in 2000 and $1,010 in 1999	53,104	24,646
Inventories	17,234	12,792
Prepaid expenses	2,157	4,069
Other current assets	367	90
Total current assets	508,892	268,037
Property and equipment, net	56,245	40,775
Acquired technology rights	10,014	8,965
Goodwill and other intangible assets	26,788	—
Notes receivable from employees	2,113	1,074
Other assets	16,728	7,736
	$ 620,780	$ 326,587
LIABILITIES AND STOCKHOLDERS' EQUITY:		
Current liabilities:		
Accounts payable and accrued liabilities	$ 71,024	$ 29,926
Deferred revenue	19,544	6,468
Current portion of capital lease obligation	22	261
Total current liabilities	90,590	36,655
Noncurrent portion of capital lease obligation	60	—
Obligation to Beckman Coulter, Inc.	5,000	5,000
Convertible subordinated notes	375,000	150,000
Commitments and contingencies		
Common stock purchase rights	3,000	3,000
Stockholders' equity:		
Common stock, $0.01 par value; 200,000 shares authorized; 57,143 and 54,302 shares issued and outstanding at December 31, 2000 and 1999, respectively	571	543
Additional paid-in-capital	341,541	256,467
Notes receivable from stockholders	(994)	(150)
Deferred stock compensation	(27,875)	(119)
Accumulated other comprehensive income(loss)	12,080	(606)
Accumulated deficit	(178,193)	(124,203)
Total stockholders' equity	147,130	131,932
	$ 620,780	$ 326,587

See Accompanying Notes

AFFYMETRIX, INC.

CONSOLIDATED STATEMENTS OF OPERATIONS

(In thousands, except per share amounts)

	Year Ended December 31,		
	2000	**1999**	**1998**
REVENUE:			
Product	$173,546	$ 98,168	$ 36,932
Research	5,780	8,059	14,522
License fees and royalties	21,504	2,847	959
Total revenue	200,830	109,074	52,413
COSTS AND EXPENSES:			
Cost of product revenue	70,884	42,219	15,226
Research and development	57,384	43,524	38,433
Selling, general and administrative	113,429	53,590	31,640
Merger related costs	2,395	—	—
Amortization of deferred stock compensation (1)	2,118	—	—
Amortization of purchased intangibles	997	—	—
Charge for acquired in-process technology	14,989	—	—
Total costs and expenses	262,196	139,333	85,299
Loss from operations	(61,366)	(30,259)	(32,886)
Interest income	26,340	7,025	4,882
Interest expense	(18,364)	(2,270)	(65)
Loss before income tax	(53,390)	(25,504)	(28,069)
Income tax (provision)benefit	(600)	—	1,269
Net loss	(53,990)	(25,504)	(26,800)
Preferred stock dividends	—	(2,055)	(2,321)
Net loss attributable to common stockholders	$(53,990)	$(27,559)	$(29,121)
Basic and diluted net loss per common share	$ (0.98)	$ (0.54)	$ (0.62)
Weighted-average shares used in computing basic and diluted net loss per common share	55,035	51,167	46,932

(1) Amortization of deferred stock compensation is derived from the acquisition of Neomorphic, Inc. and relates to research and development expenses.

See Accompanying Notes

AFFYMETRIX, INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(In thousands, except share amounts)

	Common Stock		Additional Paid-in Capital	Notes Receivable from Stockholders	Deferred Stock Compensation	Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount						
Balance, December 31, 1997	45,580	$ 158,924	$ 1,708	$ —	$ (744)	$ (517)	$ (67,523)	$ 91,848
Comprehensive loss:								
Unrealized gain on available-for-sale securities of $627, net of reclassification adjustments for gains included in net loss of $317	—	—	—	—	—	952	—	952
Net loss	—	—	—	—	—	—	(26,800)	(26,800)
Comprehensive loss								(25,848)
Preferred stock dividends	—	—	—	—	—	—	(2,321)	(2,321)
Reincorporation in Delaware	—	(158,468)	158,468	—	—	—	—	—
Sale of common stock	1,868	18	4,063	(201)	—	—	—	3,880
Issuance of common stock upon exercise of stock options and warrants	460	4	458		—	—	—	462
Contribution of available-for-sale securities to capital, net of deferred taxes	—	—	450	—	—	—	—	450
Amortization of deferred compensation	—	—	—	—	402	—	—	402
Repayment of notes receivable from stockholders	—	—	—	41	—	—	—	41
Balance, December 31, 1998	47,908	$ 478	165,147	(160)	(342)	435	(96,644)	68,914
Comprehensive loss:								
Unrealized loss on available-for-sale securities of $1,106, net of reclassification adjustments for losses included in net loss of $65	—	—	—	—	—	(1,041)	—	(1,041)
Net loss	—	—	—	—	—	—	(25,504)	(25,504)
Comprehensive loss								(26,545)
Preferred stock dividends	—	—	—	—	—	—	(2,055)	(2,055)
Compensation related to non-employee stock options	—	—	119	—	—	—	—	119
Issuance of common stock upon exercise of stock options and warrants	1,820	18	8,986	—	—	—	—	9,004
Sale of common stock in private placement	2,000	20	32,385	—	—	—	—	32,405
Conversion of Series AA redeemable preferred stock to common stock	2,574	27	49,830	—	—	—	—	49,857
Amortization of deferred compensation	—	—	—	—	223	—	—	223
Repayment of notes receivable from stockholders	—	—	—	10	—	—	—	10
Balance, December 31, 1999	54,302	543	256,467	(150)	(119)	(606)	(124,203)	131,932
Comprehensive loss:								
Unrealized gain on available-for-sale securities of $13,052, net of reclassification adjustments for gains included in net loss of $366	—	—	—	—	—	12,686	—	12,686
Net loss	—	—	—	—	—	—	(53,990)	(53,990)
Comprehensive loss								(41,304)
Issuance of common stock upon exercise of stock options and warrants	1,555	15	16,060	—	—	—	—	16,075
Issuance of common stock for the purchase of Neomorphic, Inc	1,286	13	69,014	—	(29,978)	—	—	39,049
Amortization of deferred stock compensation	—	—	—	—	2,222	—	—	2,222
Fair value of stockholders' notes acquired upon acquisition of Neomorphic, Inc.	—	—	—	(994)	—	—	—	(994)
Repayment of notes receivable from stockholders	—	—	—	150	—	—	—	150
Balance, December 31, 2000	57,143	$ 571	$341,541	$(994)	$(27,875)	$12,080	$(178,193)	$147,130

See Accompanying Notes

AFFYMETRIX, INC.

CONSOLIDATED STATEMENTS OF CASH FLOWS

(In thousands)

	Year Ended December 31,		
	2000	1999	1998
CASH FLOWS FROM OPERATING ACTIVITIES:			
Net loss	$ (53,990)	$ (25,504)	$(26,800)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	10,696	6,850	4,868
Amortization of intangible assets	1,797	660	375
Amortization of investment premiums	(4,389)	(1,650)	(270)
Amortization of deferred stock compensation	2,222	342	577
Charge for acquired in-process technology	14,989	—	—
Deferred taxes	—	—	(1,269)
Changes in operating assets and liabilities:			
Accounts receivable	(28,437)	(15,513)	(2,917)
Inventories	(4,442)	(9,094)	(1,061)
Prepaid expenses.	1,651	(2,698)	(612)
Other current assets.	245	810	(64)
Accounts payable and other accrued liabilities	38,005	16,542	4,471
Deferred revenue	13,076	4,951	853
Other assets	(12,165)	(7,755)	(83)
Net cash used in operating activities	(20,742)	(32,059)	(21,932)
CASH FLOWS FROM INVESTING ACTIVITIES:			
Capital expenditures	(25,957)	(16,155)	(17,156)
Purchases of available-for-sale securities	(720,499)	(196,951)	(155,532)
Proceeds from sale and maturities of available-for-sale securities	524,820	63,064	146,977
Purchases of technology rights	(1,850)	—	(5,900)
Purchase of Neomorphic, Inc. (net of cash received)	(2,150)	—	—
Net cash used in investing activities	(225,636)	(150,042)	(31,611)
CASH FLOWS FROM FINANCING ACTIVITIES:			
Issuance of common stock, net	16,075	41,409	7,048
Issuance of Redeemable Preferred Stock, net	—	—	49,857
Preferred stock dividends	—	(2,055)	(2,321)
Issuance of convertible subordinated notes	225,000	150,000	—
Repayment of notes receivable from stockholders'	150	10	41
Principal payments on capital lease obligation	(261)	(252)	(228)
Net cash provided by financing activities	240,964	189,112	54,397
Net (decrease) increase in cash and cash equivalents	(5,414)	7,011	854
Cash and cash equivalents at beginning of year	12,677	5,666	4,813
Cash and cash equivalents at end of year	$ 7,263	$ 12,677	$ 5,666
SUPPLEMENTAL DISCLOSURE OF NONCASH INVESTING AND FINANCING ACTIVITIES:			
Obligation to Beckman Coulter, Inc. for acquired technology rights	$ —	$ —	$ 5,000
Conversion of Series AA Convertible Redeemable Preferred Stock	$ —	$ 49,857	$ —
SUPPLEMENTAL DISCLOSURE OF CASH FLOW INFORMATION:			
Interest paid	$ 13,082	$ 40	$ 65
Taxes paid	$ 600	$ —	$ —
Non-cash disclosure related to acquisition of Neomorphic, Inc.:			
Tangible assets acquired (excluding $250 cash received)	$ 1,601		
Acquired in-process research and development	14,989		
Goodwill and other intangible assets acquired	27,785		
Acquisition costs incurred	(2,355)		
Liabilities assumed	(821)		
Deferred stock compensation	29,978		
Common stock and options issued	(69,027)		
Cash paid for acquisition (net of $250 cash received)	$ 2,150		

See Accompanying Notes

AFFYMETRIX, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
DECEMBER 31, 2000

NOTE 1—NATURE OF OPERATIONS

Affymetrix, Inc. ("Affymetrix" or "the Company") has developed and intends to establish its GeneChip® system and related microarray technology as the platform of choice for acquiring, analyzing and managing complex genetic information. The Company's GeneChip system consists of disposable DNA probe arrays containing gene sequences on a chip, certain reagents for use with the probe arrays, a scanner and other instruments to process the probe arrays, and software to analyze and manage genetic information from the probe arrays. Related microarray technology offered by the Company includes instrumentation, software and licenses for fabricating, scanning and collecting and analyzing results from low density microarrays. The Company commenced commercial sales of the GeneChip system for research use in April 1996 and currently sells its products directly to pharmaceutical and biotechnology companies, academic research centers and clinical reference laboratories in the United States and Europe. The Company also sells its products through certain distributors, principally in Japan.

NOTE 2—SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The summary of significant accounting policies is presented to assist the reader in understanding and evaluating the financial statements. These policies are in conformity with generally accepted 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.

In February 2000, Affymetrix completed its merger with Genetic MicroSystems, Inc. ("GMS"), a privately-held, Massachusetts instrumentation company specializing in DNA array technology. Under the terms of the merger, all outstanding shares of GMS common and preferred stock were converted into 1,939,798 shares of Affymetrix common stock at an exchange ratio of 0.5594 Affymetrix share for each GMS share. In addition, Affymetrix assumed all outstanding GMS options and warrants which, if fully vested and exercised, would result in the issuance of 200,202 shares of Affymetrix common stock. The merger has been accounted for as a pooling of interests, and, accordingly, the accompanying consolidated financial statements have been restated to include the accounts and operations of GMS since its inception.

In July 2000, the Company's Board of Directors approved a two-for-one stock split of its outstanding shares of common stock. The stock split entitled each stockholder of record at the close of business on August 23, 2000, to receive a stock dividend of one additional share for every share of Affymetrix common stock held on that date. Accordingly, all share and per share amounts contained in the consolidated financial statements have been retroactively adjusted to reflect this event.

In October 2000, Affymetrix acquired Neomorphic, Inc. ("Neomorphic"), a privately-held, California-based computational genomics company. Affymetrix issued 1,285,636 shares of its common stock and paid cash of $2.4 million in exchange for all of Neomorphic's capital stock. In addition, the Company assumed all of Neomorphic's outstanding options, which if fully vested and exercised, would amount to approximately 122,757 shares of Affymetrix' common stock. The transaction has been accounted for as a purchase transaction.

NOTE 2—SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

USE OF ESTIMATES

The preparation of the financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect amounts reported in the financial statements and accompanying notes. Actual results could differ from those estimates.

FOREIGN CURRENCY TRANSLATION

The financial statements of Affymetrix, UK Ltd. are measured using the U.S. dollar as the functional currency. Monetary assets and liabilities of this subsidiary are translated at the rates of exchange at the balance sheet date. Income and expense items are translated at average rates of exchange during the period. The resultant translation adjustments are included in the consolidated statements of operations.

REVENUE RECOGNITION

Product revenues include sales of GeneChip instrumentation, Affymetrix scanners and arrayers, software and probe arrays as well as subscription fees earned under EasyAccess™ agreements. Instrumentation and probe array revenues are recognized when earned, which is generally upon shipment and transfer of title to the customer and fulfillment of any significant post-delivery obligations. Software revenue is recognized upon completion of performance obligations, which is generally upon installation. Reserves are provided for anticipated warranty expenses at the time the associated revenue is recognized. Revenue related to extended warranty and software maintenance arrangements is deferred and recognized over the applicable periods. Revenue from subscription fees earned under EasyAccess agreements is recorded ratably over the term of the agreement subject to adjustments for anticipated reductions provided for in certain agreements for late delivery of probe arrays. Payments received in advance under these arrangements are recorded as deferred revenue until earned.

Research revenue includes amounts earned from services performed pursuant to commercial collaboration agreements as well as under government grants. Research revenue is recorded in the period in which the costs are incurred or in which the revenue is earned as defined in the related agreement. Payments received related to substantive at-risk milestones are recognized upon the occurrence or completion of the milestone events. Direct costs associated with these contracts and grants are reported as research and development expense.

License and royalty revenues include amounts earned from third parties licensed under the Company's intellectual property and are recognized when earned under the terms of the related agreements, generally upon signing of license agreements unless the Company has continuing performance obligations, in which case the license revenue is recognized ratably over the period of expected performance.

RESEARCH AND DEVELOPMENT EXPENSES

Research and development expenses consist of costs incurred for internal, contract and grant-sponsored research and development. These costs include direct and research-related overhead expenses.

NOTE 2—SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

SOFTWARE DEVELOPMENT COSTS

Statement of Financial Accounting Standards No. 86, "Accounting for the Costs of Computer Software to be Sold, Leased or Otherwise Marketed," requires the capitalization of certain software development costs subsequent to the establishment of technological feasibility. The Company's software is deemed to be technologically feasible at the point a working model of the software product is developed. Through December 31, 2000, for products developed by the Company, the period from attainment of technological feasibility to general release has been brief and qualifying costs were not significant. Accordingly, the Company has not capitalized any qualifying software development costs in the accompanying consolidated financial statements. The costs of developing routine enhancements are expensed as research and development costs as incurred because of the short time between the determination of technological feasibility and the date of general release of the related products.

GOODWILL AND OTHER INTANGIBLE ASSETS

Goodwill of $22.4 million (net of accumulated amortization of $738,000 at December 31, 2000), was generated from the acquisition of Neomorphic and represents the difference between the purchase price and the fair value of the net assets acquired. Goodwill is being amortized on a straight-line basis over five years. Other intangible assets of $4.4 million (net of accumulated amortization of $259,000) arising from the purchase of Neomorphic include existing technology and the assembled workforce. These assets are being amortized on a straight-line basis over three years.

ACQUIRED TECHNOLOGY RIGHTS

Acquired technology rights are amortized over the expected useful life of the underlying patents which range from ten to fifteen years. Accumulated amortization of these rights amounted to $2.7 million and $1.8 million at December 31, 2000 and 1999, respectively.

IMPAIRMENT OF LONG-LIVED ASSETS

In accordance with the provisions of Statement of Financial Accounting Standards No. 121, "Accounting for the Impairment of Long-Lived Assets and for Long-Lived Assets to be Disposed Of" ("SFAS 121"), the Company reviews long-lived assets, including property and equipment, acquired technology rights, goodwill and other intangible assets for impairment whenever events or changes in business circumstances indicate that the carrying amount of the assets may not be fully recoverable. Under SFAS 121, an impairment loss would be recognized when estimated undiscounted future cash flows expected to result from the use of the asset and its eventual disposition is less than its carrying amount. If necessary, a subsequent calculation would be performed to measure the amount of the impairment loss based on the excess of the carrying value over the fair value of the impaired assets. If quoted market prices for the assets are not available, the fair value would be calculated using the present value of estimated expected future cash flows. The cash flow calculations would be based on management's best estimates, using appropriate assumptions and projections at the time. Through December 31, 2000, there have been no such losses.

NOTE 2—SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

ADVERTISING COSTS

The Company expenses advertising costs as incurred. Advertising costs were $0.9 million for 2000 and $0.4 million for each of 1999 and 1998.

CASH, CASH EQUIVALENTS AND AVAILABLE-FOR-SALE SECURITIES

Cash equivalents and available-for-sale securities consist of marketable equity and debt securities. Management determines the appropriate classification of debt securities at the time of purchase. As of December 31, 2000 and 1999, Affymetrix' investments in debt securities are classified as available-for-sale and are carried at fair value with unrealized gains and losses reported in accumulated other comprehensive income (loss) in stockholders' equity. Affymetrix reports all securities with maturities at the date of purchase of three months or less that are readily convertible into cash and have insignificant interest rate risk as cash equivalents. The cost of debt securities is adjusted for amortization of premiums and discounts to maturity. This amortization is included in interest income. Realized gains and losses on available-for-sale securities are also included in interest income. The cost of securities sold is based on the specific identification method. Interest and dividends on securities classified as available-for-sale are included in interest income. The fair values of securities are based on quoted market prices.

INVENTORIES

Inventories are stated at the lower of cost (determined on a first-in, first-out basis) or market.

PROPERTY AND EQUIPMENT

Property and equipment, including equipment under capital leases, are recorded at cost and are depreciated for financial reporting purposes using the straight-line method over the estimated useful lives of the assets or the lease term, whichever is shorter.

COMPREHENSIVE INCOME

Statement of Financial Accounting Standards No. 130, "Reporting Comprehensive Income" ("SFAS 130") requires unrealized gains or losses on the Company's available-for sale securities to be included in other comprehensive income. Total comprehensive income/loss has been disclosed in the consolidated statement of stockholders' equity.

STOCK-BASED COMPENSATION

As permitted by Statement of Financial Accounting Standards No. 123, "Accounting for Stock-Based Compensation" ("SFAS 123"), the Company has elected to follow Accounting Principles Board Opinion No. 25, "Accounting for Stock Issued to Employees" ("APB 25"), and related interpretations, in accounting for its employee and director stock option and stock incentive plan. Under APB 25, if the exercise price of the Company's stock options is not less than the market price of the underlying stock on the date of grant, no compensation expense is recognized. Options granted to non-employees are accounted for using the Black-Scholes method prescribed by SFAS 123 and, in accordance with Emerging Issues Task Force Consensus No. 96-18, the options are subject to periodic re-valuation over their vesting terms.

NOTE 2—SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

INCOME TAXES

Income taxes are accounted for in accordance with Statement of Financial Accounting Standards No. 109 *"Accounting for Income Taxes"* ("SFAS 109"). Under the asset and liability method of SFAS 109, deferred tax assets and liabilities are recognized for future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities, and their respective tax bases. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period of enactment.

NET LOSS PER SHARE

Basic net loss per share is calculated using the weighted-average number of common shares outstanding during the period less the weighted-average shares subject to repurchase. Diluted loss per share, which gives effect to the dilutive effect of stock options and warrants (calculated based on the treasury stock method), convertible redeemable preferred stock and convertible debt (calculated using an if-converted method), is the same as basic net loss per share because the Company is in a net loss position.

	Year Ended December 31,		
	2000	1999	1998
Weighted-average shares outstanding	55,327	51,167	46,932
Less: weighted-average shares of common stock subject to repurchase	(292)	—	—
Weighted-average shares used in computing basic and diluted net loss per common share	55,035	51,167	46,932

Outstanding securities, which could potentially dilute basic earnings per share in the future but were excluded from the computation of diluted net loss per share as their effect would have been anti-dilutive, were as follows (in thousands):

	Year Ended December 31,		
	2000	1999	1998
Options and warrants	10,952	8,190	6,622
Convertible subordinated notes	3,841	2,440	—
Convertible redeemable preferred stock	—	—	3,270

RECENT ACCOUNTING PRONOUNCEMENT

In June 1998, the Financial Accounting Standards Board ("FASB") issued Statement of Financial Accounting Standards No. 133, "Accounting for Derivative Financial Instruments and for Hedging Activities" ("SFAS 133") which provides a comprehensive and consistent standard for hedging activities and the accounting for derivatives. In June 1999, FASB issued Statement of Financial Accounting Standards No. 137 which defers the effective date of SFAS 133 to the first fiscal quarter in fiscal years beginning after June 15, 2000. The Company will adopt SFAS 133 on January 1, 2001 and does not

NOTE 2—SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

expect the adoption of SFAS 133 to have a material impact on the results of operations or financial condition as it presently does not hold derivatives or engage in hedging activities.

NOTE 3—COLLABORATIVE AND RESEARCH AGREEMENTS

The Company has agreements with several entities to develop and test probe arrays for the detection of certain gene sequences, mutations or organisms. Under such agreements, the Company may receive a development fee and may receive payments upon achievement of certain technical goals. The Company also has research agreements with several universities and research organizations. The Company generally obtains rights to intellectual property arising from these agreements.

COLLABORATIVE AGREEMENTS

BECKMAN COULTER, INC. ("Beckman")

In July 1998, the Company entered into a series of agreements with Beckman that gave Beckman licenses to commercialize probe arrays manufactured using certain technologies other than light directed synthesis, and an original equipment manufacturer ("OEM") supply agreement for products that use the Company's GeneChip technology. Beckman will pay Affymetrix transfer prices and royalties on sales of these products as specified in the agreements. The agreements also provided Affymetrix with a path to obtain a license to commercialize DNA arrays under certain patents, including patents covering inventions by Professor Edwin Southern of Oxford University. In June 1999, the Company purchased the array business of Beckman that included a license to the Southern DNA array patents owned by Oxford Gene Technology ("OGT") of Oxford, England.

Under the agreements, Affymetrix made a $5.9 million payment to Beckman and agreed to provide an additional $5.0 million in services, cash or stock to Beckman over the next seven years. The payments and obligations to Beckman were accounted for as the purchase of an intangible asset, which is being amortized on a straight-line basis over its estimated useful life of 15 years.

BIOMÉRIEUX VITEK, INC. ("bioMérieux")

In September 1996, bioMérieux and Affymetrix entered into a five year collaborative development agreement and associated supply agreement to develop and commercialize DNA probe arrays using the Affymetrix GeneChip technology for clinical diagnostic kits for bacterial identification and antibiotic resistance analysis. The agreement provides for certain research funding, license and milestone payments. bioMérieux is also funding certain research activities at Affymetrix for a minimum of three years. Research revenue under this contract were approximately $1.2 million, $0.6 million and $1.6 million for the years ended December 31, 2000, 1999 and 1998, respectively. The associated research costs incurred approximated revenue for each of the years presented. Additionally, a manufacturing agreement was signed under which Affymetrix will manufacture GeneChip probe arrays for sale to bioMérieux. The agreement provides for royalties to Affymetrix on bioMérieux' sales of GeneChip probe arrays. In December 1997 and January 1998, bioMérieux and the Company expanded their collaboration to include the development of DNA probe arrays using the Affymetrix GeneChip technology for clinical diagnostics tests in the fields of HIV and food and industrial testing.

NOTE 3—COLLABORATIVE AND RESEARCH AGREEMENTS (Continued)

F. HOFFMANN-LA ROCHE LTD. ("Roche")

In February 1998, the Company entered into collaboration with Roche Molecular Systems, Inc., a subsidiary of Roche, for the development of diagnostic products utilizing the Company's array technology. Under the terms of the agreement, the Company and Roche will co-develop mutually agreed upon products, Affymetrix will manufacture arrays for use in the products and Roche will market and sell the products. Under the terms of the agreement Roche and the Company are funding their respective work efforts as mutually agreed and will share revenues and profits based on specified terms in the agreement.

ORCHID BIOSCIENCES, INC. ("Orchid")

In December 1999, Affymetrix and Orchid entered into an agreement to develop and commercialize single nucleotide polymorphism (SNP) genotyping assays that combine Orchid's proprietary GBA® primer extension technology with Affymetrix' new GenFlex® Tag array product offering from Affymetrix.

The first products to be commercialized by the alliance will include reagent kits for use with Affymetrix' GenFlex Tag array. Orchid will develop and manufacture GBA primer extension reagent kits. Affymetrix will develop and manufacture the GenFlex Tag arrays. Affymetrix will distribute and provide marketing, sales and technical support for certain standard genotyping assays. Orchid will manufacture, supply and support custom kits for use on GenFlex Tag arrays. As part of the agreement, Affymetrix loaned $2.3 million to Orchid under a promissory note which was convertible into Orchid Series E Convertible Preferred Stock. In January 2000, the promissory note was converted into shares of Orchid Preferred Stock and Affymetrix purchased an additional $2.2 million of Series E Convertible Preferred Stock of Orchid. All shares of Orchid Preferred Stock converted into Orchid Common Stock upon the close of Orchid's initial public offering.

RESEARCH AGREEMENTS

MOUSE SEQUENCING CONSORTIUM ("MSC")

Affymetrix participates in MSC, a joint public-private initiative intended to accelerate the determination of the DNA sequence of the mouse genome. MSC has agreed to provide funding and technical expertise to support mouse genome research and will make the resulting mouse genome sequence data broadly available without restriction. As of December 31, 2000, the Company has funded $3.5 million.

BRISTOL-MYERS SQUIBB COMPANY ("BMS"), MILLENNIUM PHARMACEUTICALS, INC. ("MILLENNIUM") AND THE WHITEHEAD INSTITUTE

Research agreements also include a consortium with BMS and Millennium to fund a five-year research program in functional genomics at the Whitehead Institute. Under the terms of the consortium agreement, Affymetrix, BMS and Millennium will provide funds and technology totaling approximately $8.0 million per year for five years. In return, Affymetrix, BMS and Millennium will receive certain licensing rights to inventions made through efforts funded by the consortium.

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 consolidated balance sheet. Corporate 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, grants or collaborative research agreements, and none are currently expected. Affymetrix performs a regular review of its customer activity and associated credit risks and does not require collateral from its customers.

Key parts of the GeneChip® product line, such as the scanner, certain reagent kits and lithographic masks as well as certain raw materials used in the synthesis of probe arrays, are currently available only from a single source or limited sources. No assurance can be given that scanners, reagents, lithographic masks or other components of the GeneChip system will be available in commercial quantities at acceptable costs. If the Company is required to seek alternative sources of supply, it could be time consuming and expensive. In 1998, the Company entered into an agreement with Agilent Technologies, Inc. ("Agilent Technologies") under which Agilent Technologies is required to supply all of the Company's forecasted requirements for scanners until February 2003 and the Company is required to purchase a minimum number of scanners from Agilent Technologies each year during the same period.

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.

NOTE 5—AVAILABLE-FOR-SALE SECURITIES

The following is a summary of available-for-sale securities as of December 31, 2000 (in thousands):

	Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
U.S. Government obligations and U.S. Government agency securities	$ 27,393	$ 177	$ —	$ 27,570
U.S. Corporate securities	384,777	2,415	(78)	387,114
Total debt securities	412,170	2,592	(78)	414,684
Equity securities	4,517	9,566	—	14,083
Total securities	$416,687	$12,158	$(78)	$428,767
Amounts included in: Available-for-sale securities	$416,687	$12,158	$(78)	$428,767

NOTE 5—AVAILABLE-FOR-SALE SECURITIES (Continued)

The following is a summary of available-for-sale securities as of December 31, 1999 (in thousands):

	Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
U.S. Government obligations and U.S. Government agency securities	$ 28,049	$—	$(252)	$ 27,798
U.S. Corporate securities	194,300	24	(378)	193,946
Total securities	$222,349	$24	$(630)	$221,744
Amounts included in:				
Cash equivalents	$ 7,976	$ 4	$ —	$ 7,980
Available-for-sale securities	214,373	20	(630)	213,763
	$222,349	$24	$(630)	$221,744

The realized gains and losses were not material for the years ended December 31, 2000, 1999, and 1998.

The following is a summary of the cost and estimated fair value of available-for-sale debt securities at December 31, 2000 and 1999, by contractual maturity (in thousands):

	2000		1999	
	Amortized Cost	Fair Value	Amortized Cost	Fair Value
Mature in less than one year	$180,159	$180,575	$154,616	$154,444
Mature in one to three years	232,011	234,109	67,733	67,300
Total	$412,170	$414,684	$222,349	$221,744

NOTE 6—INVENTORIES

Inventories consist of the following at December 31, 2000 and 1999 (in thousands):

	2000	1999
Raw materials	$ 4,494	$ 5,247
Work in process	931	891
Finished goods	11,809	6,654
Total	$17,234	$12,792

NOTE 7—PROPERTY AND EQUIPMENT

Property and equipment consists of the following as of December 31, 2000 and 1999 (in thousands):

	December 31,	
	2000	1999
Property and equipment:		
Construction-in-progress	$ 19,298	$ 8,212
Land	1,310	1,310
Equipment and furniture	37,667	25,697
Building and leasehold improvements	25,707	22,449
	83,982	57,668
Less accumulated depreciation and amortization	(27,737)	(16,893)
Net property and equipment	$ 56,245	$ 40,775

Construction-in-progress includes construction costs for new and upgraded facilities as well as related purchased equipment not yet placed in service.

NOTE 8—ACCOUNTS PAYABLE AND ACCRUED LIABILITIES

Accounts payable and accrued liabilities as of December 31, 2000 and 1999, consist of the following (in thousands):

	2000	1999
Accounts payable	$15,242	$11,488
Accrued compensation and related liabilities	7,059	4,269
Accrued interest on convertible subordinated notes	5,971	2,221
Accrued sales and use tax	2,940	1,170
Accrued warranties	4,738	1,752
Accrued legal	8,153	4,028
Accrued royalties	6,003	2,134
Accrued legal settlement	18,587	—
Other	2,331	2,864
Total	$71,024	$29,926

NOTE 9-—RELATED PARTY TRANSACTIONS

GLAXO

As of December 31, 2000, Glaxo has a 16% ownership interest in the Company. Pursuant to a Governance Agreement, Glaxo is entitled to appoint a specified number of directors to the Board of the Company depending on its ownership position. The Company has entered into research and supply agreements with Glaxo, resulting in revenue of $0.1 million in 1999 and $0.5 million in 1998. No revenue was generated under these agreements in 2000. In 2000, two Glaxo employees served as members of the Company's Board of Directors. Both resigned in October 2000.

NOTE 9-—RELATED PARTY TRANSACTIONS (Continued)

EOS BIOTECHNOLOGY, INC. (“Eos”)

In April 1998, the Company entered into a series of agreements with Eos under which Eos became an EasyAccess customer of the Company. In return for granting Eos access to certain technology and licenses, the Company received 3,750,000 shares of Series C preferred stock and the right to name one director of Eos. The shares received in April 1998 were recorded at zero value as Eos is a development stage entity and realization of this investment is uncertain. The shares are subject to repurchase by Eos in the event the Company does not fulfill its obligations under the EasyAccess agreement. The agreement expired on January 28, 2001. In September 1999, the Company purchased 76,923 shares of Series D preferred stock for approximately $0.1 million and in September 2000, purchased 37,037 shares of Series E preferred stock for approximately $0.1 million (at December 31, 2000, Affymetrix owns approximately 7% of EOS’ outstanding equity). For the years ended December 31, 2000 and 1999, the Company recorded revenue of $1.4 million and $0.3 million, respectively, from EOS under the EasyAccess supply agreement.

NOTE 10—COMMITMENTS AND CONTINGENCIES

CAPITAL LEASE

Affymetrix is a lessee under capital leases for various equipment that expires in 2002. The cost of the equipment under these leases are recorded in property and equipment and are depreciated over their estimated useful lives.

OPERATING LEASES

Affymetrix leases laboratory, office and manufacturing facilities, and equipment under non-cancelable operating leases which expire at various times through 2011. Some of these leases contain renewal options ranging from two to five years. Rent expense related to operating leases was approximately $4.1 million in 2000, $2.5 million in 1999 and $1.9 million in 1998.

NOTE 10—COMMITMENTS AND CONTINGENCIES (Continued)

Future minimum lease obligations at December 31, 2000 under all leases are as follows (in thousands):

	Capital Leases	Operating Leases
2001	$ 26	$ 5,137
2002	64	5,457
2003	—	4,089
2004	—	3,019
2005	—	1,819
Thereafter	—	7,248
Total minimum lease payments	90	$26,769
Less amount representing interest	(8)	
Present value of minimum lease payments	82	
Less current portion	(22)	
Non-current obligation under capital lease	$ 60	

LEGAL PROCEEDINGS

HYSEQ, INC. LITIGATION

On March 3, 1997, Hyseq, Inc. (“Hyseq”) filed a lawsuit in United States District Court for the Northern District of California (San Jose Division) alleging that Affymetrix’ products infringe United States Patent Nos. 5,202,231, or the ’231 Patent, and 5,525,464, or the ’464 Patent. In addition, in December 1997, Hyseq filed a second action claiming that Affymetrix’ products infringe a related patent, United States Patent 5,695,940, or the ’940 Patent. On October 26, 1999, Hyseq filed a third action in United States District Court for the Northern District of California claiming that Affymetrix’ products infringe a related patent, United States Patent No. 5,972,619, or the ’619 Patent. The action also requests a declaration that Affymetrix’ United States Patent No. 5,795,716 or the ’716 Patent is invalid based on the ’619 Patent. On November 2, 2000, Hyseq was granted permission to file a supplemental complaint in United States District Court for the Northern District of California alleging that Affymetrix’ products infringe an additional related patent, United States Patent No. 6,018,041, or the ’041 Patent. No trial date in these matters has been set.

On October 26, 1999, the United States District Court for the Northern District of California issued a claims construction order interpreting various terms of the ’231, ’464, and ’940 Patents. Following Hyseq’s motion for reconsideration of that claims construction order, the United States District Court for the Northern District of California on July 28, 2000, issued a revised claims construction order interpreting various terms of the ’231, ’464 and ’940 Patents. The parties have briefed claim construction issues on the ’619 Patent, and a tentative claims construction decision was issued by the court on March 20, 2001 regarding the ’619 Patent. Claim construction rulings are a pre-trial proceeding that provide interpretations of specific language in claims of the relevant patents.

The Hyseq actions seek damages based on the sale of Affymetrix’ products and processes and seek to enjoin commercial activities relating to those products and processes. In addition to subjecting

NOTE 10—COMMITMENTS AND CONTINGENCIES (Continued)

Affymetrix to potential liability for damages, these actions, and any other similar legal actions against Affymetrix or its collaborative partners, could require Affymetrix or its collaborative partners to obtain a license in order to continue to manufacture, market or use the affected products and processes. While Affymetrix believes that the Hyseq complaints are without merit, Affymetrix may not prevail in these actions and Affymetrix or its collaborative partners may not prevail in any other related action. Moreover, in the event Affymetrix does not prevail in the Hyseq actions and Affymetrix, its partners or its customers are required to obtain a license to continue to manufacture, market or use the affected products and processes, Affymetrix, its partners or its customers may not be able to obtain such a license on commercially acceptable terms, if at all. Furthermore, Affymetrix has expended and is likely to continue to expend substantial financial and managerial resources in defending against the claims filed by Hyseq.

On August 18, 1998, Affymetrix filed a lawsuit in United States District Court for the Northern District of California against Hyseq alleging infringement of United States Patent Nos. 5,795,716, or the '716 Patent, and 5,744,305, or the '305 Patent. On September 1, 1998, Affymetrix added its United States Patent No. 5,800,992, or the '992 Patent, to the complaint of infringement against Hyseq. On November 23, 1998, Hyseq filed an answer to Affymetrix' complaint, alleging that Affymetrix' three asserted patents are invalid. On January 25, 2001, the United States District Court for the Northern District of California issued a claims construction order interpreting various terms of the '716, '305 and '992 Patents. On January 30, 2001, the Board of Patent Appeals and Interferences of the United States Patent and Trademark Office issued to Affymetrix a Notice Declaring Interference and has ordered the commencement of an interference proceeding between Affymetrix and Hyseq involving certain claims of Affymetrix' '716 Patent, and certain claims of Hyseq's patent application. No trial dates have been set in these cases.

INCYTE GENOMICS AND SYNTENI LITIGATION AND PROCEEDINGS

On January 6, 1998, Affymetrix filed a patent infringement action in the United States District Court for the District of Delaware alleging that certain of Incyte Genomics, Inc.'s ("Incyte") and Synteni, Inc.'s ("Synteni") products infringe United States Patent No. 5,445,934, or the '934 Patent. On September 1, 1998, Affymetrix filed a complaint against Incyte and Synteni in United States District Court for the District of Delaware alleging infringement of the '305 Patent and the '992 Patent. These actions were transferred to the United States District Court for the Northern District of California on November 18, 1998. The actions seek to enjoin commercial activities of Incyte and Synteni relating to Affymetrix' patents and, in regard to the '992 Patent, sought a preliminary injunction. Incyte and Synteni moved for summary judgment that certain claims of the '992 Patent were invalid. On May 4, 1999, the court denied Affymetrix' motion for preliminary injunction and denied Incyte and Synteni's motion for summary judgment.

On April 17, 1998, Incyte filed a response and counterclaim, asserting that the '934 Patent is invalid and not infringed. On April 17, 1998, Incyte also filed a counterclaim alleging that a patent license agreement Affymetrix entered into in December 1997 with Molecular Dynamics interfered with an agreement between Incyte and Molecular Dynamics. In the counterclaim, Incyte alleges that the terms of Affymetrix' patent license to Molecular Dynamics prevented Molecular Dynamics from meeting its obligations to Incyte. Incyte seeks damages from Affymetrix. On September 21, 1998, Incyte

NOTE 10—COMMITMENTS AND CONTINGENCIES (Continued)

and Synteni filed an answer asserting various defenses to the lawsuits in relation to the '992 Patent and the '305 Patent, and asserted several counterclaims, including:

- a request for declaration of non-infringement and invalidity;
- an assertion of unfair competition;
- a request for a declaration that Synteni and Dari Shalon, who was a one-time employee of Synteni, have not misappropriated any of Affymetrix' trade secrets;
- a claim of tortious interference with Incyte's and Synteni's economic advantage; and
- a claim of slander of title of a patent and a claim of trade libel.

On August 11, 2000, Incyte and Synteni asserted that the '934, '305 and '992 Patents are unenforceable. On August 17, 2000 Incyte filed a lawsuit against Affymetrix in the United States District Court for the Northern District of California alleging infringement of U.S. Patent Nos. 5,716,785 and 5,891,636 and asserting various state law claims. On September 6, 2000, Affymetrix filed its answer in this lawsuit and also filed counterclaims against Incyte alleging infringement of Affymetrix' U.S. Patent Nos. 6,040,193 or '193 and 5,871,928 or '928. In response to Affymetrix' counterclaims, Incyte has filed various state law counterclaims against Affymetrix and requests for declaration that the '193 and '928 patents are not infringed, are invalid and are unenforceable.

On January 25, 2001, the United States District Court for the Northern District of California issued a claims construction order interpreting various terms of the '934, '305 and '992 Patents. Subsequently, Incyte has filed a summary judgment motion asserting some of its products are not covered by some of the claims asserted by the Company. No trial dates have been set for these matters.

On April 2, 1999, the United States Patent and Trademark Office, or USPTO, notified Affymetrix that Stanford University presented claims that relate to substantially the same subject matter as certain claims from the '992 patent and all of the claims of the '305 patent. The Stanford application is alleged to be exclusively licensed to Incyte. The USPTO notified Affymetrix on April 2, 1999 that it had declared an interference proceeding relating to these patents and claims of patents. The USPTO conducted proceedings and determined on September 10, 1999 that Incyte and Synteni did not meet the burden of proof required to establish a case that the claims should be further evaluated in a full interference proceeding. Incyte and Synteni appealed this decision in the United States Court for the Northern District of California on November 8, 1999.

Affymetrix believes that the Incyte's claims and counterclaims are without merit. However, Affymetrix has expended and is likely to continue to expend significant financial and managerial resources defending against these and any other counterclaims filed by Incyte and Synteni and others. Affymetrix' failure to successfully enforce its patent rights or defend against counterclaims of Incyte, Synteni, or others could result in a material adverse effect on Affymetrix' business, financial condition and results of operations.

APPLERA CORPORATION LITIGATION

On July 5, 2000, Applera Corporation, previously known as PE Corporation ("Applera"), filed a lawsuit in the United States District Court for the District of Delaware alleging that certain Affymetrix products infringe five Applera patents related to reagents that Affymetrix purchases from Applera

NOTE 10—COMMITMENTS AND CONTINGENCIES (Continued)

licensed vendors. Applera served Affymetrix with the complaint on October 16, 2000 and on December 14, 2000, Affymetrix filed its response to the complaint and asserted various counterclaims against Applera. On January 25, 2001, Affymetrix filed a declaratory judgement action against Applera in the United States District Court for the District of New York seeking, among other things, a declaration that Affymetrix has not infringed any of Applera's subject patents. On January 30, 2001, Affymetrix filed a motion in the Delaware court to dismiss Applera's claims for lack of subject matter jurisdiction. On March 21, 2001, the District Court for the District of New York held a hearing and stayed the New York action pending a ruling from the Delaware court on Affymetrix' motion to dismiss for lack of subject matter jurisdiction. No trial dates have been set in these actions.

Affymetrix believes that Applera's claims are without merit. However, Affymetrix cannot be sure that it will prevail in these matters.

NOTE 11—CONVERTIBLE SUBORDINATED NOTES

On September 22, 1999, the Company completed the sale of $150 million principal amount of 5% convertible subordinated notes due 2006 (the "5% Notes"). The 5% Notes mature on October 1, 2006 and bear interest at a rate of 5% per annum, which is payable semi-annually on April 1 and October 1. The 5% Notes are convertible, at any time prior to maturity or redemption, into shares of the Company's common stock at a conversion price of $61.50 per share, subject to adjustment. The Company can redeem some or all of the 5% Notes at any time after October 7, 2002, and the debt holder has a right to require the Company to purchase all or a portion of the 5% Notes upon a change in control. The 5% Notes are subordinated to all of the Company's existing and future senior indebtedness. The fair value of the 5% Notes at December 31, 2000 was $204.3 million, based on the market value in the PORTAL market where the 5% Notes are traded.

On February 14, 2000, the Company completed the sale of $225 million principal amount of 4.75% convertible subordinated notes due 2007 (the "4.75% Notes"). The 4.75% Notes mature on February 15, 2007 and bear interest at a rate of 4.75% per annum, which is payable semi-annually on February 15 and August 15. The 4.75% Notes are convertible, at any time prior to maturity or redemption, into shares of the Company's common stock at a conversion price of $160.50 per share, subject to adjustment. The Company can redeem some or all of the 4.75% Notes at any time after February 20, 2003 and the debt holders have a right to require the Company to purchase all or a portion of the 4.75% Notes upon a change in control. The 4.75% Notes are subordinated to all of the Company's existing and future senior indebtedness. The fair value of the 4.75% Notes at December 31, 2000 was $166.3 million, based on the market value in the PORTAL market where the 4.75% Notes are traded.

NOTE 12—COMMON STOCK PURCHASE RIGHT

Under the terms of an agreement with a distributor, the Company has provided to the distributor a common stock purchase right ("purchase right"), which subject to certain requirements, provides for the distributor to acquire shares of the Company's common stock through an advance payment of $3.0 million. This purchase right has been included in the consolidated balance sheet. The number of shares issuable will be based on the fair market value of the Company's Common Stock on August 19, 2003.

NOTE 12—COMMON STOCK PURCHASE RIGHT (Continued)

In no event is the number of common shares issued under the purchase right to exceed 10% of the total shares of outstanding Common Stock of the Company on August 19, 2003. In the event that the Company's Common Stock issuable under the purchase right is valued at less than $3.0 million, the Company will pay the difference between the value of the Company's Common Stock and $3.0 million.

In connection with the agreement, the Company granted an employee warrants to purchase 10% of the Common Stock ultimately issued to Takara at the fair market value of the Common Stock on the date the shares are issued.

NOTE 13—STOCKHOLDERS' EQUITY

COMMON STOCK SUBJECT TO REPURCHASE

At December 31, 2000, the Company had 460,901 shares of common stock subject to repurchase from the acquisition of Neomorphic (see Note 17). The shares are repurchasable at the original exercise price and generally vest over four years.

COMMON STOCK WARRANTS

As of December 31, 2000, there were warrants to purchase common stock outstanding assumed with the acquisition of GMS, 27,970 shares at $3.58 per share and 38,150 shares at $15.20 per share. The warrants expire in 2008.

STOCKHOLDER RIGHTS PLAN

On October 15, 1998, the Board of Directors of the Company declared a dividend of (i) one preferred share purchase right (a "Right") for each outstanding share of common stock of the Company, and (ii) a number of Rights for each share of Series AA Preferred Stock of the Company equal to the number of shares of common stock into which such share of Series AA Preferred Stock was convertible. The dividend was paid on October 27, 1998 (the "Record Date") to the stockholders of record on that date. Each Right entitles the registered holder to purchase from the Company one one-thousandth of a share of Series B Junior Participating Preferred Stock, par value $.01 per share, of the Company (the "Series B Preferred Stock") at a price of $62.50 per one one-thousandth of a share of Series B Preferred Stock, subject to adjustment. The Rights will be exercisable if a person or group hereafter acquires beneficial ownership of 15% or more of the common stock of the Company or announces a tender offer for 15% or more of the common stock. The Board of Directors will be entitled to redeem the Rights at one cent per Right at any time before any such person acquires beneficial ownership of 15% or more of the outstanding common stock. If a person or group acquires 15% or more of the outstanding common stock of the Company, each Right will entitle its holder to purchase, at the Right's exercise price, a number of shares of common stock having a market value at that time of twice the Right's exercise price. Rights held by the 15% holder will become void and will not be exercisable to purchase shares at the bargain purchase price. If the Company is acquired in a merger or other business combination transaction after a person acquires 15% or more of the Company's common stock, each Right will entitle its holder to purchase, at the Right's then-current exercise price, a number of the acquiring company's common shares having a market value at that time of twice the Right's exercise price. Glaxo, which currently owns in excess of 15% of the aggregate

NOTE 13—STOCKHOLDERS' EQUITY (Continued)

voting power of the common stock will not become an "Acquiring Person" until it acquires beneficial ownership of additional shares of common stock. The Rights will expire in ten years.

On February 7, 2000, the Company's Board of the Directors approved an amendment to its stockholders rights plan. The amendment increases the exercise price of the Preferred Share Purchase Rights to $625.00 and extends the expiration date of the plan to February 2010. Under the amended plan, each Preferred Share Purchase Right entitles stockholders to buy one one-thousandth of a share of Series B Junior Participating Preferred Stock of the Company at the new exercise price of $625.00. The Rights will be exercisable if a person or group acquires beneficial ownership of 15% or more of the common stock of the Company or announces a tender offer for 15% or more of the common stock.

STOCK OPTION AND BENEFIT PLANS

In 1993, the Board adopted the Affymetrix 1993 Stock Plan (the "Stock Plan") under which incentive stock options, nonqualified stock options and purchase rights may be granted to employees and outside consultants. Options granted under the Stock Plan expire no later than ten years from the date of grant. The option price shall be 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 may be granted with different vesting terms from time to time but not to exceed five years from the date of grant. As of December 31, 2000, a total of 10,400,000 shares of common stock have been reserved for issuance under the Stock Plan and no shares were subject to repurchase by the Company.

In March 1996, the Board adopted the 1996 Nonemployee Directors Stock Option Plan (the "Directors Plan"). There are 600,000 shares of common stock reserved for issuance under the Directors Plan. Only nonemployee directors of the Company are eligible to participate in the Directors Plan and only nonstatutory stock options can be granted. No options have been granted under this plan to date. Options will granted at exercise prices equal to the fair value of the Company's common stock.

On September 29, 1998, the Board of Directors of the Company adopted a Stock Incentive Plan for employees by providing for awards in the form of restricted shares or nonqualified stock options. In 2000, the aggregate number of options and restricted shares available for grant under this plan increased from 2,000,000 to 3,600,000.

In 1998, GMS adopted the 1998 Stock Option Plan, now the GMS/Affymetrix 1998 Stock Option Plan ("GMS Stock Plan") under which incentive stock options and nonqualified stock options may be granted to employees and outside consultants. Options granted under the GMS Stock Plan expire no later than ten years from the date of grant. No additional options are authorized for issuance under this plan.

On March 9, 2000, the Board of Directors of the Company adopted the Company's 2000 Equity Incentive Plan (the "2000 Plan") for the Company's employees, outside directors and consultants by providing for awards in the form of restricted shares, stock units, stock options and stock appreciation rights. There are 5,000,000 shares of common stock reserved for issuance under the 2000 Plan. The 2000 Plan was approved by the Company's stockholders on June 8, 2000. Options under the 2000 Plan are granted with exercise prices equal to the Company's common stock on the date of grant and generally vest over a four year period.

NOTE 13—STOCKHOLDERS' EQUITY (Continued)

On October 30, 2000, Affymetrix completed the acquisition of Neomorphic and assumed all options outstanding under a Neomorphic stock option plan, now the Affymetrix/Neomorphic 1998 Stock Plan ("Neomorphic Stock Plan"), which if fully vested and exercised, would amount to 122,757 shares of Affymetrix' common stock. As of December 31, 2000, no additional options are authorized for grant and 122,757 options were outstanding under the Neomorphic Stock Plan. Options granted under the Neomorphic Plan expire no later than ten years from the date of grant.

Activity under the stock plans through December 31, 2000 is as follows:

		Outstanding Options	
	Options Available For Grant	Number of Shares	Weighted Average Exercise Price Per Share
Balance at December 31, 1997	5,176,782	5,944,618	$ 5.71
Additional shares authorized for grant	144,776	—	
Options granted	(1,812,198)	1,812,198	$11.57
Options exercised	—	(460,928)	$ 0.61
Options canceled	1,020,309	(1,020,309)	$14.04
Balance at December 31, 1998	4,529,669	6,275,579	$ 6.75
Options granted	(3,632,436)	3,632,436	$24.32
Options exercised	—	(1,408,600)	$ 4.69
Options canceled	363,195	(363,195)	$11.50
Balance at December 31, 1999	1,260,428	8,136,220	$14.74
Additional shares authorized for grant	6,600,000	—	
Options granted	(4,750,160)	4,750,160	$70.94
Options assumed upon acquisition of Neomorphic, Inc.	—	122,757	$10.19
Options exercised	—	(1,553,498)	$10.41
Options canceled	569,792	(569,792)	$61.88
Balance at December 31, 2000	3,680,060	10,885,847	$37.28

	Options Outstanding			Options Exercisable	
Range of Exercise Prices	Number	Weighted-Average Remaining Contractual Life (In Years)	Weighted-Average Exercise Price Per Share	Number	Weighted-Average Exercise Price Per Share
$ 0.15- 0.34	1,384,680	4.70	$ 0.33	1,333,426	$ 0.33
0.36- 19.67	2,817,618	7.20	$ 13.18	750,013	$12.60
19.78- 43.56	2,038,191	8.51	$ 25.55	302,508	$25.51
44.09- 69.28	3,307,858	9.62	$ 50.38	27,779	$48.98
70.28-157.33	1,337,500	9.23	$111.81	2,355	$85.05
	10,885,847	8.11	$ 37.28	2,416,081	$ 7.93

NOTE 13—STOCKHOLDERS' EQUITY (Continued)

There were 2,042,378 and 2,110,834 options exercisable in 1999 and 1998, respectively.

Upon the acquisition of Neomorphic, the fair value of unvested common stock subject to restricted stock agreements and the intrinsic value of the unvested options held by employees was deducted from the purchase price and allocated to deferred stock compensation. The deferred stock compensation of $30.0 million is being amortized to compensation expense over the remaining vesting term, principally four years. The fair value of unvested options held by non-employees was also deducted from the purchase price. These options will be periodically revalued as they vest in accordance with applicable accounting guidance.

In accordance with the provisions of SFAS 123, the Company is disclosing pro forma information regarding net loss and net loss per share as if the Company had accounted for its stock based compensation plans under the fair value method of SFAS 123.

The fair value of options was estimated at the date of grant using a Black-Scholes option pricing model with the following assumptions for 2000, 1999 and 1998 risk free interest rate of 5.0%, 6.5% and 4.7%, respectively; a dividend yield of zero; volatility factors of the market price of the Company's common stock price of 0.70, 0.58 and 0.54, respectively; and a weighted average expected option term of one year from vested date.

The Black-Scholes option valuation model was developed for use in estimating the fair value of traded options which have no vesting restrictions and are fully transferable. In addition, option valuation models require the input of highly subjective assumptions including the expected stock volatility. Because the Company's employee stock options have characteristics significantly different from those of traded options, and because changes in the subjective input assumptions can materially affect the fair value estimate, in management's opinion, the existing models do not necessarily provide a reliable single measure of the fair value of its employee stock options.

Based on this calculation, the weighted average fair value of options granted during 2000, 1999 and 1998 was $36.10, $47.24 and $22.44, respectively. For purposes of pro forma disclosures the estimated fair value of the options in excess of the expense recognized in conjunction with the amortization of deferred compensation is amortized to expense over the options' vesting period, generally five years. The Company's pro forma information as of December 31, 2000, 1999 and 1998 is as follows (in thousands except per share amounts):

	2000	1999	1998
Pro forma net loss attributable to common stockholders	$(114,521)	$(41,488)	$(33,141)
Pro forma basic and diluted net loss per common share	$ (2.08)	$ (0.81)	$ (0.71)

The pro forma information above may not be representative of the effects on potential pro forma effects on results for future years.

NOTE 13—STOCKHOLDERS' EQUITY (Continued)

RESERVED SHARES

At December 31, 2000, shares reserved for future issuance are as follows:

Stock option plans:	
Options outstanding	10,885,847
Options available for future grants	3,680,060
Convertible subordinated notes	3,840,894
Warrants	66,120
	18,472,921

NOTE 14—INCOME TAXES

The Company recorded an income tax provision of $600,000 for the year ended December 31, 2000 related to income taxes currently payable on income generated in non-US tax jurisdictions and foreign withholding taxes. Due to operating losses and the Company's inability to recognize an income tax benefit from these losses, there is no provision for income taxes for 1999. The income tax benefit of $1.3 million in 1998 resulted from the elimination of GMS deferred tax liabilities recognized in a prior period.

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

	Year ended December 31,		
	2000	1999	1998
Tax at federal statutory rate	$(18,896)	$(8,926)	$(9,824)
Loss for which no tax benefit is currently recognizable	12,651	8,926	9,824
Elimination of deferred tax liability	—	—	(1,269)
Acquired in-process research and development	5,246	—	—
Non-deductible stock compensation	741	—	—
Non-deductible goodwill amortization	258	—	—
Foreign taxes	600	—	—
	$ 600	$ —	$(1,269)

NOTE 14—INCOME TAXES (Continued)

Significant components of the Company's deferred tax assets as of December 31, 2000 and 1999 are as follows (in thousands):

	2000	1999
Deferred tax assets:		
Net operating loss carryforwards	$ 53,500	$ 41,100
Tax credit carryforwards	7,800	7,500
Accrued legal settlement	7,400	—
Deferred revenue	6,800	1,700
Capitalized research and development	5,700	4,300
Other—net	8,100	6,800
Total deferred tax assets	89,300	61,400
Valuation allowance for deferred tax assets	(82,300)	(61,400)
Deferred tax liabilities:		
Unrealized gains on investment	(5,100)	—
Acquired intangibles	(1,900)	—
Net deferred tax assets	$ —	$ —

SFAS No. 109, "Accounting for Income Taxes," provides for the recognition of deferred tax assets if realization of such assets is more likely than not. Based upon the weight of available evidence, which includes the Company's historical operating performance and the reported cumulative net losses in all prior years, the Company has provided a full valuation allowance against its net deferred tax assets. The valuation allowance increased by $20.9 million during 2000. Included in the valuation allowance balance is $29.1 million related to the exercise of stock options which are not reflected as an expense for financial reporting purposes. Accordingly, any future reduction in the valuation allowance relating to this amount will be credited directly to equity and not reflected as an income tax benefit in the statement of operations.

As of December 31, 2000, the Company has federal and state net operating loss carryforwards of approximately $152.0 million and $4.9 million, respectively, which will expire at various dates beginning in 2000 through 2020, if not utilized. In addition, the Company has federal and state research and development credit carryforwards of approximately $4.4 million and $3.5 million, respectively, which expire at various dates beginning in 2001 through 2020, if not utilized. Utilization of the net operating loss and tax credits carryforwards may be subject to substantial annual limitation due to the ownership change limitations provided by the Internal Revenue Code and similar provisions. Management believes the effect of such limitations will not result in the expiration of the net operating loss and tax credit carry forwards before utilization.

NOTE 15—PRODUCT SALES, GEOGRAPHIC SALES, AND SIGNIFICANT CUSTOMERS

The Company has determined that, in accordance with Statement of Financial Accounting Standards No. 131, it operates in one segment as it only reports operating results on an aggregate basis

NOTE 15—PRODUCT SALES, GEOGRAPHIC SALES, AND SIGNIFICANT CUSTOMERS (Continued)

to chief operating decision makers of the Company. The Company had product sales by type and by region as follows for the years ended December 31, 2000, 1999 and 1998 (in thousands):

	2000	1999	1998
Product Sales:			
Arrays	$ 69,997	$32,904	$ 8,233
Instruments	56,596	33,000	13,611
Other (principally subscription fees)	46,953	32,264	15,088
Total	$173,546	$98,168	$36,932
Customer location:			
United States	$118,013	$62,551	$27,099
Europe	36,635	25,284	7,774
Other	18,898	10,333	2,059
Total	$173,546	$98,168	$36,932

Revenue from customers representing 10% or more of total revenue during 2000, 1999 and 1998 is as follows:

	2000	1999	1998
CUSTOMER:			
A	—	10%	16%
B	—	12%	20%

NOTE 16—401(K) PLAN

The Company maintains a defined-contribution savings plan 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. Beginning in 1998, the Company matched employee contributions according to a specified formula. The Company's matching contributions totaled $1.5 million in 2000, $0.9 million in 1999 and $0.6 million in 1998. Company contributions vest to employees ratably over five years.

NOTE 17—BUSINESS COMBINATIONS

In February 2000, Affymetrix completed its merger with GMS, a privately-held Massachussetts instrumentation company specializing in DNA array technology. Under the terms of the merger, all outstanding shares of GMS common and preferred stock were converted into 1,939,798 shares of the Company's common stock at an exchange ratio of 0.5594 Affymetrix share for each GMS share. In addition, Affymetrix assumed all outstanding GMS options and warrants. At the date of consummation, GMS had an aggregate of 200,202 Affymetrix equivalent options and warrants outstanding.

NOTE 17—BUSINESS COMBINATIONS (Continued)

The merger has been accounted for as a pooling of interests, and, accordingly, the Company's financial statements and financial data have been restated to include the accounts and operations of GMS since inception. The table below presents the separate results of operations for Affymetrix and GMS prior to the merger. The merger was completed in February 2000.

	Year Ended December 31,	
	1999	1998
Revenues:		
Affymetrix	$ 96,855	$ 52,025
GMS	12,219	388
	$109,074	$ 52,413
Net loss		
Affymetrix	$(23,085)	$(23,130)
GMS	(2,419)	(3,670)
	$(25,504)	$(26,800)

On October 30, 2000, Affymetrix completed the acquisition of Neomorphic, a privately-held, computational genomics company. The transaction was accounted for as a purchase and the results of Neomorphic's operations have been included in the consolidated financial statements from the date of acquisition. Neomorphic common and preferred stockholders received 1,285,636 shares of Affymetrix common stock in exchange for all of their outstanding shares and Neomorphic option holders received 122,797 options to purchase Affymetrix common stock in exchange for their Neomorphic stock options. In addition, the preferred stockholders of Neomorphic received cash of $2.4 million. The fair value of the Affymetrix common stock issued in exchange for all of the outstanding shares of Neomorphic common and preferred stock was calculated in accordance with Emerging Issues Task Force Issue No. 97-15 and was based on a stock price of $49.70 which represented the lowest fair value of Affymetrix common stock at which no adjustment would occur to the number of shares and options issued by Affymetrix. The Affymetrix options issued in connection with the assumption of the Neomorphic options were valued using the Black-Sholes option pricing model assuming a volatility of 0.7, expected life of 3.5 years, risk-free interest rate of 6%, expected dividend yield of 0% and stock price of $49.70.

In accordance with applicable accounting rules, the fair value of unvested common stock subject to restricted stock agreements and the intrinsic value of the unvested options held by employees was deducted from the purchase price and allocated to deferred stock compensation. The deferred stock compensation will be amortized to compensation expense over the remaining vesting term, principally three years. The fair value of unvested options held by nonemployees was also deducted from the purchase price. These options will be periodically revalued as they vest in accordance with applicable accounting guidance.

NOTE 17—BUSINESS COMBINATIONS (Continued)

A summary of the calculation of the purchase price is as follows (in thousands):

Fair value of common stock issued	$ 63,896
Fair value of options assumed	5,131
Less intrinsic value of unvested options at date of consummation	(4,291)
Less fair value of unvested common stock at date of consummation	(25,687)
	39,049
Cash paid	2,400
Liabilities assumed	821
Transaction costs	2,355
	$ 44,625

The Company allocated Neomorphic's purchase price based on the relative fair value of the net tangible and intangible assets acquired. In performing this allocation, the Company considered, among other factors, the technology and research and development projects in process at the date of acquisition. There have been no significant changes in the assumptions used to value the assets of Neomorphic. The purchase price was allocated based on an independent valuation to tangible and intangible assets as follows (in thousands):

Tangible assets	$1,851
Acquired in-process research and development	14,989
Goodwill and other intangibles acquired	27,785
	$44,625

Goodwill and intangible assets are being amortized on a straight-line basis over five years and three years, respectively. Other intangibles consist of developed technology ($3.4 million) and assembled workforce ($1.3 million).

In-process research and development consists of software tools that will enable researchers to improve the prediction of gene structures, increase the accuracy of gene identification, ascertain gene function and assist researchers in visualizing and managing genetic data in the process of being developed for use in these projects had not yet reached technological feasibility and do not have alternative future uses. The in-process research and development programs were valued using a discounted cash flow methodology. The estimates used by the Company in valuing in-process research and development were based upon assumptions the Company believes to be reasonable but which are inherently uncertain and unpredictable. The Company's assumptions may be incomplete or inaccurate, and no assurance can be given that unanticipated events and circumstances will not occur. Accordingly, actual results may vary from the projected results.

The following pro forma data summarizes the results of operations for the periods indicated as if Neomorphic had been completed as of the beginning of the periods presented. The pro forma data give effect to actual operating results prior to the acquisition and exclude the charge for acquired in-process research and development. No effect has been given to cost reductions or operating synergies in this presentation. These pro forma amounts do not purport to be indicative of the results that would

NOTE 17—BUSINESS COMBINATIONS (Continued)

have actually been obtained if the acquisition had occurred as of the beginning of the periods presented or that may be obtained in the future.

	Year Ended December 31,	
	2000	1999
	(in thousands, except per share amounts)	
Net revenue	$203,092	$110,634
Net loss	$(40,370)	$(28,008)
Net loss per common share	$ (0.70)	$ (0.46)

NOTE 18—UNAUDITED QUARTERLY FINANCIAL INFORMATION

	2000				1999			
	Fourth Quarter	Third Quarter	Second Quarter	First Quarter	Fourth Quarter	Third Quarter	Second Quarter	First Quarter
	(in thousands, except per share amounts)							
Total revenue	$ 59,419	$55,769	$45,411	$40,231	$ 34,927	$29,519	$24,893	$19,735
Net (loss) income	$(41,924)	$ 295	$(6,092)	$(6,269)	$ (5,549)	$(5,339)	$(7,502)	$(7,114)
Basic net (loss) income per common share	$ (0.75)	$ 0.01	$ (0.11)	$ (0.12)	$ (0.10)	$ (0.11)	$ (0.17)	$ (0.16)
Diluted net (loss) income per common share	$ (0.75)	$ 0.00	$ (0.11)	$ (0.12)	$ (0.10)	$ (0.11)	$ (0.17)	$ (0.16)

NOTE 19—SUBSEQUENT EVENTS

WARRANTY COSTS

In February 2001, the Company discovered ambiguities in a public database used in the design of the Murine Genome U74 Set of GeneChip® arrays. As a result, the Company has begun the redesign of these arrays and has offered to replace prior shipments of these arrays. The Company has evaluated the financial impact of providing these replacement arrays and has taken a charge in the fourth quarter of 2000 of $1.8 million and estimates an additional charge of approximately $1.0 million (unaudited) in the first quarter of 2001. In addition, due to customer concern over the accuracy of the probe sequences on its arrays, sales of the Murine Genome U74 set of arrays as well as other products may be delayed or negatively impacted. The magnitude of the impact on future sales is not known.

LITIGATION SETTLEMENT

On March 23, 2001 Affymetrix and Oxford Gene Technology, Ltd. (“OGT”) entered into a settlement agreement resolving all existing litigation between the two companies.

The settlement encompasses a number of lawsuits and other adverse proceedings involving the parties’ respective patents, patent applications and patent license rights in various countries as well as litigation over the transfer to Affymetrix of Beckman Coulter’s (“Beckman”) license to certain OGT

NOTE 19—SUBSEQUENT EVENTS (Continued)

patents through Affymetrix' 1999 purchase of Beckman's array business. Key components of the settlement include:

- OGT and Affymetrix will dismiss the pending lawsuits in the Delaware Federal Court.
- OGT will drop its infringement actions and both parties will drop their revocation actions challenging each others' patents in the United Kingdom.
- OGT will withdraw its petition for leave to appeal to the House of Lords in the license action in the United Kingdom.
- OGT will recognize as valid the license of its technology acquired by Affymetrix from Beckman.
- Both parties will cease their involvement in opposition proceedings against the other's European patent in the European Patent Office.

As a result of the settlement, Affymetrix did not receive any additional license rights from OGT and the terms of the existing license to OGT's technology obtained from Beckman remains unchanged. As a result of the settlement, the Company will record an additional charge of approximately $18.6 million in the quarter ended December 31, 2000. In addition, the Company may be required to record a smaller charge in the first quarter of 2001 as a result of a fee arrangement entered into with the Company's legal counsel. While the settlement agreement settles all outstanding litigation and ensures that the Company is licensed under certain OGT patents, it does not require the withdrawal of undeclared interferences or ensure that the parties will not be involved in future administrative and other proceedings, such as interferences, arbitration proceedings, or litigation proceedings. Such proceedings could have a material, adverse effect on the Company as a result of expenses incurred, distraction of management, or narrowing or elimination of some of its patent rights.

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

Not applicable.

PART III

ITEM 10. DIRECTORS AND EXECUTIVE OFFICERS OF THE REGISTRANT

Incorporated by reference to the sections of the Company's proxy statement for the 2001 Annual Meeting of Stockholders entitled "Election of Directors."

ITEM 11. EXECUTIVE COMPENSATION

Incorporated by reference to the sections of the Company's proxy statement for the 2001 Annual Meeting of Stockholders entitled "Executive Compensation," "Compensation Committee Report," "Certain Transactions" and "Compensation of Directors."

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

Incorporated by reference to the section of the Company's proxy statement for the 2001 Annual Meeting of Stockholders entitled "Stock Ownership of Principal Shareholders and Management."

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

Incorporated by reference to the section of the Company's proxy statement for the 2001 Annual Meeting of Shareholders entitled "Certain Transactions."

PART IV

ITEM 14. EXHIBITS, FINANCIAL STATEMENT SCHEDULES, AND REPORTS ON FORM 8-K

(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:

EXHIBIT NUMBER	DESCRIPTION OF DOCUMENT
(1)2.1	Agreement and Plan of Merger, dated as of September 10, 1999, among Affymetrix, Inc., GMS Acquisition, Inc. and certain shareholders
(2)2.2	Agreement and Plan of Merger, dated as of September 29, 2000, among Affymetrix, Inc., Nautilus Acquisitions Corp. and Neomorphic, Inc.
(3)3.1	Restated Certificate of Incorporation
(4)3.2	Bylaws
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* Confidential treatment granted

\+ Management contract, compensatory plan or arrangement

(b) Reports on Form 8-K.

On October 3, 2000, the Company filed a Report on Form 8-K to report under Item 5 (Other Events) the execution of a definitive merger agreement with Neomorphic, Inc. and the formation of Perlegen Sciences, Inc.

On October 20, 2000, the Company filed a Report on Form 8-K to report under Item 5 (Other Events) the execution of Amendment No. 3 to the Governance Agreement between the Company and Glaxo Wellcome PLC and the resignation of board members Adrian Hennah and Barry Ross.

On November 3, 2000, the Company filed a Report on Form 8-K to report under Item 5 (Other Events) the U.K. Court of Appeals' November 2, 2000 ruling in the OGT litigation that the Company's purchase of the Beckman Coulter microarray business transferred a license to the "Southern Patents."

On November 7, 2000, the Company filed a Report on Form 8-K to report under Item 5 (Other Events) that on November 6, 2000 the U.S. District Court for the District of Delaware issued a claims construction order in the OGT litigation.

On November 13, 2000, the Company filed a Report on Form 8-K to report under Item 2 (Acquisition or Disposition of Assets) that on October 30, 2000 the Company completed the acquisition of Neomorphic, Inc and under Item 7 the provision of financial statements in connection with the Neomorphic transaction.

On November 30, 2000, the Company filed a Report on Form 8-K to report under Item 5 (Other Events) the Delaware court's scheduling in connection with the OGT litigation.

On December 28, 2000, the Company filed a Report on Form 8-K to report under Item 5 (Other Events) updates to the status of ongoing litigation with OGT in the U.K. and Delaware.

AFFYMETRIX, INC.

Schedule II—Valuation and Qualifying Accounts

(in thousands)

	Balance at Beginning of Period	Charged to Costs and Expenses	Charged to Other Accounts	Deductions	Balance at End of Period
Year Ended December 31, 2000:					
Allowance for doubtful accounts	$1,010	$948	$—	$374	$1,584
Year Ended December 31, 1999:					
Allowance for doubtful accounts	$ 408	$602	$—	$ —	$1,010
Year Ended December 31, 1998:					
Allowance for doubtful accounts	$ 300	$108	$—	$ —	$ 408

SIGNATURES

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

AFFYMETRIX, INC.
(Registrant)

March 30, 2001 By /s/ STEPHEN P.A. FODOR, PH.D.
Stephen P.A. Fodor, Ph.D.
CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER

March 30, 2001 By /s/ EDWARD M. HURWITZ
Edward M. Hurwitz
SENIOR VICE PRESIDENT AND CHIEF FINANCIAL OFFICER (PRINCIPAL FINANCIAL AND ACCOUNTING OFFICER)

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Stephen P.A. Fodor, Ph.D. and Edward M. Hurwitz, or either of them, each with the power of substitution, his attorney-in-fact, to sign any amendments to this Form 10-K (including post-effective amendments), and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that each of said attorneys-in-fact, or his substitute or substitutes, may do or cause to be done by virtue hereof.

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

SIGNATURE	TITLE	DATE
By /s/ STEPHEN P.A. FODOR, PH.D. Stephen P.A. Fodor, Ph.D.	Chairman of the Board and Chief Executive Officer (Principal Executive Officer)	March 30, 2001
By /s/ EDWARD M. HURWITZ Edward M. Hurwitz	Senior Vice President and (Principal Financial and Accounting Officer) Chief Financial Officer	March 30, 2001
By /s/ JOHN D. DIEKMAN, PH.D. John D. Diekman, Ph.D.	Director	March 30, 2001

SIGNATURE		TITLE	DATE
By	/s/ PAUL BERG, PH.D. Paul Berg, Ph.D.	Director	March 30, 2001
By	/s/ VERNON R. LOUCKS, JR. Vernon R. Loucks, Jr.	Director	March 30, 2001
By	/s/ DAVID B. SINGER David B. Singer	Director	March 30, 2001
By	/s/ LUBERT STRYER, M.D. Lubert Stryer, M.D.	Director	March 30, 2001
By	/s/ JOHN A. YOUNG John A. Young	Director	March 30, 2001

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CONSENT OF ERNST & YOUNG LLP, INDEPENDENT AUDITORS

We consent to the incorporation by reference in the Registration Statements (Forms S-3 No. 333-38167, No. 333-82685, No. 333-92577, No. 333-36790 and No. 333-51914) and related prospectuses and in the Registration Statements (Forms S-8 No. 333-11299, No. 333-35287, No. 333-85575, No. 333-34320 and No. 333-52804) pertaining to the 1993 Stock Plan, the 1996 Nonemployee Directors' Stock Option Plan, the 1998 Stock Incentive Plan, the GMS/Affymetrix 1998 Stock Plan and the Affymetrix/Neomorphic, Inc. 1998 Stock Option Plan of Affymetrix, Inc. of our report dated January 29, 2001, except for Note 19, as to which the date is March 23, 2001, with respect to the consolidated financial statements and schedule of Affymetrix, Inc. included in this Annual Report (Form 10-K) for the year ended December 31, 2000.

Palo Alto, California
March 29, 2001