NANOPHASE TECHNOLOGIES CORPORATION
Form 10-K/A
March 17, 2003
Table of Contents

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K/A

AMENDMENT NO. 1

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

For the fiscal year ended December 31, 2001

Commission File Number 0-22333

Nanophase Technologies Corporation

(Exact name of registrant as specified in its charter)

Delaware	**36-3687863**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**

1319 Marquette Drive, Romeoville, Illinois 60446

(Address of principal executive offices) (zip code)

Registrant s telephone number, including area code: (630) 771-6708

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

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

Common Stock, par value $.01 per share

Preferred Stock Purchase Rights

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 x 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. Yes x No ¨

The aggregate market value of the registrant s voting stock held by non-affiliates of the registrant, based upon the last reported sale price of the registrant s Common Stock on March 25, 2002 was $107,500,075.

The number of shares outstanding of the registrant s Common Stock, par value $.01, as of March 25, 2002 was 13,729,256.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant s Definitive Proxy Statement in connection with the registrant s 2002 Annual Meeting of Stockholders are incorporated by reference into Part III of this Report on Form 10-K.

Table of Contents

EXPLANATORY NOTE

The Company is filing this Amendment No. 1 to its annual report on Form 10-K as filed with the Securities and Exchange Commission (SEC) on March 28, 2002, to amend the notes to the financial statements to reflect a change in accounting treatment for revenue from a bill and hold transaction which it recognized originally in the quarter ending March 31, 2001 (the first quarter) and then reversed in the quarter ending September 30, 2001 (the third quarter) as well as the related impact on cost of revenue and selling, general, and administrative expense. This Amendment is filed in response to comments received from the staff of the SEC regarding the Company s accounting treatment of this transaction. This amendment has no effect on the financial condition, net income or cash flows presented in the Company s annual financial statements for the year ended December 31, 2001. Accordingly, in this Form 10-K/A, the Company is amending Note 17 to the financial statements to reflect different quarterly revenue, cost of revenue, selling, general and administrative expenses, and loss per share for the first three quarters of 2001. Cumulatively, these reclassifications have no impact on any of the Company s financial statements for either the nine months ended September 30, 2001 or the twelve months ended December 31, 2001. This Form 10-K/A does not reflect events occurring after the filing of the original Form 10-K, or modify those disclosures in any way other than as required to reflect the effects of the amendment discussed above.

PART I

Item 1. Business

General

Nanotechnology, as practiced by Nanophase Technologies Corporation (Nanophase or the Company), involves creating nanostructured materials by controlling matter at the nanometer-size scale at the level of atoms and molecules. Because these nanostructures are made with molecular building blocks, they can be designed to exhibit novel and significantly improved physical, chemical and mechanical properties.

When the structural features are sized between individual molecules and bulk materials in the range of about 10 to 100 nanometers the objects often display physical attributes substantially different from those found in bulk materials. As a result, the properties of nanocrystalline materials often cannot be predicted from those seen at larger sizes, and nanoparticles can exhibit novel properties. When it is possible to control particle size and shape, it also is possible to enhance material properties and devise functions beyond those normally found in a material.

The Company s objective is to exploit its capabilities to efficiently engineer and manufacture nanocrystalline materials. Nanophase does this by providing value-enhanced solutions for commercial applications in multiple global markets. Recognizing a need to offer enhanced performance and assist customers with their product improvements, Nanophase targets markets in which a practical solution may be found through using nanoengineered products. The Company works closely with leaders in these target markets to identify their material and performance requirements.

Raw materials used in the Company s various processes are usually readily commercially available. Nanophase currently has no significant reliance on sole-source suppliers.

The Company was incorporated in Illinois on November 30, 1989 and merged into a Delaware corporation on November 25, 1997. The Company s Common Stock trades on the Nasdaq National Market under the symbol NANX.

Nanocrystalline Materials

Nanocrystalline materials generally are made of particles that are less than 100 nanometers (billionths of a meter) in diameter. They contain only 1,000s or 10,000s of atoms, rather than the millions or billions of atoms found in larger size particles. The properties of nanocrystalline materials depend upon the composition, size, shape, structure, and surface of the individual particles. Nanophase s methods for engineering and manufacturing nanocrystalline materials result in particles with a controlled size and shape, and surface characteristics that behave differently from conventionally produced larger-sized materials.

The Company s Technologies

Nanophase intends to maintain and grow its intellectual property position in the rapidly emerging science of nanotechnology. The Company uses its technologies to engineer and produce nanocrystalline materials designed for specific product applications. These technologies include methods for the synthesis, surface-treatment and dispersion of nanocrystals. Nanophase also is engaged in ongoing research and technology-licensing activities that add to its core technologies or provide complementary technologies. Management believes that aggressively pursuing applications, inventions and patents will help it maintain a technical and commercial leadership position.

Table of Contents

Marketing

The Company markets and sells its products through a combination of business development and sales activities in close collaborative relationships with one (or sometimes several) lead customer in various markets. Business development activities include evaluation and qualification of potential markets, identification of the lead customers within each market, and development of a business strategy for successful market penetration. Nanophase then forms a technical/marketing team that offers the customer an engineered solution to meet that company s specific requirements. Nanophase tailors materials to provide specific solutions required by its customers. Once a solution is established, application and customer management is moved to a sales team that is organized along market lines. The sales team is expected to increase revenue by selling product and process solutions and broadening the customer base.

The Company leverages its resources through relationships with organizations and individuals focused on market-specific or geography-specific areas. These relationships enhance Nanophase s ability to quickly develop lead customers and applications for its products. For example, to promote a more rapid penetration into Japanese markets, the Company continues to maintain its relationship with C. I. Kasei, a division of Itochu Corporation (CIK). CIK develops, engineers and manufactures products under license from the Company for use in multiple industrial markets.

A limited number of key customers account for a substantial portion of the Company s commercial revenue. In particular, revenue from BASF Corporation (BASF) and CIK constituted approximately 75.5% and 9.4%, respectively, of the Company s 2001 revenue. The Company s customers are significantly larger than, and are able to exert a high degree of influence over, the Company. The loss of one of these key customers or the failure to attract new customers could have a material adverse effect on the Company s business, results of operations and financial condition.

Nanophase has a consulting contract with Dr. Richard W. Siegel, who provides support for business development and marketing activities. Dr. Siegel is currently serving as a Director of the Company. The Company, from time to time, also employs a number of marketing representatives and third-party sales agents focused in specific application areas. Nanophase also markets itself and its capabilities by sponsoring, attending and presenting at advanced materials symposia and industry trade shows for its target markets, and by publishing articles in a variety of scientific and trade journals. The Company also uses its Website, advertises in selected industry and trade journals, and provides specification sheets, corporate journals, and other marketing materials. In addition, Nanophase routinely networks with Fortune 500 companies to display its technology and uncover potential applications.

Technology and Engineering

The Company s Technology and Engineering Group includes the research and development and advanced engineering functions. The near-term objective of Nanophase s research and process-development activities is to gather core technologies that have the capability to serve multiple markets commercially and provide the technical basis for significant company growth.

Nanophase s total research and development expense, which includes all expense relating to the technology and advanced engineering group, during the years ended December 31, 2001, 2000 and 1999 were $1,601,671, $1,837,036, and $1,456,126, respectively. The Company s future success will depend in large part upon its ability to keep pace with evolving advanced materials technologies and industry standards, and the Company may be unable to do so. Through the five-year period ended December 31, 2001, the Company has had cumulative research and

development expenses of approximately $7.4 million and cumulative expenditures on equipment and leasehold improvements of approximately $9.3 million. These investments in technology and production capacity and capability have helped to take Nanophase from a development stage company to commercialization.

Table of Contents

Intellectual Property and Proprietary Rights

Nanophase relies on a combination of copyright, trademark, trade secret and other intellectual property law, nondisclosure agreements and other protective measures to protect its intellectual property. In addition to obtaining patent and trademarks based on the Company s inventions and products, Nanophase also licenses third-party patents to expand its technology base. The Company currently owns or licenses 20 United States and and patent applications and 18 foreign patents and patent applications, all of which are counterparts to domestic filings. Nanophase s intellectual property rights, however, could be challenged, invalidated or circumvented. The Company does not believe that its products or processes infringe the intellectual property rights of others, but such claims, if they are established, could result in material liabilities or loss of business.

The Company requires its employees, consultants, outside scientific collaborators and other advisors to sign confidentiality and, when appropriate, non-compete agreements when their employment or consulting relationships begin. These agreements generally provide that all confidential information developed or made known to the individual during the course of that person s relationship with the Company will be kept confidential, and not be disclosed to third parties except in specific circumstances. In the case of research employees, the agreements also provide that all inventions made by the individual shall be the exclusive property of Nanophase. There can be no assurance, however, that these agreements will provide meaningful protection for the Company s trade secrets, know-how or patent rights, or will provide Nanophase with adequate remedies in the event of unauthorized use or disclosure of such information. In addition, the Company s employees who have not entered into non-compete agreements may become competitors when their employment at Nanophase ends.

Competition

Within each of its targeted markets and product applications, Nanophase faces current and potential competition from many advanced materials and chemical companies, as well as the in-house capabilities of several of its current and potential customers. In many markets, the Company has major competitors, some of which are larger and more diversified than the Company. Although management believes its materials and technologies are superior to those of its competitors, competitive companies pose significant risks to Nanophase because they may have substantially greater financial and technical resources, larger research and development staffs, and greater manufacturing and marketing capabilities.

In addition, the number of development-stage companies involved in nanocrystalline materials continues to grow posing significant and increasing competitive risks. Many of these companies are associated with university or national laboratories, and use chemical and physical methods to produce nanocrystalline materials. Management believes that most of these companies are engaged primarily in funded research, and is not aware that any of them have commercial production capability; however, they may represent significant competitive risks in the future.

Governmental Regulations

The manufacture and use of certain of the products that contain the Company s nanocrystalline materials are subject to governmental regulation. As a result, the Company is required to adhere to the current Good Manufacturing Practices (cGMP) requirements of the U.S. Food and Drug Administration (FDA) and similar regulations in other countries that include testing, control and documentation requirements enforced by periodic inspections.

In addition, the Company s facilities and all of its operations are subject to the plant and laboratory safety requirements of various occupational safety and health laws. To date, those regulations have not materially restricted or impeded operations.

Table of Contents

Employees

On December 31, 2001, the Company had a total of 51 full-time employees, 14 of whom hold advanced degrees. In the first quarter of 2001, the Company hired Robert Haines, an experienced vice president of operations, to improve its manufacturing and related operations. Nanophase has no collective bargaining arrangements.

Forward-Looking Statements

Nanophase Technologies Corporation wants to provide investors with more meaningful and useful information. As a result, this Annual Report on Form 10-K (the Form 10-K) contains and incorporates by reference certain forward-looking statements , as defined in Section 21E of the Securities Exchange Act of 1934, as amended. These statements reflect the Company s current expectations on the future results of its operations, performance and achievements. Forward-looking statements are covered under the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Nanophase has tried, wherever possible, to identify these statements by using words such as anticipates , believes , estimates , expects , plans , intends and similar expressions. These statements reflect management s current beliefs and are based on information now available to it. Accordingly, these statements are subject to certain risks, uncertainties and contingencies that could cause the Company s actual results, performance or achievements in 2002 and beyond to differ materially from those expressed in, or implied by, what appears here. These risks, uncertainties and contingencies include, without limitation, demand for and acceptance of the Company s nanocrystalline materials; the Company s dependence on a limited number of key customers; the Company s limited manufacturing capacity and experience; the Company s limited marketing experience; changes in development and distribution relationships; the impact of competitive products and technologies; the Company s dependence on patents and protection of proprietary information; the resolution of litigation in which the Company is involved; and other risks set forth under the Company s previous filings with the Securities and Exchange Commission. In addition, the continuing impact of the September 11, 2001 terrorist attacks and subsequent related events on the global economy and international political conditions also may be an important factor or make the occurrence of one or more of the aforementioned factors more likely. Readers of this Annual Report on Form 10-K should not place undue reliance on any forward-looking statements. Except as required by federal securities laws, the Company undertakes no obligation to update or revise these forward-looking statements to reflect new events or uncertainities.

Item 2. Properties

Nanophase operates a 36,000 square-foot production, research and headquarters facility in Romeoville, Illinois and a 20,000 square-foot production facility in Burr Ridge, Illinois, both are Chicago suburbs. The Company also leases offsite warehouse space from time to time. The Company s operations in Burr Ridge are registered under ISO 9001, and management believes that its manufacturing operations are in compliance with the cGMP requirements of the FDA.

The Romeoville facility houses the Company s headquarters, advanced manufacturing function (surface treatment and pilot-scale manufacturing) and research and development laboratories, and will be used for additional commercial manufacturing space in 2002. Nanophase leases its Romeoville facility under an agreement whose initial term will expire in July 2006, with an option to extend the lease for two additional periods of five years each. The Burr Ridge facility has a quality control laboratory designed for the dual purposes of validating operations to cGMP and ISO standards, and production process control. This laboratory is equipped to handle many routine analytical and in-process techniques the Company currently requires. Nanophase leases its Burr Ridge facility under an agreement whose initial term expired in September 1999. The Company has options to extend the lease for up to five additional one-year terms and is currently in the third additional one-year term, which expires in September 2002.

5

Table of Contents

Management believes that the Company s leased facilities provide sufficient capacity to fulfill current known customer demand as well as providing additional space to enable expansion of key production processes. Management also believes that the Company s capital expenditures in 2001 will support currently anticipated demand from existing customers. The Company s actual future capacity requirements will depend on many factors, including new and potential customer acceptance of the Company s current and potential nanocrystalline materials and product applications, unknown and currently unplanned growth from existing customers, continued progress in the Company s research and development activities and product testing programs, and the magnitude of these activities and programs.

Item 3. Legal Proceedings

See Note 18 to the Financial Statements for additional information.

Item 4. Submission of Matters to a Vote of Security Holders

No matters were submitted to a vote of the Company s security holders during the fourth quarter of 2001.

Table of Contents

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 under the symbol NANX. The following table sets forth, for the periods indicated, the range of high and low sale prices for the Common Stock on the Nasdaq National Market:

	High	Low
Fiscal year ending December 31, 2001:		
First Quarter	$ 12.69	$ 5.25
Second Quarter	12.14	5.50
Third Quarter	10.99	3.91
Fourth Quarter	7.00	3.66
Fiscal year ending December 31, 2000:		
First Quarter	$ 22.06	$ 4.31
Second Quarter	16.69	5.50
Third Quarter	17.50	8.13
Fourth Quarter	15.25	8.38

On March 25, 2002, the last reported sale price of the Common Stock was $7.83 per share, and there were approximately 133 holders of record of the Common Stock.

The Company has never declared or paid any cash dividends on its Common Stock and does not currently anticipate paying any cash dividends or other distributions on its Common Stock in the foreseeable future. The Company intends instead to retain any future earnings for reinvestment in its business. Any future determination to pay cash dividends will be at the discretion of the Company s Board of Directors and will be dependent upon the Company s financial condition, results of operations, capital requirements and such other factors deemed relevant by the Board of Directors.

On August 25, 1999, the Company issued 24,500 shares of Common Stock to Joseph Cross, the Company s Chief Executive Officer, as part of an arrangement made to induce Mr. Cross to join the Company as its Chief Executive Officer. Effective January 2000, the Company granted 3,177 shares of Common Stock to each of the following directors of the Company for services performed in their capacity as directors: Donald Perkins, Edward Hagenlocker, Jerry Pearlman and Richard Siegel. Effective January 2001, the Company granted 1,361 shares of Common Stock to each of the following directors of the Company for services performed in their capacity as directors: Donald Perkins, Edward Hagenlocker, James McClung, Jerry Pearlman and Richard Siegel. Effective January 2002, the Company granted 2,540 shares of Common Stock to each of the following directors of the Company for services performed in their capacity as directors: Donald Perkins, James Henderson, James McClung, Jerry Pearlman, and Richard Siegel. Each of the preceding issuances were made in reliance on the exemption from registration found in section 4(2) of the Securities Act of 1933.

On November 26, 1997 the Company s Registration Statement on Form S-1 (File No. 333-36937) relating to the Company s initial public offering of common stock (the Offering) was declared effective by the Securities and Exchange Commission. Since the effective date, of its $28,837,936

of net proceeds from the Offering, the Company has used approximately $9,237,000 for capital expenditures primarily related to the further expansion of the Company s existing manufacturing facility and the purchase of operating equipment and approximately $12,175,000 for working capital and other general corporate purposes. The remainder of the net proceeds has been invested by the Company, pending its use, in short-term, investment grade, interest-bearing obligations. At December 31, 2001, the Company had approximately $7,426,000 in cash, cash equivalents and investments.

Table of Contents

Item 6. Selected Financial Data

The following selected financial data is qualified by reference to, and should be read in conjunction with, the financial statements and related notes thereto appearing elsewhere in this Form 10-K and Item 7. Management s Discussion and Analysis of Financial Condition and Results of Operations. The selected financial data set forth below as of, and for, each of the years in the five-year period ended December 31, 2001 have been derived from the audited financial statements of the Company.

	Years Ended December 31,				
	2001	2000	1999	1998	1997
Statement of Operations Data:					
Product revenue	$ 3,650,914	$ 3,824,159	$ 1,128,861	$ 1,140,845	$ 924,763
Other revenue	388,555	449,194	295,986	162,944	2,798,729
Total revenue	4,039,469	4,273,353	1,424,847	1,303,789	3,723,492
Cost of revenue	4,890,697	4,754,485	2,610,667	3,221,996	3,935,766
Research and development expense	1,601,671	1,837,036	1,456,126	1,504,127	990,331
Selling, general and administrative expense	3,798,543	3,388,758	3,641,736	3,594,946	2,074,728
Total operating expense	10,290,911	9,980,279	7,708,529	8,321,069	7,000,825
Operating loss	(6,251,442)	(5,706,926)	(6,283,682)	(7,017,280)	(3,277,333)
Interest income	585,782	1,234,054	1,213,448	1,539,400	204,863
Interest expense	(33,485)	(3,455)			
Other, net	(11,098)	(42,000)	(46,833)		
Provision for income taxes	(30,000)			(156,000)	
Net loss	$ (5,740,243)	$ (4,518,327)	$ (5,117,067)	$ (5,633,880)	$ (3,072,470)
Net loss per share-basic and diluted	$ (0.42)	$ (0.34)	$ (0.40)	$ (0.45)	
Shares used in computing the net loss per share	13,667,062	13,390,741	12,690,483	12,416,305	

	As of December 31,				
	2001	2000	1999	1998	1997
Balance Sheet Data:					
Cash and cash equivalents	$ 582,579	$ 473,036	$ 624,509	$ 363,394	$ 3,988,368
Working capital	7,215,520	18,356,349	21,831,264	26,535,018	32,038,915
Total assets	19,184,388	23,830,163	25,677,539	30,453,988	36,196,569
Long-term obligations	812,390	827,984			
Total stockholders equity	15,643,618	21,007,745	24,161,323	29,107,590	34,651,334

8

Table of Contents

Item 7. Management s Discussion and Analysis of Financial Condition and Results of Operations

The following discussion and analysis should be read in conjunction with Item 6. Selected Financial Data, risks discussed in other filings made by the Company with the Securities and Exchange Commission, and the financial statements and related notes thereto appearing elsewhere in this Form 10-K. When used in the following discussions, the words anticipates, believes, estimates, expects, plans, intends and similar expressions are intended to identify forward-looking statements. Such statements are subject to certain risks, uncertainties and contingencies that could cause actual results, performance or achievements to differ materially from those expressed in, or implied by, such statements.

Overview

From its inception in November 1989 through December 31, 1996, the Company was in the development stage. During that period, the Company primarily focused on the development of its manufacturing processes in order to transition from laboratory-scale to commercial-scale production. As a result, the Company developed an operating capacity to produce significant quantities of its nanocrystalline materials for commercial sale. The Company was also engaged in the development of commercial applications and formulations and the recruiting of marketing, technical and administrative personnel. Since January 1, 1997, the Company has been engaged in commercial production and sales of its nanocrystalline materials, and the Company no longer considers itself in the development stage. All of the Company s revenue since January 1, 1997 has been generated through commercial sources. From inception through December 31, 2001, the Company was primarily capitalized through the private offering of approximately $19,558,000 of equity securities and its initial public offering of $28,838,000 of Common Stock, each net of issuance costs. The Company has incurred cumulative losses of $34,754,188 from inception through December 31, 2001.

Results of Operations

Years Ended December 31, 2001 and 2000

Product revenue is recorded when title transfers. Other revenue is recorded when specific milestones are met regarding development arrangements or when the Company licenses its technology and transfers proprietary information. Total revenue decreased to $4,039,469 in 2001, compared to $4,273,353 in 2000. The decrease in total revenue between 2001 and 2000 was principally due to soft customer demand and extended times to market given the general state of the manufacturing economy, exacerbated by the terrorist attack on the United States of America on September 11, 2001. Product revenue decreased to $3,650,914 in 2001, compared to $3,824,159 in 2000. Other revenue decreased to $388,555 in 2001, compared to $449,194 in 2000. Revenue from two major customers constituted approximately 84.9% of the Company s 2001 revenue. In particular, revenue from BASF and CIK constituted approximately 75.5% and 9.4%, respectively, of the Company s 2001 revenue.

Cost of revenue generally includes costs associated with commercial production, customer development arrangements and licensing fees. Cost of revenue increased to $4,890,697 in 2001, compared to $4,754,485 in 2000.The increase in cost of revenue was primary attrib