

NANOPHASE TECHNOLOGIES CORPORATION

Form 10-Q

November 14, 2012

[Table of Contents](#)

**UNITED STATES**  
**SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

**Form 10-Q**

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

For the Quarterly Period Ended: September 30, 2012

or

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

For the transition period from      to

Commission File Number: 000-22333

**Nanophase Technologies Corporation**

(Exact name of registrant as specified in its charter)

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**Delaware** **36-3687863**  
(State or other jurisdiction of **(I.R.S. Employer**  
**incorporation or organization)** **Identification No.)**  
**1319 Marquette Drive, Romeoville, Illinois 60446**  
**(Address of principal executive offices, and zip code)**

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

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

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes  No

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

Large accelerated filer  Accelerated filer   
Non-accelerated filer  Smaller Reporting Company

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

As of November 5, 2012, there were 28,458,162 shares outstanding of common stock, par value \$.01, of the registrant.

**Table of Contents**

**NANOPHASE TECHNOLOGIES CORPORATION**

**QUARTER ENDED SEPTEMBER 30, 2012**

**INDEX**

	<b>Page</b>
<b><u>PART I - FINANCIAL INFORMATION</u></b>	<b>3</b>
Item 1. <u>Financial Statements</u>	3
<u>Balance Sheets as of September 30, 2012 (unaudited) and December 31, 2011</u>	3
<u>Unaudited Statements of Operations for the three months ended September 30, 2012 and 2011 and the nine months ended September 30, 2012 and 2011</u>	4
<u>Unaudited Statements of Cash Flows for the nine months ended September 30, 2012 and 2011</u>	5
<u>Notes to Unaudited Financial Statements</u>	6
Item 2. <u>Management's Discussion and Analysis of Financial Condition and Results of Operations</u>	9
Item 3. <u>Quantitative and Qualitative Disclosures About Market Risk</u>	13
Item 4. <u>Controls and Procedures</u>	13
<b><u>PART II - OTHER INFORMATION</u></b>	<b>14</b>
Item 1. <u>Legal Proceedings</u>	14
Item 1A. <u>Risk Factors</u>	14
Item 2. <u>Unregistered Sales of Equity Securities and Use of Proceeds</u>	14
Item 3. <u>Defaults Upon Senior Securities</u>	14
Item 4. <u>Mine Safety Disclosures</u>	14
Item 5. <u>Other Information</u>	14
Item 6. <u>Exhibits</u>	14
<b><u>SIGNATURES</u></b>	<b>15</b>

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

	September 30, 2012 (Unaudited)	December 31, 2011
<b>ASSETS</b>		
<b>Current assets:</b>		
Cash and cash equivalents	\$ 4,565,558	\$ 2,693,623
Investments	30,000	30,000
Trade accounts receivable, less allowance for doubtful accounts of \$6,000 on September 30, 2012 and December 31, 2011	869,660	878,600
Other receivables		13,712
Inventories, net	1,291,989	1,338,210
Prepaid expenses and other current assets	268,346	391,466
<b>Total current assets</b>	<b>7,025,553</b>	<b>5,345,611</b>
Equipment and leasehold improvements, net	3,218,327	3,713,082
Other assets, net	30,453	32,318
	\$ 10,274,333	\$ 9,091,011
<b>LIABILITIES AND STOCKHOLDERS EQUITY</b>		
<b>Current liabilities:</b>		
Current portion of capital lease obligations	\$ 33,961	\$
Deferred other revenue	67,998	
Accounts payable	605,474	319,706
Accrued expenses	561,235	383,425
Accrued discount liability	34,888	116,103
<b>Total current liabilities</b>	<b>1,303,556</b>	<b>819,234</b>
Long-term portion of capital lease obligations	71,602	
Long-term deferred rent	636,122	647,404
Asset retirement obligations	152,554	148,515
<b>Total long-term liabilities</b>	<b>860,278</b>	<b>795,919</b>
<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, 35,000,000 shares authorized; 28,458,162 and 21,208,162 shares issued and outstanding on September 30, 2012 and December 31, 2011, respectively	284,582	212,082
Additional paid-in capital	95,444,015	93,070,979
Accumulated deficit	(87,618,098)	(85,807,203)

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Total stockholders equity	8,110,499	7,475,858
	\$ 10,274,333	\$ 9,091,011

*See Notes to Financial Statements.*

Table of Contents

## NANOPHASE TECHNOLOGIES CORPORATION

## STATEMENTS OF OPERATIONS

(Unaudited)

	Three months ended September 30,		Nine months ended September 30,	
	2012	2011	2012	2011
<b>Revenue:</b>				
Product revenue, net	\$ 2,028,529	\$ 2,164,697	\$ 7,061,504	\$ 7,706,487
Other revenue	72,435	78,217	231,591	245,321
Net revenue	2,100,964	2,242,914	7,293,095	7,951,808
<b>Operating expense:</b>				
Cost of revenue	1,571,575	1,894,001	5,349,594	5,699,089
Gross profit	529,389	348,913	1,943,501	2,252,719
Research and development expense	396,503	421,597	1,210,168	1,282,618
Selling, general and administrative expense	789,169	935,857	2,546,334	3,063,446
Loss from operations	(656,283)	(1,008,541)	(1,813,001)	(2,093,345)
Interest income		591		3,929
Interest expense	(2,056)	(1,965)	(5,093)	(3,763)
Other, net			7,199	(43)
Loss before provision for income taxes	(658,339)	(1,009,915)	(1,810,895)	(2,093,222)
Provision for income taxes				
Net loss	\$ (658,339)	\$ (1,009,915)	\$ (1,810,895)	\$ (2,093,222)
Net loss per share - basic and diluted	\$ (0.02)	\$ (0.05)	\$ (0.08)	\$ (0.10)
Weighted average number of basic and diluted common shares outstanding	26,960,880	21,207,597	23,139,731	21,205,320

*See Notes to Financial Statements.*

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

	<b>Nine months ended September 30,</b>	
	<b>2012</b>	<b>2011</b>
<b>Operating activities:</b>		
Net loss	\$ (1,810,895)	\$ (2,093,222)
Adjustment to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	749,666	845,207
Stock compensation expense	222,673	251,518
Changes in assets and liabilities related to operations:		
Trade accounts receivable	8,940	(327,069)
Other receivables	13,712	(76,860)
Inventories	46,221	140,859
Prepaid expenses and other current assets	123,120	(73,283)
Accounts payable	289,032	(334,392)
Accrued expenses	87,742	(650,307)
Deferred other revenue	67,998	
Net cash used in operating activities	(201,791)	(2,317,549)
<b>Investing activities:</b>		
Acquisition of equipment and leasehold improvements	(116,969)	(61,221)
Payment of accounts payable incurred for the purchase of equipment and leasehold improvements	(14,941)	(52,444)
Net cash used in investing activities	(131,910)	(113,665)
<b>Financing activities:</b>		
Principal payments on capital leases	(14,796)	(748)
Proceeds from stockholder rights offering, net of costs	2,220,432	
Proceeds from exercise of stock options		4,080
Net cash provided by financing activities	2,205,636	3,332
Increase (decrease) in cash and cash equivalents	1,871,935	(2,427,882)
Cash and cash equivalents at beginning of period	2,693,623	5,744,322
Cash and cash equivalents at end of period	\$ 4,565,558	\$ 3,316,440
<b>Supplemental cash flow information:</b>		
Interest paid	\$ 5,093	\$ 3,763
<b>Supplemental non-cash investing activities:</b>		
Accounts payable incurred for the purchase of equipment and leasehold improvements	\$ 11,677	\$ 18,261
Capital lease obligations incurred in the purchase of equipment	\$ 120,359	\$

*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 ( "Nanophase" or the "Company" , including "we" or "us" ) 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, 2012 are not necessarily indicative of the results that may be expected for the year ending December 31, 2012.

These financial statements should be read in conjunction with the Company's audited financial statements and notes thereto for the year ended December 31, 2011, included in the Company's Annual Report on Form 10-K for the year ended December 31, 2011, as filed with the Securities and Exchange Commission.

**(2) Description of Business**

Nanophase is a nanomaterials and applications developer and commercial manufacturer with an integrated family of nanomaterial technologies. Nanophase produces engineered nanomaterial for use in a variety of diverse existing and developing markets: personal care including sunscreens, architectural coatings, architectural window cleaning and restoration, industrial coating ingredients, abrasion-resistant additives, plastics additives, medical diagnostics and a variety of polishing applications, including semiconductors and optics. We target markets in which we believe practical solutions may be found using nanoengineered products. We work closely with current and potential customers in these target markets to identify their material and performance requirements and market our materials to various end-use applications manufacturers. Recently developed technologies have made certain new products possible and opened potential new markets. Although the Company's primary strategic focus has been the North American market, it currently sells material to customers overseas and has been working to expand its reach within foreign markets.

The Company was incorporated in Illinois in November 1989, and became a Delaware corporation in November 1997. The Company's common stock trades on the OTCQB marketplace under the symbol NANX.

While product sales comprise the majority of our revenue, we also recognize revenue in connection with a technology license and other sources from time to time. These activities are not expected to drive the long-term growth of the business. For this reason we classify such revenue as "other revenue" in our Statement of Operations, as it does not represent revenue directly from our nanocrystalline materials.

**(3) Financial Instruments**

We follow the Financial Accounting Standards Board ( "FASB" ) Accounting Standards Codification ( "ASC" ) Topic 820, *Fair Value Measurements and Disclosures*, which defines fair value, establishes a framework for measuring fair value, and expands disclosures about fair value measurements. The fair value framework requires the categorization of assets and liabilities into three levels based upon the assumptions (inputs) used to price the assets or liabilities. Level 1 provides the most reliable measure of fair value, whereas Level 3 generally requires significant management judgment.

**Table of Contents**

The Company's financial instruments include cash, accounts receivable, accounts payable and accrued expenses. The fair values of all financial instruments were not materially different from their carrying values.

There were no financial assets or liabilities adjusted to fair value on September 30, 2012 and December 31, 2011.

**(4) Investments**

Investments on September 30, 2012 and December 31, 2011 were comprised of certificates of deposit in the amount of \$30,000, pledged as collateral for the Company's rent and restricted as to withdrawal or usage.

**(5) Inventories**

Inventories consist of the following:

	September 30, 2012	December 31, 2011
Raw materials	\$ 320,485	\$ 490,729
Finished goods	1,031,670	907,647
	1,352,155	1,398,376
Allowance for excess inventory quantities	(60,166)	(60,166)
	\$ 1,291,989	\$ 1,338,210

**(6) Share-Based Compensation**

The Company follows FASB ASC Topic 718, *Share-Based Payments*, in which compensation expense is recognized only for share-based payments expected to vest. The Company recognized compensation expense related to stock options of \$62,203 and \$225,104 for the three and nine month periods ended September 30, 2012, compared to \$102,153 and \$305,216 for the same periods in 2011.

As of September 30, 2012, there was approximately \$370,000 of total unrecognized compensation cost related to nonvested share-based compensation arrangements granted under the Company's stock option plans. That cost is expected to be recognized over a remaining weighted-average period of 1.8 years.

**Stock Options and Stock Grants**

During the nine months ended September 30, 2012, no stock options were exercised. During the nine months ended September 30, 2011, proceeds of \$4,080 were received, and 4,000 shares of common stock were issued, pursuant to stock option exercises. During the nine months ended September 30, 2012, 547,000 stock options were granted compared to 524,500 stock options granted during the same period in 2011. During the nine months ended September 30, 2012, 168,732 stock options were forfeited, compared to 126,067 stock options forfeited during the same period in 2011.

**Stock Appreciation Rights**

During 2010 and 2009, the Company granted its outside directors stock appreciation rights (SARs) totaling 106,750 shares under the Company's Amended and Restated 2006 Stock Appreciation Rights Plan. These awards are accounted for as liability awards, included in accrued expenses as of September 30, 2012 and 2011, and adjusted to fair value each reporting period. The fair value of the liability for the 87,500 shares that were outstanding on September 30, 2012 was \$8,442, compared to \$10,873 on December 31, 2011.

**Table of Contents**

As of September 30, 2012, the Company does not have any unvested restricted stock or performance shares outstanding.

The following table illustrates the various assumptions used to calculate the Black-Scholes option pricing model for stock options granted during the periods presented:

For the nine months ended	September 30, 2012	September 30, 2011
Weighted-average risk-free interest rates:	1.10%	2.51%
Dividend yield:		
Weighted-average expected life of the option:	7 Years	7 Years
Weighted-average expected stock price volatility:	85.33%	74.21%
Weighted-average fair value of the options granted:	\$ 0.23	\$ 0.89

**(7) Significant Customers and Contingencies**

Sales to three customers constituted approximately 62%, 9% and 7%, respectively, of our total revenue for the three months ended September 30, 2012, and 68%, 9% and 4%, respectively, of our total revenue for the nine months ended September 30, 2012. Amounts included in accounts receivable on September 30, 2012 relating to these three customers were approximately \$602,000, \$0 and \$88,000, respectively. Revenue from these three customers constituted approximately 53%, 22% and 8%, respectively, of our total revenue for the three months ended September 30, 2011, as compared to 55%, 22% and 6%, respectively, of our total revenue for the nine months ended September 30, 2011. Amounts included in accounts receivable on September 30, 2011 relating to these three customers were approximately \$286,000, \$249,000 and \$98,000, respectively.

We currently have supply agreements with BASF Corporation ( "BASF" ), our largest customer, that have contingencies outlined which could potentially result in the license of technology and/or sale of production equipment, from the Company to the customer, providing capacity sufficient to meet the customer's production needs, if triggered by our failure to meet certain performance requirements, certain other obligations and/or certain financial condition covenants. The financial condition covenants in one of our supply agreements with BASF trigger a technology transfer right (license and, optionally, an equipment sale) in the event (a) that earnings for our twelve month period ending with our most recently published quarterly financial statements are less than zero and our cash, cash equivalents and certain investments are less than \$2,000,000, or (b) of an acceleration of any debt maturity having a principal amount of more than \$10,000,000. Our supply agreements with BASF also trigger a technology transfer right in the event of our insolvency, as further defined within the agreements. In the event of an equipment sale, upon incurring a triggering event, the equipment would be sold to the customer 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.

We believe that we have sufficient cash (See Liquidity and Capital Resources in Management's Discussion and Analysis of Financial Condition and Results of Operations for a further discussion) to operate our business during 2012. We also expect a favorable fluctuation in working capital, particularly as the price of one of our raw materials, cerium oxide, has declined in 2012 from historic highs experienced during 2011. On July 20, 2012, we completed a fully subscribed stockholder rights offering, pursuant to which our existing stockholders exercising their basic and oversubscription rights purchased a total of 7,250,000 shares of our common stock, which was the maximum number of shares offered in the rights offering, at a price of \$0.33 per full share. We received approximately \$2.2 million in proceeds from the rights offering, net of costs. If a triggering event were to occur and BASF elected to proceed with the license and related equipment sale mentioned above, the Company would receive royalty payments from this customer for products sold using the Company's technology; however, we 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

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**Table of Contents**

required to rebuild capacity would probably be greater than the proceeds from the purchase of the assets as dictated by our agreement with BASF. Similar consequences would occur if we were determined to have materially breached certain other provisions of the supply agreement with BASF. Any such event would also likely result in the loss of many of our key staff and line employees due to economic realities. We believe that our employees are a critical component of our success, and it could be difficult to quickly replace and train them. Upon the occurrence of any such event, we might not be able to hire and retain skilled employees given the stigma relating to such an event and its impact on us. Any shortfall in capital needed to operate the business as management intends, including with respect to avoiding this triggering event as described above, may result in a curtailment of certain activities or anticipated investments.

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

Revenue from international sources approximated \$187,000 and \$466,000 for the three and nine months ended September 30, 2012 compared to \$106,000 and \$460,000 for the same periods in 2011. As part of our revenue from international sources, we recognized approximately \$111,000 and \$226,000, respectively, in product revenue from several German companies during the three and nine months ended September 30, 2012, compared to \$23,000 and \$215,000, respectively, during the three and nine months ended September 30, 2011. We also recognized approximately \$68,000 and \$211,000, respectively, in other revenue from a technology license fee from our Japanese licensee during the three and nine months ended September 30, 2012, compared to \$75,000 and \$225,000, respectively, for the same periods in 2011. The Company entered into multiple agreements with this Japanese licensee during 2012. During January 2012, the Company and the Japanese licensee entered into a mutual cooperation agreement, which confirmed their intent to allow their existing agreements to terminate, in accordance with their terms, as of March 31, 2013. The parties also agreed that, as of April 1, 2013, the territorial restrictions and royalty payments set forth in the existing agreements would no longer be in effect. On March 31, 2012, the Company assigned the Japanese trademark for NanoTek to the Japanese licensee in exchange for \$5,000. In addition, the Japanese licensee paid the Company \$279,000 during April 2012 as prepayment for the final minimum royalty of \$300,000, due under the existing terms in April 2013, which represented a 7% discount for early payment. The Company recorded the royalty prepayment as deferred other revenue as of March 31, 2012, and will recognize it ratably over the remaining contract term. The balance of deferred other revenue on September 30, 2012 was \$67,998.

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

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

Nanophase is a nanomaterials and applications developer and commercial manufacturer with an integrated family of nanomaterial technologies. Nanophase produces engineered nanomaterials for use in a variety of diverse markets: personal care including sunscreens, architectural coatings, industrial coating ingredients, architectural window cleaning and restoration, abrasion-resistant additives, plastics additives, medical diagnostics and a variety of polishing applications, including semiconductors and optics. We target markets in which we feel practical solutions may be found using nanoengineered products. We work closely with current and potential customers in these target markets to identify their material and performance requirements and market our materials to various end-use applications manufacturers. Recently developed technologies have made certain new products possible and opened potential new markets. We expect growth in end-user (manufacturing customers, including customers of Nanophase's customers) adoption in 2012 and beyond and revenue growth relative to these new markets to follow thereafter. We further expect that we will attract additional customers to help us achieve growth in certain markets in 2012 and beyond. Our initiatives in targeted market areas are progressing at differing rates of speed, but we have been broadly moving through testing and development cycles, and in a number of cases believe we are approaching first revenue or next stage revenue with particular customers in the industries referenced above. During 2011, for example, we launched our line of abrasion-resistant

## **Table of Contents**

additives and have been engaged in a large volume of related activities. Abrasion-resistant and polishing applications tend to have shorter testing cycles than other applications such as exterior coatings. During 2012, our largest customer launched a new personal care product featuring our material. In addition, we had early stage commercial success in other diverse markets. We further believe that successful introduction of our materials with manufacturers will more likely lead to follow-on orders for other materials in their applications. Although our primary strategic focus has been the North American market, we currently sell material to customers overseas and have been working to expand our reach within foreign markets.

## **Results of Operations**

Total revenue decreased to \$2,100,964 and \$7,293,095 for the three and nine months ended September 30, 2012, compared to \$2,242,914 and \$7,951,808 for the same periods in 2011. A substantial majority of the revenue for the three and nine month periods ended September 30, 2012 was from our largest customers, in particular sales to our largest customer in personal care and sunscreen applications. Revenue from our top three customers was approximately 62%, 9% and 7%, respectively, during the three months ended September 30, 2012, as compared to 68%, 9% and 4%, respectively, for the nine months ended September 30, 2012. Revenue from these three customers constituted approximately 53%, 22% and 8%, respectively, of the Company's total revenue for the three months ended September 30, 2011 as compared to 55%, 22% and 6%, respectively, of our total revenue for the nine months ended September 30, 2011. Product revenue decreased to \$2,028,529 and \$7,061,504 for the three and nine months ended September 30, 2012, compared to \$2,164,697 and \$7,706,487 for the same periods in 2011, as a larger percentage of our sales to our largest customers occurred during the first nine months of 2011, while sales to such customers are expected to occur more proportionately throughout the entire 2012 fiscal year.

Other revenue decreased to \$72,435 and \$231,591 for the three and nine months ended September 30, 2012, compared to \$78,217 and \$245,321 for the same periods in 2011.

We use certain elements classified as Rare Earth elements in some of our processes, specifically cerium oxide in polishing applications. On a worldwide basis, the vast majority of these elements are currently supplied from China. Due to export limitations imposed by China during the summer of 2010, the supply of all Rare Earth elements was drastically reduced during the second half of 2010 and through 2011, as compared to prior periods. This created significant issues with availability of acceptable materials and, if available, resulted in a substantial increase in cost. Beginning late 2011 and continuing into 2012, alternative supplies have come online and the cost has reduced sharply from the peak, but the materials still cost several times what they did two years ago. We have inventory in-house and purchase orders for 2012 fulfillment related to this line of business, but the long-term success of this area will be directly impacted by the supply and cost of Rare Earth elements, specifically cerium oxide.

Cost of revenue generally includes costs associated with commercial production and customer development arrangements. Cost of revenue decreased to \$1,571,575 and \$5,349,594 for the three and nine months ended September 30, 2012, compared to \$1,894,001 and \$5,699,089 for the same periods in 2011. The decrease in cost of revenue in both periods was generally attributed to decreased revenue volume. We expect to continue new nanomaterial development, primarily using our NanoArc<sup>®</sup> synthesis and dispersion technologies, for targeted applications and new markets through 2012 and beyond. At current revenue levels we have generated a positive gross margin. Our margins have been impeded by not having enough revenue to absorb the manufacturing overhead that is required to work with current customers and expected future customers. We believe that our current fixed manufacturing cost structure is sufficient to support significantly higher levels of production. The extent to which our margins grow, as a percentage of total revenue, will be dependent upon revenue mix, revenue volume, our ability to continue to cut costs and pass commodity market-driven raw materials increases onto customers. To the extent product revenue volume increases, this should result in more of our fixed manufacturing costs being absorbed, leading to increased margins. We expect to continue to focus on reducing controllable variable product manufacturing costs through 2012 and beyond, with potential offsetting increases in the commodity metals markets, but may or may not continue to realize absolute dollar gross margin growth through 2012 and beyond, dependent upon the factors discussed above.

## **Table of Contents**

Research and development expense, which includes all expenses relating to the technology and advanced engineering groups, primarily consists of costs associated with our development or acquisition of new product applications and coating formulations and the cost of enhancing our manufacturing processes. As an example, we have been, and continue to be, engaged in research to enhance our ability to disperse material in a variety of organic and inorganic media for use as coatings and polishing materials, as well as polishing products. Much of this work has led to several new products and additional potential new products.

Having demonstrated the capability to produce pilot quantities of mixed-metal oxides in a single crystal phase, we do 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. We are now working on several related commercial opportunities using the same materials. We expect that this technique should enable us to scale to large quantity commercial volumes once application viability and firm demand are established. We also have an ongoing advanced engineering effort that is primarily focused on the development of new nanomaterials as well as the refinement of existing nanomaterials, as dictated by our customer-driven marketing strategy. We are 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 \$396,503 and \$1,210,168 for the three and nine months ended September 30, 2012, compared to \$421,597 and \$1,282,618 for the same periods in 2011. The net changes in research and development expense were largely attributed to a 2011 ramp in new material development that was not repeated during 2012. We do not expect research and development expense to increase significantly during the fourth quarter of 2012.

Selling, general and administrative expense decreased to \$789,169 and \$2,546,334 for the three and nine months ended September 30, 2012, compared to \$935,857 and \$3,063,446 for the same periods in 2011. The net decreases were primarily attributed to lower costs for salaries, travel, consultant fees, stock compensation expense non-cash charges related to outstanding equity compensation, legal fees, as well as reduced exhibition and trade show costs, as the product launch at the European Coatings Show in 2011 was not repeated in 2012.

Interest income decreased to \$0 for the three and nine months ended September 30, 2012, compared to \$591 and \$3,929 for the same periods in 2011. The decrease was due to the lack of investment yields in excess of bank related fees.

## **Inflation**

We believe inflation has not had a material effect on our operations or financial position. However, supplier price increases and wage and benefit inflation, both of which represent a significant component of our costs of operations, may have a material effect on our operations and financial position in 2012 and beyond if we are unable to pass through any applicable increases under our present contracts or through to our markets in general.

## **Liquidity and Capital Resources**

Our cash, cash equivalents and short-term investments amounted to \$4,595,558 on September 30, 2012, compared to \$2,723,623 on December 31, 2011 and \$3,346,440 on September 30, 2011. The net cash used in our operating activities was \$201,791 for the nine months ended September 30, 2012, compared to \$2,317,549 for the same period in 2011. Approximately \$1.4 million was used during the nine months ended September 30, 2011 for required working capital investments, largely the result of the increase in the cost of cerium oxide and the impact that had throughout our manufacturing and sales processes. In addition, cost reductions described above yielded improved cash flow from our operating activities during 2012, as did other favorable working capital fluctuations during 2012. Net cash used in

**Table of Contents**

investing activities amounted to \$131,910 for the nine months ended September 30, 2012, compared to \$113,665 for the same period in 2011. Capital expenditures amounted to \$237,328 (including \$120,359 in capital leases) and \$61,221 for the nine months ended September 30, 2012 and 2011, respectively. Net cash provided by financing activities increased to \$2,205,636 during the first nine months of 2012 compared to \$3,332 for the same period in 2011, primarily due to the net proceeds received from the stockholder rights offering discussed below.

On July 20, 2012, we completed a fully subscribed stockholder rights offering and received gross proceeds of approximately \$2.4 million. Net proceeds from the rights offering were approximately \$2.2 million after legal, accounting and other costs. We intend to use the remaining proceeds from the rights offering to fund expected growth in new markets, as well as to provide for expanded working capital needs expected to arise as sales volume grows. These additional funds will also enhance our ability to maintain the minimum liquidity required under our supply agreement with BASF, as described below.

Our supply agreements with our largest customer, BASF, contain certain financial covenants which could potentially impact our liquidity. The most restrictive financial covenants under these agreements require that we maintain a minimum of \$2 million in cash, cash equivalents and certain investments, and that we not have the acceleration of any debt maturity having a principal amount of more than \$10 million, in order to avoid triggering the customer's potential right to transfer certain technology and equipment to that customer at a contractually defined price. We had approximately \$4.6 million in cash, cash equivalents and short-term investments on September 30, 2012, with no debt. This supply agreement and its covenants are more fully described in Note 7 to the Company's Financial Statements.

We believe that cash from operations and cash and cash equivalents will be adequate to fund our operating plans through 2012 and into 2013. Our actual future capital requirements in 2012 and beyond will depend, however, on many factors, including customer acceptance of our current and potential nanomaterials and product applications, continued progress in research and development activities and product testing programs, the magnitude of these activities and programs, and the costs necessary to increase and expand our manufacturing capabilities and to market and sell our 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 existing customers. If certain projects are successful, we expect that capital spending relating to currently known capital needs for the remainder of 2012 will be approximately \$100,000. If those projects are delayed or ultimately prove unsuccessful, we would expect our capital requirements to be lower.

Should events arise that make it appropriate for us to seek additional financing, such additional financing may not be available on acceptable terms or even at all, and any such additional financing could be dilutive to our shareholders. 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 our control; the need to meet previously discussed cash requirements to avoid a triggering event under our BASF agreement; or various other circumstances coming to pass that we currently do not anticipate. The failure to have access to sufficient capital to fund our business plans may result in a curtailment or other change in those plans.

On September 30, 2012, we had a net operating loss carryforward of approximately \$79.9 million for income tax purposes. Because we may have experienced ownership changes within the meaning of the U.S. Internal Revenue Code in connection with our various prior equity offerings, future utilization of this carryforward may be subject to certain limitations as defined by the Internal Revenue Code. A layer of our carryforward expired in 2011 and another will expire in 2012. If not utilized, the remaining carryforward will expire at various dates between January 1, 2013 and December 31, 2032. 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, we have concluded that it is likely that some portion of this carryforward will expire before ultimately becoming available to reduce income tax liabilities. During 2011, the state of Illinois suspended the utilization of NOL carryforwards for four years, extending their duration by an equivalent number of years.

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**Table of Contents**

**Off Balance Sheet Arrangements**

We have not created, and are not party to, any special-purpose or off-balance sheet entities for the purposes of raising capital, incurring debt or operating our business. We do not have any off-balance sheet arrangements or relationships with entities that are not consolidated into our financial statements that are reasonably likely to materially affect our liquidity or the availability of capital resources.

**Safe Harbor Provision**

We want 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 (the *Exchange Act*). These statements reflect our current expectations of the future results of our operations, performance and achievements. Forward-looking statements are covered under the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. We have tried, wherever possible, to identify these statements by using words such as *anticipates*, *believes*, *estimates*, *expects*, *plans*, *intends*, *may*, *might*, *could*, *should*, *will* and other 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 our actual results, performance or achievements in future reporting periods to differ materially from those expressed in, or implied by, such statements. These risks, uncertainties and factors include, without limitation: our ability to become profitable despite the losses we have incurred since our incorporation; our dependence on our principal customers and the terms of our supply agreement with BASF which could trigger a requirement to transfer technology and/or sell equipment to that customer; our potential inability to obtain working capital when needed on acceptable terms or at all; our ability to obtain materials at costs we can pass through to our customers, including Rare Earth elements, specifically cerium oxide; uncertain demand for, and acceptance of, our nanocrystalline materials; our limited manufacturing capacity and product mix flexibility in light of customer demand; our limited marketing experience; changes in development and distribution relationships; the impact of competitive products and technologies; our dependence on patents and protection of proprietary information; the resolution of litigation in which we may become involved; our ability to maintain an appropriate electronic trading venue; and the impact of any potential new governmental regulations that could be difficult to respond to or costly to comply with. In addition, our forward-looking statements could be affected by general industry and market conditions and growth rates. 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**

Not required for a smaller reporting company.

**Item 4. Controls and Procedures**

**Disclosure controls**

We are responsible for establishing and maintaining disclosure controls and procedures that are designed to ensure that information required to be disclosed by us in the reports filed by us under the Exchange Act is: (a) recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms; and (b) accumulated and communicated to our management, including our principal executive and principal financial officers, to allow timely decisions regarding required disclosures. It should be noted that in designing and evaluating our disclosure controls and procedures, we recognize that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives, and that our management necessarily



**Table of Contents**

was required to apply its judgment regarding the design of our disclosure controls and procedures. As of the end of the period covered by this report, we conducted an evaluation, under the supervision (and with the participation) of our management, including our Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures pursuant to Rules 13a-15(e) and 15d-15(e) of the Exchange Act. Based on that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective at reaching that level of reasonable assurance.

**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 period covered by this report that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting.

**PART II OTHER INFORMATION**

**Item 1. Legal Proceedings**

None.

**Item 1A. Risk Factors**

Not required for a smaller reporting company.

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

None.

**Item 3. Defaults Upon Senior Securities**

None.

**Item 4. Mine Safety Disclosures**

Not Applicable.

**Item 5. Other Information**

None.

**Item 6. Exhibits**

Exhibit 31.1 Certification of Chief Executive Officer pursuant to Rules 13a-14(a) and 15d-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.

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- Exhibit 32 Certification of the Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. Section 1350.
- Exhibit 101 The following materials from Nanophase Technologies Corporation's Quarterly Report on Form 10-Q for the quarter ended September 30, 2012, formatted in XBRL (Extensible Business Reporting Language): (1) the Balance Sheets, (2) the Statements of Operations, (3) the Statements of Cash Flows, and (4) the Notes to Unaudited Financial Statements.

**Table of Contents**

**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 14, 2012

By: /s/ JESS A. JANKOWSKI  
Jess A. Jankowski  
President, Chief Executive Officer (principal  
executive officer) and a Director

Date: November 14, 2012

By: /s/ FRANK J. CESARIO  
Frank J. Cesario  
Chief Financial Officer (principal financial  
and chief accounting officer)