

NANOPHASE TECHNOLOGIES CORPORATION  
Form 10-Q  
November 08, 2007  
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## SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

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### Form 10-Q

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

**For the Quarterly Period Ended: September 30, 2007**

**Commission File Number: 0-22333**

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## Nanophase Technologies Corporation

(Exact name of registrant as specified in its charter)

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**Delaware**  
(State or other jurisdiction of

incorporation or organization)

**1319 Marquette Drive, Romeoville, Illinois 60446**

(Address of principal executive offices, and zip code)

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

**36-3687863**  
(I.R.S. Employer

Identification No.)

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, or a non-accelerated filer. See definition of accelerated filer and large accelerated filer in Rule 12B-2 of the Exchange Act. (Check one):

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Large accelerated filer  Accelerated filer  Non-accelerated filer

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

On November 6, 2007, there were 21,082,812 shares of common stock outstanding, par value \$.01, of the registrant.

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**NANOPHASE TECHNOLOGIES CORPORATION**

**QUARTER ENDED September 30, 2007**

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**Table of Contents****PART I FINANCIAL INFORMATION****Item 1. Financial Statements****NANOPHASE TECHNOLOGIES CORPORATION****BALANCE SHEETS****(Unaudited)**

	September 30, 2007	December 31, 2006
<b>ASSETS</b>		
<b>Current assets:</b>		
Cash and cash equivalents	\$ 563,582	\$ 132,387
Investments	16,513,125	8,434,793
Trade accounts receivable, less allowance for doubtful accounts of \$13,000 and \$22,000 on September 30, 2007 and December 31, 2006, respectively	1,481,018	1,459,391
Inventories, net	1,660,335	923,223
Prepaid expenses and other current assets	442,722	534,407
Total current assets	20,660,782	11,484,201
Equipment and leasehold improvements, net	7,601,479	7,608,326
Other assets, net	777,763	651,218
	\$ 29,040,024	\$ 19,743,745
<b>LIABILITIES AND STOCKHOLDERS EQUITY</b>		
<b>Current liabilities:</b>		
Current portion of deferred other revenue	127,273	127,273
Current portion of capital lease obligations	42,150	32,972
Accounts payable	659,172	478,694
Accrued expenses	1,551,834	1,643,585
Total current liabilities	2,380,429	2,282,524
Long-term debt, less current maturities and unamortized debt discount	1,478,956	1,383,707
Long-term portion of capital lease obligations	42,575	50,552
Deferred other revenue, less current portion	106,061	201,515
	1,627,592	1,635,774
<b>Contingent liabilities:</b>		
<b>Stockholders equity:</b>		
Preferred stock, \$.01 par value, 24,088 shares authorized and no shares issued and outstanding		
Common stock, \$.01 par value, 30,000,000 shares authorized; 21,063,500 and 18,995,581 shares issued and outstanding on September 30, 2007 and December 31, 2006, respectively	210,635	189,956
Additional paid-in capital	89,995,439	78,380,962
Accumulated deficit	(65,174,071)	(62,745,471)

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Total stockholders equity	25,032,003	15,825,447
	\$ 29,040,024	\$ 19,743,745

*See Notes to Financial Statements.*

**Table of Contents****NANOPHASE TECHNOLOGIES CORPORATION****STATEMENTS OF OPERATIONS****(Unaudited)**

	<b>Three months ended September 30,</b>		<b>Nine months ended September 30,</b>	
	<b>2007</b>	<b>2006</b>	<b>2007</b>	<b>2006</b>
<b>Revenue:</b>				
Product revenue, net	\$ 2,442,890	\$ 2,329,738	\$ 9,252,306	\$ 6,546,100
Other revenue	111,233	96,052	333,762	276,161
Total revenue	2,554,123	2,425,790	9,586,068	6,822,261
<b>Operating expense:</b>				
Cost of revenue	2,012,938	1,705,725	6,817,462	5,220,154
Gross profit	541,185	720,065	2,768,606	1,602,107
Research and development expense	405,650	550,208	1,379,819	1,584,487
Selling, general and administrative expense	1,296,510	1,143,530	4,067,727	3,772,388
Loss from operations	(1,160,975)	(973,673)	(2,678,940)	(3,754,768)
Interest income	232,605	90,563	421,434	248,045
Interest expense	(34,968)	(32,275)	(102,188)	(93,889)
Other (expense) income, net	191	(328)	(68,906)	2,655
Loss before provision for income taxes	(963,147)	(915,713)	(2,428,600)	(3,597,957)
Provisions for income taxes				
Net loss	\$ (963,147)	\$ (915,713)	\$ (2,428,600)	\$ (3,597,957)
Net loss per share basic and diluted	\$ (0.05)	\$ (0.05)	\$ (0.12)	\$ (0.20)
Weighted average number of common shares outstanding	20,962,150	18,380,334	19,686,578	18,128,994

*See Notes to Financial Statements.*

**Table of Contents****NANOPHASE TECHNOLOGIES CORPORATION****STATEMENTS OF CASH FLOWS****(Unaudited)**

	Nine months ending September 30,	
	2007	2006
<b>Operating activities:</b>		
Net loss	\$ (2,428,600)	\$ (3,597,957)
Adjustment to reconcile net loss to net cash (used in) operating activities:		
Depreciation and amortization	1,073,611	921,366
Amortization of debt discount	95,248	87,139
Amortization of deferred revenue	(95,454)	
Stock compensation expense	413,597	444,901
Allowance for excess inventory quantities	26,179	(247,841)
Loss on disposal of equipment		6,128
Equipment write-off	69,587	
Patent write-off		111,162
Changes in assets and liabilities related to operations:		
Trade accounts receivable	(21,627)	(118,301)
Other receivable		(32,175)
Inventories	(763,291)	98,591
Prepaid expenses and other assets	91,685	140,735
Accounts payable	116,389	299,720
Accrued liabilities	(95,855)	357,670
Net cash used in operating activities	(1,518,531)	(1,528,862)
<b>Investing activities:</b>		
Proceeds for disposal of equipment	8,100	
Acquisition of equipment and leasehold improvements	(954,588)	(1,970,394)
Acquisition of patents	(157,414)	(112,023)
Payment of accounts payable incurred for the purchase of equipment and leasehold improvements	(60,900)	14,121
Purchases of held-to-maturity investments	(91,353,618)	(60,851,356)
Sales of held-to maturity investments	83,275,286	59,503,311
Net cash used in investing activities	(9,243,134)	(3,416,341)
<b>Financing activities:</b>		
Principal payment on debt obligation, including capital leases	(28,699)	(11,284)
Proceeds from borrowing		102,600
Proceeds from sale of common stock, net, and exercise of stock options	11,221,559	5,215,696
Net cash provided by financing activities	11,192,860	5,307,012
Increase in cash and cash equivalents	431,195	361,809
Cash and cash equivalents at beginning of period	132,387	340,860
Cash and cash equivalents at end of period	\$ 563,582	\$ 702,669

**Supplemental cash flow information:**

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Interest paid	\$	6,938	\$	6,750
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**Supplemental non-cash investing and financing activities:**

Accounts receivable paid through offset of long-term debt	\$		\$	220,254
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Accounts payable incurred for the purchase of equipment and leasehold improvements	\$	124,989	\$	95,083
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*See Notes to Financial Statements.*



**Table of Contents****NANOPHASE TECHNOLOGIES CORPORATION****NOTES TO FINANCIAL STATEMENTS****(Unaudited)****(1) Basis of Presentation**

The accompanying unaudited interim financial statements of Nanophase Technologies Corporation (the Company) reflect all adjustments (consisting of normal recurring adjustments) which, in the opinion of management, are necessary for a fair presentation of the financial position and operating results of the Company for the interim periods presented. Operating results for the three and nine month periods ended September 30, 2007 are not necessarily indicative of the results that may be expected for the year ended December 31, 2007.

These financial statements should be read in conjunction with the Company's audited financial statements and notes thereto for the year ended December 31, 2006, included in the Company's Annual Report on Form 10-K for the year ended December 31, 2006, as filed with the Securities and Exchange Commission.

**(2) Description of Business**

Nanophase is a nanomaterials developer and commercial manufacturer with an integrated family of nanomaterial technologies. Nanophase produces engineered nanomaterial products for use in a variety of diverse existing and developing markets: sunscreens, personal care, architectural coatings, industrial coating ingredients, abrasion-resistant applications, plastic additives, water filtration, DNA biosensors, antimicrobial products and a variety of polishing applications, including semiconductors and optics. New markets and applications are also being developed. Nanophase targets markets in which it feels practical solutions may be found using nanoengineered products. The Company works with leaders in these targeted markets to identify and supply their material and performance requirements. The Company was incorporated in Illinois on November 25, 1989, and became a Delaware corporation on November 30, 1997. The Company's common stock trades on the NASDAQ Global Market under the symbol NANX.

The Company also recognizes regular other revenue in connection with its promissory note to BYK Chemie and from a technology license. These activities are not expected to drive the long-term growth of the business. Both the deferred and license revenue are recognized as other revenue in the Company's Statement of Operations, as they do not represent revenue directly from the Company's nanocrystalline materials.

**(3) Inventories**

Inventories consist of the following:

	<b>September 30, 2007</b>	<b>December 31, 2006</b>
Raw materials	\$ 355,367	\$ 173,750
Finished goods	1,674,501	1,092,827
	2,029,868	1,266,577
Allowance for excess inventory quantities	(369,533)	(343,354)
	<b>\$ 1,660,335</b>	<b>\$ 923,223</b>

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**(4) Income Taxes**

In July 2006, the Financial Accounting Standards Board (the "FASB") issued Interpretation No. 48 ("FIN 48"), Accounting for Uncertainty in Income Taxes, an interpretation of FASB Statement No. 109. FIN 48 clarifies the accounting for income taxes by prescribing the minimum recognition threshold a tax position is required to meet before being recognized in the financial statements. FIN 48 also provides guidance on derecognition, measurement, classification, interest and penalties, accounting in interim periods, disclosure and transition. FIN 48 applies to all tax positions related to income taxes. On January 1, 2007, the Company adopted the provisions of FIN 48. The Company has not recorded a reserve for any tax positions for which the ultimate deductibility is highly certain but for which there is uncertainty about the timing of such deductibility. The Company files tax returns in all appropriate jurisdictions, which include a federal tax return and Illinois state tax return. Open tax years for both jurisdictions are 2003 to 2005, which statutes expire in 2007 to 2009, respectively. When and if applicable, potential interest and penalty costs are expensed as incurred. As of September 30, 2007, the Company has no liability for unrecognized tax benefits. The adoption and implementation of FIN 48 had no effect on the Company's loss from operations, net loss or basic and diluted loss per share for the period ended September 30, 2007.

**(5) Share-Based Compensation**

Compensation expense is recognized only for share-based payments expected to vest. The Company estimates forfeitures at the date of grant based on the Company's historical experience and future expectations. The fair value of restricted stock awards is based on the fair value of the Company's stock on date of grant. The Company recognizes compensation expense on a straight-line basis.

Employees Stock Options and Stock Grants

During the nine months ended September 30, 2007, 149,931 shares of Common Stock were issued pursuant to option exercises compared to 88,485 shares for the same period in 2006. For the nine months ended September 30, 2007, 110,000 shares of stock options were granted compared to 201,000 for the same period in 2006. For the nine months ended September 30, 2007, 259,938 shares of stock options were forfeited compared to 6,396 shares for the same period in 2006. For the nine months ended September 30, 2007, 17,988 shares were issued in the form of restricted stock grant to the Company's outside directors compared to 16,482 shares for the same period in 2006.

Restricted Stock

For the three months ended September 30, 2007 and 2006, the Company was to grant each outside director 979 and 852 shares of deferred common stock totaling 6,874 and 5,112 shares compared to 17,988 and 16,482 shares for the nine months ended September 30, 2007 and 2006, respectively, under the Company's 2005 Non-Employee Director Restricted Stock Plan. However, each outside director elected to defer receipt of the restricted stock until the termination of their services to the Company. The deferral of restricted stock is being accounted for under the Company's Non-Employee Director Deferred Compensation Plan. The fair value of the awards granted was \$36,000 and \$108,000 for the restricted share rights and is included in stock-based compensation expense for the three and nine months ending September 30, 2007 and 2006, respectively.

On September 27, 2005, the Company granted 33,333 shares of restricted stock rights at market value consisting of 16,666 restricted share rights and 16,667 performance share rights. The restricted share rights vest in lump sum or cliff vest on September 27, 2008, provided the grantee has not terminated service prior to the vesting date. The performance share rights also vest in lump sum or cliff vest on January 30, 2009 provided a certain performance goal or milestone is achieved on or before January 30, 2009 and the grantee has not terminated service prior to January 30, 2009. For the three and nine months ended September 30, 2007, the stock-based compensation expense was \$3,697 and \$9,002 for the restricted share rights compared to \$7,740 and \$22,883 for the same periods in 2006. For the three and nine months ended September 30, 2007, the stock-based compensation expense was \$7,082

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and \$11,198 for the performance share rights compared to \$2,765 and \$20,455 for the same periods in 2006 totaling \$20,200 and \$43,338 in stock-based compensation expense for the nine months ending September 30, 2007 and 2006, respectively.

On October 11, 2004, the Company granted 33,333 shares of restricted stock rights at market value consisting of 16,666 restricted share rights and 16,667 performance share rights. The restricted share rights vest in lump sum or cliff vest on October 30, 2007, provided the grantee has not terminated service prior to the vesting date. The performance share rights terminated due to the Company not meeting certain performance goals or milestones on or before October 30, 2007. For the three and nine months ended September 30, 2007, the stock-based compensation expense was \$2,124 and \$4,957 for the restricted share rights compared to \$6,927 and \$20,703 for the same periods in 2006. For the three and nine months ended September 30, 2007, the stock-based compensation (income) expense was (\$71,184) and (\$66,401) for the performance share rights compared to (\$2,797) and \$21,758 for the same periods in 2006 totaling (\$61,444) and \$42,461 in stock-based compensation (income) expense for the nine months ending September 30, 2007 and 2006, respectively.

The following table summarizes the Company's share-based compensation relating to option awards during the three and nine months ended September 30, 2007 and 2006:

	For the three months ended September 30, 2007		For the nine months ended September 30, 2006	
Total share-based compensation expense	\$ 122,199	\$ 68,704	\$ 346,841	\$ 251,102
Weighted average grant date fair value, options			\$ 3.71	\$ 3.60
Weighted average grant date fair value, restricted stock				
Total unrecognized compensation cost	\$ 907,000	\$ 1,013,000	\$ 838,000	\$ 1,022,000
Remaining weighted average period cost will be recognized over	6.72 years	6.71 years	6.72 years	6.71 years
Proceeds from option exercises	\$ 328,160	\$ 228,707	\$ 652,136	\$ 282,961
Intrinsic value of option exercises	\$ 188,791	\$ 204,264	\$ 337,677	\$ 315,461

**(6) Significant Customers and Contingencies**

Revenue from three customers constituted approximately 48%, 21% and 15% for the three months ended September 30, 2007, compared to 45%, 29% and 14% of the Company's total revenue for the nine months ended September 30, 2007. Amounts included in accounts receivable on September 30, 2007 relating to these three customers were approximately \$623,000 \$193,000 and \$255,000, respectively. Revenue from these three customers constituted approximately 36%, 44% and 1% of the Company's total revenue for the three months ended September 30, 2006, compared to 57%, 24% and 2% for the nine months ended September 30, 2006. Amounts included in accounts receivable on September 30, 2006 relating to these three customers were approximately \$547,000, \$0 and \$64,000, respectively.

The Company currently has supply agreements with BASF Corporation ( BASF ), the Company's largest customer, and Rohm and Haas Electronic Materials CMP, Inc. ( RHEM ), that have contingencies outlined in them which could potentially result in the license of technology and/or the sale of production equipment, providing capacity sufficient to meet the customer's production needs, from the Company to the customer, if triggered by the Company's failure to meet certain performance requirements and/or certain financial condition covenants. The financial condition covenants in one of the Company's supply agreement with its largest customer, as amended, triggers a technology transfer (license or, optionally, an equipment sale) in the event (a) that earnings of the Company for a twelve month period ending with its most recently published quarterly financial statements are less than zero and its cash, cash equivalents and investments are less than \$2,000,000, (b) of an acceleration of any debt

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maturity having a principal amount of more than \$10,000,000, or (c) of the Company's insolvency, as further defined within the agreement. In the event of an equipment sale, upon incurring a triggering event, the equipment would be sold to the customer at 115% of the equipment's net book value. Under another of the Company's supply agreements with BASF, upon the Company's breach of its contractual obligations to BASF, the Company would be required to sell BASF certain production equipment at the greater of 30% of the original book value of such equipment, and any associated upgrades to it, or 115% of the equipment's net book value.

The Company believes that it has sufficient cash and investment balances to avoid the first triggering event for the foreseeable future. If a triggering event were to occur and BASF elected to proceed with the license and related sale mentioned above, the Company would receive royalty payments from this customer for products sold using the Company's technology; however, the Company would lose both significant revenue and the ability to generate significant revenue to replace that which was lost in the near term. Replacement of necessary equipment that could be purchased and removed by the customer pursuant to this triggering event could take in excess of twelve months. Any additional capital outlays required to rebuild capacity would probably be greater than the proceeds from the purchase of the assets as dictated by the Company's agreement with the customer. Such an event would also result in the loss of many of the Company's key staff and line employees due to economic realities. The Company believes that its employees are a critical component of its success and could be difficult to replace and train quickly. Given the occurrence of such an event, the Company might not be able to hire and retain skilled employees given the stigma relating to such an event and its impact on the Company.

**(7) Business Segmentation and Geographical Distribution**

Revenue from international sources approximated \$150,000 and \$556,000 for the three and nine months ended September 30, 2007, compared to \$135,500 and \$455,000 for the same periods in 2006. As part of its revenue from international sources, the Company recognized approximately \$198,000 in product revenue from several German companies and \$225,000 in other revenue from a technology license fee from its Japanese licensee for the nine months ended September 30, 2007 compared to \$191,000 and \$225,000 for the same period in 2006, respectively.

The Company's operations comprise a single business segment and all of the Company's long-lived assets are located within the United States.

**(8) Administrative Actions**

In February 2004, an unidentified party filed a Request for Reexamination of US Patent No. 6,669,823 B1 in the U.S. Patent and Trademark Office, or USPTO. US Patent No. 6,669,823 B1 relates to certain parts of one of the Company's nanoparticle manufacturing processes, NanoArc Synthesis. The Company subsequently received notice that the USPTO had granted the Request for Reexamination. The reexamination process is provided for by law and provides that the USPTO consider the validity of the patent based on substantial new questions of patentability raised by a third party or the USPTO. After the Company filed a patent owner's statement and the third party filed its reply, the USPTO issued an Office Action rejecting all the claims of the patent. In September 2005, the Company submitted its response to the Office Action, which included two new patent claims. Thereafter, the same unidentified third party referenced above filed a second Request for Reexamination, which the USPTO dismissed on procedural grounds. Subsequently, the Company filed certain amendments to the patent claims in a supplemental amendment. A third Request for Reexamination was then subsequently filed. The USPTO granted the third Request and merged the first and third Reexamination proceedings. After the Company filed a patent owner's statement and the third party filed its reply, the USPTO issued an Office Action rejecting all the claims in the patent. The Company then filed its response to the Office Action in November 2006. In June 2007, the USPTO issued a Final Office Action in which the Examiner rejected all the claims of the patent. In August 2007, the Company timely filed its Notice of Appeal to appeal the Examiner's final rejection of the claims to the USPTO Board of Patent Appeals and Interferences. In October 2007, the Company determined that it would not proceed with the appeal because the Company believed that at least one of the Examiner's multiple rejections of the Company's claims in the patent likely would be affirmed on appeal. The Company's election not to proceed with the appeal will result in the USPTO eventually issuing a reexamination certificate rejecting all the claims in the patent. As a result, certain parts of the Company's NanoArc Synthesis nanoparticle manufacturing process no longer will be covered by the legal protection afforded by the patent.

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However, given the significant parts of the Company's NanoArc Synthesis nanoparticle manufacturing process that remain legally protected as trade secrets, and the Company's options to subsequently file a continuation application with the USPTO to obtain patent protection for certain other parts of this invention, the Company believes that the likelihood of a material loss arising from the reexamination proceedings is remote.

### **(9) New Accounting Pronouncements**

In February 2007, the FASB issued SFAS 159, *The Fair Value Option for Financial Assets and Financial Liabilities*. SFAS 159 permits entities to choose to measure many financial instruments and certain other items at fair value at specified election dates. Under SFAS 159, a business entity shall report unrealized gains and losses on items for which the fair value option has been elected in earnings (or another performance indicator if the business entity does not report earnings) at each subsequent reporting date. SFAS 159 also establishes presentation and disclosure requirements designed to facilitate comparisons between entities that choose different measurement attributes for similar types of assets and liabilities. This Statement is effective for fiscal years beginning after November 15, 2007. The Company does not believe that adoption of SFAS 159 will have a material effect on its financial statements.

In September 2006, the FASB issued SFAS 157, *Fair Value Measurements*. SFAS 157 defines fair value, establishes a framework for measuring fair value and expands disclosures about fair value measurements. The requirements of SFAS 157 are effective for financial statements issued for fiscal years beginning after November 15, 2007. The Company does not believe that adoption of SFAS 157 will have a material effect on its financial statements.

### **(10) Stockholders Equity**

On July 2, 2007, the Company issued and sold 1,900,000 shares of common stock pursuant to a registration statement filed on May 22, 2007 and declared effective by the SEC on May 31, 2007 to certain institutional investors at a purchase price of \$5.92 per share, for an aggregate purchase price of \$11.2 million and net proceeds of approximately \$10.6 million after deducting the placement agency commission and all estimated offering expenses that were paid by the Company.

## **Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations Overview**

Nanophase is a nanomaterials developer and commercial manufacturer with an integrated family of nanomaterial technologies. Nanophase produces engineered nanomaterials for use in a variety of diverse markets: sunscreens, architectural coatings, industrial coatings, ingredients, personal care, abrasion-resistant applications, antimicrobial products, plastics additives, water filtration, DNA biosensors and a variety of polishing applications, including semiconductors and optics. The Company targets markets in which it feels practical solutions may be found using nanoengineered products. The Company works closely with leaders in these target markets to identify their material and performance requirements and market its own materials to various end-use applications manufacturers. Newer developed technologies have made certain new products possible and opened potential new markets. With the commercialization of the Company's NanoArc synthesis and new dispersion technologies in 2002, and the expansion of these capabilities in 2003 and 2004, Nanophase is focusing on penetrating the chemical-mechanical-planarization (CMP) and fine polishing markets. CMP is the process of polishing various types of integrated circuits or chips to be used in various commercial electronics applications. Management believes that the Company's inroads in the CMP and fine polishing markets would have been very difficult without the Company being able to produce its materials to exacting specifications verified by in-house and customer-based testing. Management expects growth in end-user (customers of Nanophase's customers) adoption through 2007 and beyond and revenue growth in both of these areas to follow in 2008. Additionally, the Company feels that its exclusive relationship with Altana Chemie AG (Altana), a global ingredients supplier to various coatings industries, may lead to growth in several of its abrasion-resistant applications in the marketplace. In May of 2005, BASF announced the introduction of a new coated sunscreen material. This material incorporated a new coating developed by Nanophase which, management believes, should help expand sales in the European and Asian markets with future revenue growth expected. Management further expects that we will develop additional customers to help us achieve growth through 2007 and beyond.

On July 2, 2007, the Company issued and sold 1,900,000 shares of common stock to certain institutional investors at a purchase price of \$5.92 per share and received gross proceeds of \$11.2 million.

On August 25, 2006, the Company sold, in a private placement to Rohm and Haas Electronic Materials CMP Holdings, Inc., 847,918 shares of common stock at \$5.90 per share and received gross proceeds of \$5.0 million.



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On November 3, 2005, BYK-Chemie USA, a subsidiary of Altana and a customer of Nanophase, lent \$1,597,420 to Nanophase pursuant to the terms of a Promissory Note effective October 27, 2005. This loan was for the purchase and installation of additional dispersion capacity and an additional NanoArc synthesis reactor to allow both for quicker material and application development, which should help to speed market penetration, and the ability to fulfill orders on a commercial scale for additional materials in varying media. The equipment was commissioned on November 1, 2006.

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 nanomaterials 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 nanomaterials, and the Company no longer considers itself in the development stage. From inception, the Company was primarily capitalized through the private offerings of approximately \$32.0 million of equity securities prior to its initial public offering, its initial public offering of \$28.8 million of common stock in November of 1997, its private offering of \$6.2 million of common stock in May of 2002, its private offering of \$1.95 million of common stock in September of 2003, its receipt of a customer's equity investment of \$9.3 million in March 2004 and its private offering of \$1.95 million of common stock in September of 2004 (through the conversion of warrants that were attached to its September 2003 offering), its receipt of a customer's equity investment of \$4.9 million in August 2006 and its offering of \$10.6 million of common stock in July 2007 pursuant to a registration statement declared effective by the SEC on May 31, 2007, each net of issuance costs. The Company has incurred cumulative losses of \$65 million from inception through September 30, 2007.

## **Results of Operations**

Total revenue increased to \$2,554,123 and \$9,586,068 for the three and nine months ended September 30, 2007, compared to \$2,425,790 and \$6,822,261 for the same periods in 2006. A substantial majority of the Company's revenue for the three and nine month periods ended September 30, 2007 is from the Company's three largest customers. See Note 6 to the Financial Statements for additional information regarding the revenue the Company derived from these three customers for the three and nine months ended September 30, 2007. Product revenue increased to \$2,442,890 and \$9,252,306 for the three and nine months ended September 30, 2007, compared to \$2,329,738 and \$6,546,100 for the same periods in 2006. The increase in product revenue for the three months ended September 30, 2007 was primarily attributed to increased sales to the Company's largest customer and BYK-Chemie partially offset by decreased sales in architectural coatings compared to the same period in 2006. The increase in product revenue for the nine months ended September 30, 2007 was primarily attributed to increased sales in architectural coatings, to BYK-Chemie as well as increased sales to the Company's largest customer compared to the same period in 2006. The Company and its largest customer currently have a technology agreement in place that has led to the joint development of the second generation of sunscreen nanomaterials for other potential personal care applications. Management anticipates the launch of one or more new sunscreen or personal care applications in the near future, with related revenue subsequently to begin increasing.

Other revenue increased to \$111,233 and \$333,762 for the three and nine months ended September 30, 2007, compared to \$96,052 and \$276,161 for the same periods in 2006. This increase was primarily attributed to the Company recognizing deferred revenue in connection with its promissory note to BYK Chemie partially offset by decreases in shipping revenue.

The majority of the total revenue generated during the nine months ended September 30, 2007 was from the Company's largest customer in healthcare (sunscreens), from an application in architectural coatings (the Company's second largest customer) and from sales to BYK-Chemie for a variety of materials.

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Cost of revenue generally includes costs associated with commercial production and customer development arrangements. Cost of revenue increased to \$2,012,938 and \$6,817,462 for the three and nine months ended September 30, 2007, compared to \$1,705,725 and \$5,220,154 for the same periods in 2006. The increase in cost of revenue was generally attributed to increased revenue volume and, to a lesser extent, inefficiencies due to an abundance of smaller lots produced consisting of a series of products to support initial volume growth in BYK-Chemie. For the three months ended September 30, 2007, gross margins decreased mainly due to the decrease in volume and its effect on fixed overhead absorption and unfavorable product mix, along with having some excess direct labor that had been put in place to support the higher run rate that management had expected given the second quarter of 2007 record volume compared to the same period in 2006. For the nine months ended September 30, 2007, improvements to gross margins were primarily due to increased revenue volume and favorable product mix. Nanophase expects to continue new nanomaterial development, primarily using its NanoArc synthesis and dispersion technologies, for targeted applications and new markets through 2007 and beyond. At current revenue levels the Company has generated a positive gross margin. The Company's margins have been somewhat impeded by not having enough revenue to absorb the manufacturing overhead that is required to work with current customers and the new ones the Company expects to have. Management believes that the current fixed manufacturing cost structure is sufficient to support significantly higher levels of production, given current revenue mix and resultant product revenue. The extent to which the Company's margins continue to grow, as a percentage of total revenue, will be dependent upon revenue mix, revenue volume, the Company's ability to continue to cut costs and the Company's ability to pass market raw materials increases on to its customers. As product revenue volume increases, this will result in more of the Company's fixed manufacturing costs being absorbed, leading to increased margins. The Company expects to continue reducing its controllable variable product manufacturing costs through 2007 and beyond, with potential offsetting increases in the commodity metals markets but may or may not continue to see absolute dollar gross margin growth through 2007 and beyond, dependent upon the factors discussed above. Additionally, the Company's overall margin growth has been slowed by the fact that, while commodity metal prices have increased and the Company is able to recover that price increase, the Company has not been able to collect typical overhead and profit that the Company otherwise would without the increases in the commodity metal prices.

Research and development expense, which includes all expenses relating to the technology and advanced engineering groups, primarily consists of costs associated with the Company's development or acquisition of new product applications and coating formulations and the cost of enhancing the Company's manufacturing processes. The May 2005 development of BASF's new sunscreen was an example of this work. In another example, the Company has been and continues to be engaged in research to enhance its ability to disperse its material in a variety of organic and inorganic media for use as coatings and polishing materials. Much of this work has led to several new products and additional potential new products for use by BYK-Chemie. Now that the Company has demonstrated the capability to produce pilot quantities of mixed-metal oxides in a single crystal phase, the Company does not expect development of further variations on these materials to present material technological challenges. Many of these materials exhibit performance characteristics that can enable them to serve in various catalytic applications. This development has been driven largely by customer demand. Management is now working on several related commercial opportunities. The Company expects that this technique should not be difficult to scale to large quantity commercial volumes once application viability and firm demand are established.

The Company also has an ongoing advanced engineering effort that is primarily focused on the development of new nanomaterials as well as the refinement of existing nanomaterials. The Company is not certain when or if any significant revenue will be generated from the production of the materials described above.

Research and development expense decreased to \$405,650 and \$1,379,819 for the three and nine months ended September 30, 2007, compared to \$550,208 and \$1,584,487 for the same periods in 2006. The decrease in research and development expense was largely attributed to decreases in expenses relating to process and new materials development and compensation expense. The Company does not expect research and development expense to increase further in 2007.

Selling, general and administrative expense increased to \$1,296,510 and \$4,067,727 for the three and nine months ended September 30, 2007, compared to \$1,143,530 and \$3,772,388 for the same periods in 2006. The net increase was primarily attributed to increases in salary expense, consulting fees, investor relations, travel, and franchise tax expenses. These increases were partially offset by decreases in recruiting and relocation expenses, directors and officers insurance and audit and license fees.



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Interest income increased to \$232,605 and \$421,434 for the three and nine months ended September 30, 2007, compared to \$90,563 and \$248,045 for the same periods in 2006. These increases were primarily due to increases in funds available for investment, largely composed of the July 2, 2007 equity investment from certain institutional investors which resulted in net proceeds of approximately \$10.6 million.

### **Inflation**

Management believes inflation has not had a material effect on the Company's operations or on its financial position. However, supplier price increases may have a material effect on the Company's operations and financial position in the remainder of 2007, if the Company is unable to pass through those increases under its present contracts.

### **Liquidity and Capital Resources**

The Company's cash, cash equivalents and investments amounted to \$17,076,707 on September 30, 2007, compared to \$8,567,180 on December 31, 2006 and \$10,218,806 on September 30, 2006. The net cash used in the Company's operating activities was \$1,518,529 for the nine months ended September 30, 2007, compared to \$1,528,862 for the same period in 2006. Net cash provided by investing activities, which is due to maturities of securities and to a lesser extent capital expenditures offset partially by purchases of securities, amounted to \$9,243,134 for the nine months ended September 30, 2007 compared to \$3,416,341 for the same period in 2006. Capital expenditures amounted to \$954,588 and \$1,970,394 for the nine months ended September 30, 2007 and 2006, respectively. Net cash provided by financing activities is primarily due to the Company securing financing through an equity investment in July 2007 and, to a lesser extent, by the issuance of shares of common stock pursuant to the exercise of stock options, partially offset by principal payments on capital lease obligations amounting, in total, to \$11,192,858 for the nine months ended September 30, 2007, compared to \$5,307,012 for the same period in 2006.

On July 2, 2007, the Company issued and sold 1,900,000 shares of common stock pursuant to a registration statement filed on May 22, 2007 and declared effective by the SEC on May 31, 2007 to certain institutional investors at a purchase price of \$5.92 per share, for an aggregate purchase price of \$11.2 million and net proceeds of approximately \$10.6 million after deducting the placement agency commission and all estimated offering expenses that were paid by the Company.

The Company's supply agreement with its largest customer contains several financial covenants which could potentially impact the Company's liquidity. The most restrictive financial covenants under this agreement require the Company to maintain a minimum of \$2.0 million in cash, cash equivalents and investments and that the Company not have the acceleration of any debt maturity having a principal amount of more than \$10,000,000, in order to avoid triggering a transfer of certain technology and sale of related equipment to the Company's largest customer. The Company had approximately \$17.1 million in cash, cash equivalents and investments and debt net of unamortized debt discount of less than \$1.6 million on September 30, 2007. This supply agreement and its covenants are more fully described in Note 6 to the Company's Financial Statements. See "Risk Factors - We may need to raise additional capital in the future" in our Annual Report on Form 10-K for the year ended December 31, 2006.

In November 2000, the Company executed a three-year promissory note, held by the Company's largest customer, in the amount of \$1,293,895 for the construction of additional production capabilities at the Company's Romeoville, Illinois facility. This debt was fully paid in the second quarter in 2006.

The Company believes that cash from operations, the net proceeds of \$10.6 million from its July 2, 2007 Shelf Offering, and cash, cash equivalents and investments on hand and interest income thereon, will be adequate to fund the Company's operating plans for the foreseeable future. The Company's actual future capital requirements in 2007 and beyond will depend, however, on many factors, including customer acceptance of the Company's current and potential nanomaterials and product applications, continued progress in the Company's research and development

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activities and product testing programs, the magnitude of these activities and programs, and the costs necessary to increase and expand the Company's manufacturing capabilities and to market and sell the Company's materials and product applications. Other important issues that will drive future capital requirements will be the development of new markets and new customers as well as the potential for significant unplanned growth with the Company's existing customers. The Company expects that capital spending relating to currently known capital needs for 2007 will be approximately \$1,600,000, but could be even greater due to the factors discussed above.

Should events arise that make it appropriate for the Company to seek additional financing, it should be noted that additional financing may not be available on acceptable terms or at all, and any such additional financing could be dilutive to the Company's stockholders. Such a financing could be necessitated by such things as the loss of existing customers; currently unknown capital requirements in light of the factors described above; new regulatory requirements that are outside the Company's control; the need to meet previously discussed cash requirements to avoid a triggering event; or various other circumstances coming to pass that are currently not anticipated by the Company.

On September 30, 2007, the Company had a net operating loss carryforward of approximately \$72.5 million for income tax purposes. Because the Company may have experienced ownership changes within the meaning of the U.S. Internal Revenue Code in connection with its various prior equity offerings, future utilization of this carryforward may be subject to certain limitations as defined by the Internal Revenue Code. If not utilized, the carryforward expires at various dates between 2007 and 2026. As a result of the annual limitation and uncertainty as to the amount of future taxable income that will be earned prior to the expiration of the carryforward, the Company has concluded that it is likely that some portion of this carryforward will expire before ultimately becoming available to reduce income tax liabilities. During the year ended December 31, 2006, the Company's foreign tax credit carryforward of \$156,000 expired.

## **Safe Harbor Provision**

Nanophase Technologies Corporation wants to provide investors with more meaningful and useful information. As a result, this Quarterly Report on Form 10-Q (the "Form 10-Q") 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 of 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. The Company 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 2007 and beyond to differ materially from those expressed in, or implied by, such statements. These risks, uncertainties and factors include, without limitation: a decision by a customer to cancel a purchase order or supply agreement in light of the Company's dependence on a limited number of key customers; uncertain demand for, and acceptance of, the Company's nanocrystalline materials; the Company's limited manufacturing capacity and product mix flexibility in light of customer demand; 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 may become involved; and other risks set forth under the caption "Risk Factors" in the Company's Annual Report on Form 10-K for the year ended December 31, 2006. Readers of this Quarterly Report on Form 10-Q 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 uncertainties.

## **Item 3. Quantitative and Qualitative Disclosures About Market Risk**

The only financial instruments that the Company holds are investments of a short-term duration. Management does not believe that the Company currently has material market risk relating to its investments.

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**Item 4. Controls and Procedures**

**Disclosure controls**

An evaluation was conducted under the supervision and with the participation of the Company's management, including the Chief Executive Officer (CEO) and Chief Financial Officer (CFO), of the effectiveness of the design and operation of the Company's disclosure controls and procedures as of December 31, 2006. Based on that evaluation, the CEO and CFO concluded that the Company's disclosure controls and procedures were effective as of such date to ensure that information required to be disclosed in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in Securities and Exchange Commission rules and forms and that the Company's disclosure controls and procedures are effective to ensure that material information required to be disclosed by the Company in reports that it files or submits under the Exchange Act is made known to management and others, as appropriate, to allow timely decisions regarding required disclosures.

**Internal control over financial reporting**

The Company's management, including the CEO and CFO, confirm that there was no change in the Company's internal control over financial reporting during the quarter ended September 30, 2007 that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting.

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**PART II OTHER INFORMATION**

**Item 1. Legal Proceedings**

None.

**Item 1A. Risk Factors**

As of the end of our third quarter, there were no additional material risks and no material changes to the risk factors discussed in our Annual Report on Form 10-K for the year ended December 31, 2006.

**Item 2. Unregistered Sales of Equity Securities and Use of Proceeds**

None.

**Item 3. Defaults Upon Senior Securities**

None.

**Item 4. Submissions of Matters to a Vote of Security Holders**

None.

**Item 5. Other Information**

None.

**Item 6. Exhibits**

- Exhibit 3(I).1 Certificate of Incorporation of the Company, incorporated by reference to Exhibit 3.1 to the 1997 10-K.
- Exhibit 3(I).2 First Amendment to the Certificate of Incorporation of Nanophase Technologies Corporation dated July 27, 2006, incorporated by reference to Exhibit 99.3 to the Company's Current Report on Form 8-K filed July 27, 2006.
- Exhibit 3(II).1 Bylaws of the Company, incorporated by reference to Exhibit 3.2 to the 1997 10-K.
- Exhibit 4.1 Specimen stock certificate representing common stock, incorporated by reference to Exhibit 4.1 to the Company's Registration Statement on Form S-1 (File No. 333-36937) (the "IPO S-1").
- Exhibit 4.2 Form of Warrants, incorporated by reference to Exhibit 4.2 to the IPO S-1.
- Exhibit 4.3 Rights Agreement dated as of October 28, 1998 by and between the Company and LaSalle National Bank, incorporated by reference to Exhibit 1 to the Company's Registration Statement on Form 8-A, filed October 28, 1998.
- Exhibit 4.4

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Certificate of Designation of Series A Junior Participating Preferred Stock incorporated by reference to Exhibit 4.4 to the Company's Annual Report on Form 10-K for the year ended December 31, 1998 (the 1998 10-K ).

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- Exhibit 4.5 Amendment to Rights Agreement dated August 1, 2001 between the Company and LaSalle National Association, as Rights Agent, incorporated by reference to Exhibit 4.5 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2001.
- Exhibit 4.6 2001 Nanophase Technologies Corporation Equity Compensation Plan, incorporated by reference to Exhibit 4.3 to the Company's Registration Statement on Form S-8 (File No. 333-74170).
- Exhibit 4.7 Second Amendment to Rights Agreement dated May 24, 2002 between the Company and LaSalle National Association, as Rights Agent, incorporated by reference to Exhibit 4.3 to the Company's Registration Statement on Form S-3 (File No. 333-90326) filed June 12, 2003.
- Exhibit 4.8 Third Amendment to Rights Agreement dated September 5, 2003 between the Company and LaSalle National Association, as Rights Agent, incorporated by reference to Exhibit 99.1 to the Company's Current Report on Form 8-K filed September 10, 2003.
- Exhibit 4.9 Subscription Agreement dated September 8, 2003 between the Company and Grace Brothers, Ltd., incorporated by reference to Exhibit 99.2 to the Company's Current Report on Form 8-K filed September 10, 2003.
- Exhibit 4.10 Stock Purchase Agreement dated March 23, 2004 between the Company and Altana Chemie AG, incorporated by reference to Exhibit 4.10 to the Company's Annual Report on Form 10-K filed March 30, 2004.
- Exhibit 4.11 Registration Rights Agreement dated March 23, 2004 between the Company and Altana Chemie AG, incorporated by reference to Exhibit 4.11 to the Company's Annual Report on Form 10-K filed March 30, 2004.
- Exhibit 4.12 2004 Nanophase Technologies Corporation 2004 Equity Compensation Plan, ( 2004 Equity Plan ) incorporated by reference to Exhibit 4 to the Company's Registration Statement on Form S-8 (File No. 333-119466).
- Exhibit 4.13 Form of Stock Option Agreement under the 2004 Equity Plan, incorporated by reference to Exhibit 4.13 to the Company's Annual Report on Form 10-K filed March 15, 2005.
- Exhibit 4.14 Form of Restricted Share Grant Agreement under the 2004 Equity Plan, incorporated by reference to Exhibit 4.14 to the Company's Annual Report on Form 10-K filed March 15, 2005.
- Exhibit 4.15 Form of Performance Share Grant Agreement under the 2004 Equity Plan, incorporated by reference to Exhibit 4.15 to the Company's Annual Report on Form 10-K filed March 15, 2005.
- Exhibit 4.16 2005 Nanophase Technologies Corporation Equity Compensation Plan, incorporated by reference to Exhibit 4 to the Company's Non-Employee Director Restricted Stock Plan, incorporated by reference to Exhibit A to the Company's Definitive Proxy Statement on Form DEF14A filed May 17, 2005.
- Exhibit 4.17 First Amendment to the Nanophase Technologies Corporation 2005 Non-Employee Director Restricted Stock Plan, incorporated by reference to Exhibit 99.1 to the Company's Current Report on Form 8-K filed January 9, 2006.

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- Exhibit 31.1 Certification of Chief Executive Officer pursuant to Rules 13a-14(a) under the Exchange Act.
- Exhibit 31.2 Certification of Chief Financial Officer pursuant to Rules 13a-14(a) and 15d-14(a) under the Exchange Act.
- Exhibit 32 Certification of the Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. Section 1350.

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**SIGNATURES**

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

NANOPHASE TECHNOLOGIES CORPORATION

Date: November 8, 2007

By: /s/ JOSEPH E. CROSS  
Joseph E. Cross  
President, Chief Executive Officer  
(principal executive officer) and a Director

Date: November 8, 2007

By: /s/ JESS A. JANKOWSKI  
Jess A. Jankowski  
Chief Financial Officer  
(principal financial and chief accounting officer)