

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

SCHEDULE 14A

Proxy Statement Pursuant to Section 14(a) of  
the Securities Exchange Act of 1934

Filed by the Registrant

Filed by a Party other than the Registrant

Check the appropriate box:

- Preliminary Proxy Statement
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- Definitive Proxy Statement
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- Soliciting Material under §240.14a-12

**APPLIED NANOTECH HOLDINGS, INC.**

\_\_\_\_\_  
(Name of Registrant as Specified In Its Charter)

\_\_\_\_\_  
(Name of Person(s) Filing Proxy Statement, if other than the Registrant)

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## Chairman's Letter



3006 Longhorn Blvd., Suite 107, Austin, TX 78758  
Phone (512) 339-5020, Fax (512) 339-5021  
WWW.APPLIEDNANOTECH.NET

June \_\_, 2014

Dear Shareholders:

I invite you to join us for a special meeting of shareholders on July \_\_, 2014 at 10:00 A.M. unless postponed or adjourned to a later date. This is an important special meeting that affects your investment in Applied Nanotech Holdings, Inc. ("Applied Nanotech"). You will be asked to vote on three, possibly four, proposals. The fourth proposal will only be presented if there is not a quorum and would be a vote to adjourn the meeting until a later date.

The first proposal presented at the special meeting will be to seek approval for the business combination described in the Agreement and Plan of Merger and Exchange. The effect of the combination will be to redomesticate Applied Nanotech in Delaware, change its name to PEN Inc. ("PEN"), and, in a related merger and exchange, to make Nanofilm Ltd. a subsidiary of PEN. In the redomestication merger the total number of authorized shares of PEN common stock will be significantly greater than the number now authorized by Applied Nanotech, and the common stock of PEN will be subdivided into three different classes. Other than as specified herein, all shares of PEN common stock are identical, regardless of which class they are part of. The different classes of common stock have different voting rights, and the Class Z shares have certain other rights. Applied Nanotech shareholders will receive Class A common stock of PEN in the redomestication merger. Each outstanding share of Applied Nanotech common stock will be converted into a share of Class A common stock of PEN. Those shares, together with shares issued or reserved for issuance for existing commitments to issue shares of Applied Nanotech, will represent approximately 38% of the total PEN common stock immediately following the closing of the combination. Shares of Class A common stock have one vote per share.

The PEN shares issued in the combination with Nanofilm Ltd. to stockholders of NanoHolding Inc. ("NanoHolding") and Carl Zeiss, Inc. ("Zeiss"), the owners of Nanofilm, Ltd., will represent approximately 62% of the total PEN common stock. All three classes of PEN common stock will be issued in the combination with Nanofilm Ltd. Shares of Class B common stock issued to the Rickert Family, Limited Partnership which will have 100 votes per share. It is expected that upon completion of the combination, this Rickert partnership will own approximately 48% of the PEN common stock and will control approximately 98% of the voting power of PEN common stock immediately following the closing. The Class B common stock will also be convertible into Class A common stock at any time upon the election of the holders thereof. Scott Rickert, the sole general partner of this Rickert partnership is expected to be the Chief Executive Officer and Chairman of PEN after the combination. Zeiss will own approximately 9% of PEN through the ownership of Class Z common stock that is non-voting but has other rights described in this proxy, including the right to designate a member of the board of directors of PEN, certain anti-dilution rights and the right to convert into Class A common stock at any time upon election of the holders thereof. All stockholders of PEN will be subject to future dilution for, among other things, the conversion of the notes issued in the bridge financing by Applied Nanotech described below.

The second proposal at the special meeting will be to seek approval for an increase in the number of the shares of Applied Nanotech common stock if the combination does not occur. Approval of this proposal is important to enable us to meet our existing obligations and to provide a greater variety of financing options to us if the combination does not occur. If the combination does not close and if the share increase is approved, we will issue or reserve approximately 46 million shares in satisfaction of existing obligations and we expect the balance of the increased number of Applied Nanotech shares, approximately 297 million shares, will be available for issuance without stockholder approval (unless approval is otherwise required by applicable law, regulation, agreement or other arrangements).

The third proposal is required under SEC rules. We are asking, on a non-binding, advisory basis, whether our shareholders approve the compensation arrangements for Dr. Yaniv that will become effective if Proposal 1 is approved and the combination closes.

The fourth proposal, if approved, will allow us to adjourn the meeting if at the time of the meeting we do not have sufficient proxies to approve Proposal 1 and the combination.

WHETHER OR NOT YOU PLAN TO ATTEND THE SPECIAL MEETING, **PLEASE VOTE** YOUR SHARES BY INTERNET OR BY TELEPHONE AS IDENTIFIED IN THESE MATERIALS OR COMPLETE, SIGN, DATE AND PROMPTLY RETURN THE ACCOMPANYING PROXY IN THE ENCLOSED POSTAGE-PREPAID ENVELOP.

Very truly yours

Robert Ronstadt, Chairman

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**Notice of Meeting**

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NOTICE OF APPLIED NANOTECH HOLDINGS, INC. SPECIAL MEETING OF SHAREHOLDERS  
TO BE HELD ON JULY \_\_, 2014

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To Our Shareholders:

You are cordially invited to attend the Special Meeting of Shareholders of Applied Nanotech Holdings, Inc. (the "Company", "Applied Nanotech" or us) at \_\_\_\_\_, Dallas, TX \_\_\_\_ on Tuesday, July \_\_, 2014 at 10:00 a.m., Central Daylight Time. At the Special Meeting, shareholders will consider and act on the following matters described in more detail in the accompanying proxy statement:

1. To approve the Agreement and Plan of Merger and Share Exchange, as amended, and the business combination contemplated thereby;
2. To approve a proposal to amend the Company's Amended and Restated Articles of Incorporation to increase its authorized shares of capital stock from 162 million to 502 million and its authorized shares of common stock from 160 million to 500 million
3. To approve, on an advisory, non-binding basis, certain compensation arrangements with our current Chief Executive Officer that will become effective at the closing of the combination contemplated by Proposal 1.
4. To adjourn the meeting to solicit additional proxies if at the time of the meeting the proxies are not sufficient to approve Proposal 1.

Our Board of Directors unanimously recommends a vote **FOR** Items 1, 2, 3 and 4 described above. Holders of Applied Nanotech common stock will have appraisal rights under Texas law in connection with the redomestication merger that is part of the business combination.

Our Board of Directors has fixed June \_\_, 2014, as the record date for determining shareholders entitled to notice of and to vote at the Special Meeting. Only shareholders of record as of the record date will be entitled to notice of and to vote at the Special Meeting or any adjournment thereof. The proxy statement and accompanying proxy card will first be sent to shareholders beginning June \_\_, 2014.

For entry to the Special Meeting, each shareholder may be asked to present valid picture identification, such as a driver's license. Shareholders holding stock in brokerage accounts ("street name" holders) will need to bring a copy of a brokerage statement reflecting stock ownership as of the record date. Cameras, recording devices and other electronic devices will not be permitted at the meeting.

For ten days before the date of the Special Meeting, a complete list of the shareholders entitled to vote at the meeting will be available for examination by any shareholder for any purpose relating to the meeting during ordinary business hours at the Company's executive offices at 3006 Longhorn Boulevard, Suite 107, Austin, Texas 78758.

By Order of the Board of Directors

Robert Ronstadt, Chairman

Date: June \_\_, 2014

**WHETHER OR NOT YOU EXPECT TO ATTEND THE SPECIAL MEETING OF SHAREHOLDERS IN PERSON, PLEASE COMPLETE, DATE, SIGN, AND RETURN THE ACCOMPANYING PROXY CARD IN THE ENCLOSED PREPAID ENVELOPE AS PROMPTLY AS POSSIBLE TO ENSURE YOUR REPRESENTATION AT THE SPECIAL MEETING OF SHAREHOLDERS. EVEN IF YOU HAVE GIVEN YOUR PROXY, YOU MAY STILL VOTE IN PERSON IF YOU ATTEND THE SPECIAL MEETING OF SHAREHOLDERS. IF YOUR SHARES ARE HELD OF RECORD BY A BROKER, BANK OR OTHER NOMINEE (I.E., "STREET NAME"), YOU WILL NEED (1) TO OBTAIN FROM YOUR BROKER, BANK OR OTHER NOMINEE A PROXY ISSUED IN YOUR NAME, AUTHORIZING YOU TO VOTE THE SHARES, AND (2) BRING IT TO THE MEETING.**

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- Annex A* Agreement and Plan of Merger and Exchange, dated March 10, 2014
- Annex B* Voting and Conversion Agreement, dated March 10, 2014
- Annex C* Amendment to Agreement and Plan of Merger and Exchange, dated May 28, 2014.
- Annex D* Proposed amendment to Applied Nanotech Certificate of Incorporation to increase authorized Common Stock
- Annex E* Texas Business Organizations Code Chapter 10, Subchapter H



## **QUESTIONS AND ANSWERS ABOUT THE SPECIAL MEETING AND THE COMBINATION**

The following section provides answers to frequently asked questions about the special meeting of stockholders and the combination. This section, however, only provides summary information. These questions and answers may not address all issues that may be important to you as a stockholder. For a more complete response to these questions and for additional information, please refer to the cross-referenced pages below. You should carefully read this entire proxy statement, including each of the annexes.

### **Q: Why am I receiving this proxy statement?**

*A:* You are receiving this proxy statement because you have been identified as a stockholder of Applied Nanotech as of the record date, and thus you are entitled to vote at Applied Nanotech's special meeting of shareholders. This document serves as a proxy statement used to solicit proxies for the special meeting. This document contains important information about the combination and the special meeting of Applied Nanotech, and you should read it carefully.

### **Q: How does Applied Nanotech's board of directors recommend that Applied Nanotech's stockholders vote?**

*A:* After careful consideration, Applied Nanotech's board of directors unanimously recommends that Applied Nanotech's stockholders vote:

- **FOR** Proposal 1 to approve the Merger & Exchange Agreement and the combination;
- **FOR** Proposal 2 to approve an amendment to Applied Nanotech's certificate of incorporation to increase the number of shares of Applied Nanotech common stock in the event the combination does not occur;
- **FOR** Proposal 3 an advisory (non-binding) resolution to approve compensation payable to our current Chief Executive Officer if the combination closes; and
- **FOR** Proposal 4 to approve an adjournment of the special meeting, if necessary, to solicit additional proxies if there are not sufficient votes in favor of Proposal 1.

### **Q: May I vote in person?**

*A:* If you are a stockholder of Applied Nanotech and your shares of Applied Nanotech's common stock are registered directly in your name with the transfer agent, with respect to those shares you are the stockholder of record, and the proxy materials and proxy card are being sent directly to you by Applied Nanotech. If you are an Applied Nanotech stockholder of record, you may attend the special meeting to be held on July \_\_, 2014 and vote your shares in person, rather than signing and returning your proxy.

If your shares of Applied Nanotech's common stock are held by a bank, broker or other nominee, you are considered the beneficial owner of shares held in "street name," and the proxy materials are being forwarded to you together with a voting instruction card. As the beneficial owner, you are also invited to attend the special meeting. Since a beneficial owner is not the stockholder of record, you may not vote these shares in person at the special meeting unless you obtain a proxy from your broker issued in your name giving you the right to vote the shares at the special meeting.

### **Q: If my Applied Nanotech shares are held in "street name" by my broker, will my broker vote my shares for me?**

*A:* Your broker will not be able to vote your shares of Applied Nanotech's common stock without specific instructions from you for Proposal 1 (the combination) or Proposal 2 (the share increase) or Proposal 3 (the advisory vote on executive compensation) or Proposal 4 (to adjourn the meeting if there is a quorum but not sufficient votes to approve Proposal 1). You should instruct your broker to vote your shares, following the procedure provided by your broker.

Broker non-votes occur when a beneficial owner of shares held by a broker or other nominee does not give instructions as to how to vote on matters deemed "non-routine." If you are the beneficial owner of the shares you are generally entitled to give voting instructions to the broker or nominee holding the shares. If the beneficial owner does not provide voting instructions, the broker or nominee can only vote the shares with respect to matters that are considered to be "routine." Your broker will not be able to vote your shares of Applied Nanotech's common stock without specific instructions from you for any of Proposal 1, Proposal 2, Proposal 3 or Proposal 4. For your shares to be voted, you must instruct your broker to vote your shares by following the procedure provided by your broker.

**Q: May I change my vote after I have submitted a proxy or provided proxy instructions?**

A: Any Applied Nanotech stockholder of record voting by proxy, other than those Applied Nanotech stockholders who have executed a voting agreement, has the right to revoke the proxy at any time before the polls close at the special meeting by sending a written notice stating that he, she or it would like to revoke his, her or its proxy to the Corporate Secretary of Applied Nanotech, by providing a duly executed proxy card bearing a later date than the proxy being revoked or by attending the special meeting and voting in person. Attendance at the special meeting, without more, will not revoke a proxy. If a stockholder of Applied Nanotech has instructed a broker to vote its shares of Applied Nanotech's common stock that are held in "street name," the stockholder must follow directions received from its broker to change those instructions.

**Q: Am I entitled to appraisal rights?**

A: Yes, Applied Nanotech's stockholders are entitled to appraisal rights in connection with the combination that is Proposal 1, but not in connection with the other Proposals. To exercise this right, you must, among other requirements, give notice before the meeting to Applied Nanotech that you will exercise this right, you must vote against the merger, and you must reply within 20 days to the notice sent to you that the combination has occurred. This is more fully described in the section *The Combination – Proposal 1, Dissenters Rights of Applied Nanotech Shareholders* that starts on page 84. Stockholders interested in appraisal rights should carefully review that section of this proxy statement.

**Q: Who is soliciting my proxy?**

A: Applied Nanotech's directors and management are soliciting your proxy. The Applied Nanotech board of directors recommends a vote in favor of all four proposals that will be presented at the special meeting. The interests of the directors may be different from your interests as a shareholder. Their interests and the interests of the directors and executive officers are more fully described in *The Combination – Proposal 1, Interests of Applied Nanotech's Directors and Executive Officers in the Combination* that starts on page 75.

**Q: Who is entitled to vote at the special meeting?**

A: The holders of Applied Nanotech common stock are entitled to vote at the meeting. As of June \_\_, 2014 there were \_\_\_\_ shares of common stock outstanding. Each share of common stock is entitled to one vote per share.

**Q: What is the combination that is contemplated by Proposal 1?**

A: Applied Nanotech and NanoHolding, among others, have entered into an Agreement and Plan of Merger and Exchange, dated as of March 10, 2014 as amended, or the ("Merger & Exchange Agreement"), that contains the terms and conditions of the proposed business combination involving Applied Nanotech and NanoHolding. Defined terms herein may be found in the Merger and Exchange Agreement. Under the Merger & Exchange Agreement the combination occurs in three steps. First, Applied Nanotech will merge with and into its wholly-owned subsidiary PEN Inc., a Delaware corporation, with PEN as the survivor. This first merger is the Redomestication Merger. Immediately after the Redomestication Merger, NanoMerger Sub Inc., a wholly owned subsidiary of Applied Nanotech also called the acquisition subsidiary, will merge with NanoHolding. The acquisition subsidiary will be the survivor, and will change its name to Nanofilm Holdings Inc. This is referred to as the Nano Merger. Then, for the final step in the combination, Carl Zeiss, Inc. will exchange its membership interest in the subsidiary of NanoHolding, Inc. for stock in PEN. This step is referred to as the Exchange. After the Exchange, NanoHolding's subsidiary, Nanofilm Ltd., referred to as Nanofilm, will be a wholly owned subsidiary of PEN. Together, the Redomestication Merger, the Nano Merger and the Exchange are referred to as the combination.

Immediately following the effective time of the combination, NanoHolding's stockholders and Zeiss will, collectively, own approximately 62%, and Applied Nanotech's stockholders will own approximately 38%, of PEN's common stock, after giving effect to shares of Applied Nanotech issued following the Redomestication Merger pursuant to its outstanding obligations to, among others, holders of its convertible debt and its present and former executive officers and directors. As noted above, however, Scott Rickert as the general partner of Rickert Family, Limited Partnership will control approximately 99% of the voting power of all the common stock outstanding at the time of the closing.

For a more complete description of the combination, please see the section entitled *The Combination – Proposal 1* beginning on page 57 of this proxy statement.

**Q: What will happen to Applied Nanotech if, for any reason, the combination does not close?**

A: Applied Nanotech has invested significant time and incurred, and expects to continue to incur, expenses related to the proposed combination with NanoHolding. In the event the combination does not close, Applied Nanotech plans to continue its current operations, but will need to raise funds to pay accrued liabilities and transaction expenses. To raise funds by selling equity or convertible debt, Applied Nanotech will need additional authorized shares as requested by Proposal 2. Applied Nanotech's board of directors will continue to look at alternatives including licensing and asset sales and other potential strategic transactions if the combination with NanoHolding does not close.

Proposal 2, to authorize an increase in the number of authorized shares of common stock is important to us if the combination is not approved or does not close. We do not have sufficient authorized stock to permit conversion of all of our outstanding convertible notes or the new convertible capital notes issued in the bridge financing. To meet our existing obligations, and to enable us to finance our operations with addition convertible debt or equity offerings, we must increase our authorized number of shares of common stock. Proposal 2 would result in an increase of 340 million shares. After satisfying existing obligations and reserving shares for other existing contingencies, the share increase would leave us with approximately 297 million shares that the board could use for future financings if we continue on a stand-alone basis. Further information about Proposal 2 and the share increase is set out in the section *The Share Increase – Proposal 2* starting on page 86 of this proxy statement.

**Q: Why is Applied Nanotech proposing the combination?**

A: Applied Nanotech's board of directors considered a number of factors that supported its decision to approve the Merger & Exchange Agreement, including the provision that requires that they recommend to the shareholders a vote in favor of the combination. In the course of its deliberations, Applied Nanotech's board of directors also considered a variety of risks and other countervailing factors related to entering into the Merger & Exchange Agreement

For a more complete discussion of Applied Nanotech's reasons for the combination, please see the section *The Combination – Proposal 1, Recommendation and Reasons for the Combination* that starts on page 59.

**Q: What is required to consummate the combination?**

A: To consummate the combination, Applied Nanotech's stockholders must approve the Merger & Exchange Agreement which has the effect of approving: (1) the Redomestication Merger by which Applied Nanotech will become a Delaware corporation and our shareholders will receive PEN Class A common stock for their Applied Nanotech common stock, the creation of the Class B common stock and Class Z common stock and the name change to PEN Inc., (2) the Nano Merger that is the merger of acquisition subsidiary with NanoHolding in which acquisition subsidiary survives and changes its name to Nanofilm Holdings and the issuance of Class A common stock and Class B common stock of PEN to the stockholders of NanoHolding, and (3) the Exchange by which PEN issues shares of its Class Z common stock to Zeiss in exchange for interests in Nanofilm so that Nanofilm becomes a wholly owned subsidiary of PEN. Approval of Proposal 1 requires the affirmative vote of the holders of a majority of the issued and outstanding shares of Applied Nanotech's common stock as of the record date for the special meeting, present in person or represented by proxy and voting at the meeting.

In addition, NanoHolding's stockholders must adopt the Merger & Exchange Agreement, which requires the affirmative vote of holders of a majority of the issued and outstanding shares of NanoHolding's common stock. On May 28, 2014, by the requisite vote, the stockholders of NanoHolding adopted the Merger & Exchange Agreement pursuant to a written consent in lieu of a meeting. In addition to obtaining stockholder approval, each of the other closing conditions set forth in the Merger & Exchange Agreement must be satisfied or waived.

For a more complete description of the closing conditions under the Merger & Exchange Agreement, please see the section *The Combination – Proposal 1, The Merger & Exchange Agreement – Conditions to the Completion of the Combination* that starts on page 67.

**Q: Are there any federal or state regulatory filings, approvals or clearances that must be made or obtained in connection with the combination?**

A: Neither Applied Nanotech nor NanoHolding is required to make any filings or to obtain any approvals or clearances from any antitrust regulatory authorities in the United States or other countries to consummate the combination. Applied Nanotech must comply with applicable United States federal and state securities laws in connection with the combination, including the filing with the SEC of this proxy statement.

**Q: What will stockholders of Applied Nanotech receive in the combination?**

A: Each share of Applied Nanotech common stock outstanding at the time of the Redomestication Merger will be converted into one share of PEN's Class A common stock.

After the Nano Merger and Exchange, the common stock issued or issuable to stockholders of Applied Nanotech, holders of its convertible debt and its officers and directors as a result of the combination is expected to represent approximately 38% of the PEN common stock. Shares of PEN's common stock issued to stockholders of NanoHolding and to Zeiss in the combination are expected to represent approximately 62% of Applied Nanotech's common stock. At the effective time of the Nano Merger, each share of NanoHolding's common stock will be converted into and exchanged for the right to receive a number of shares of PEN's common stock equal to the exchange ratio calculated in accordance with the Merger & Exchange Agreement. The exact exchange ratio per share of NanoHolding's common stock will be based in part on the number of shares of Applied Nanotech common stock outstanding on the closing date and the number of shares Applied Nanotech is obligated to issue in the future, except that outstanding options to purchase 5,887,714 shares of common stock of Applied Nanotech will not be included. The exchange ratio will be determined immediately prior to the effective time of the Nano Merger and will not be calculated until that time. The same exchange ratio will be used to determine the number of PEN shares to be issued in the Nano Merger and the number of PEN shares that will be issued to Zeiss in the Exchange.

For a more complete discussion of consideration you will receive please see the section *The Combination – Proposal 1, The Merger & Exchange Agreement– Consideration to Applied Nanotech Shareholders* that starts on page 62.

**Q: Why does PEN have different classes of common stock and what does it mean that Applied Nanotech stockholders will receive Class A common stock of PEN?**

A: All shares of PEN common stock have the same rights to dividends and the same liquidation rights. The economic rights of the holders of Class A common stock, Class B common stock and Class Z common stock are the same.

Different classes of PEN common stock have different voting rights. Applied Nanotech stockholders will receive shares of Class A common stock. Holders of Class A common stock are entitled to one vote per share. Holders of Class B common stock are entitled to 100 votes per share. In the combination, Class B common stock will be issued to Rickert Family, Limited Partnership which is controlled by Scott Rickert, who will be the Chairman of the Board and Chief Executive Officer of PEN after the combination. Because of the super voting rights of the Class B common stock, Scott Rickert will control approximately 99% of the voting power of PEN after the combination. If Class B common stock is no longer controlled by the Rickert family, it automatically converts to Class A common stock. Each share of Class B common stock is also convertible into one share of Class A common stock at any time at the option of the holder.

The Class Z common stock has no voting rights. However the holder of the Class Z common stock will be entitled to nominate one person to serve on the PEN board of directors. James Sharp will be the Zeiss designated director on the PEN board. Class Z common stock also has anti-dilutive rights that, subject to limited exceptions, permit holders of Class Z common stock to purchase additional shares or equity rights issued by PEN (on the same terms as made available to third parties by PEN) to maintain their economic ownership percentage. The holders of Class Z common stock are also entitled to receive a copy of any notice sent to the holders of Class A common stock or Class B common stock, as and when the notice is sent to such holders. Shares of Class Z common stock are only being issued in the Exchange with Zeiss; the third step in the combination. If Class Z common stock is transferred out of the Zeiss control group, it automatically converts into Class A common stock and, if Zeiss sells or exchanges more than half of the stock it acquires in the Exchange, then all the Class Z common stock automatically converts into Class A common stock. In addition, each share of Class Z common stock is convertible into one share of Class A common stock at any time at the option of the holder.

**Q: Who will be the directors of PEN following the combination?**

A: From and immediately after the effective time of the combination, the initial directors to serve on the board of directors of PEN shall be three continuing directors of Applied Nanotech: Ronald J. Berman, Dr. Robert Ronstadt and Howard Westerman and four persons nominated by NanoHolding: Douglas Q. Holmes, Jeanne M. Rickert, Scott E. Rickert, and James Sharp. James Sharp will be the initial Zeiss designated director on the PEN board. Each of these individuals will serve until their respective successors are duly elected or appointed and qualified or their earlier death, resignation or removal. In addition, until one year after the closing, PEN and its Board of Directors will permit a board observer to attend all meetings of the PEN Board of Directors in a nonvoting observer capacity. That observer is another current director of Applied Nanotech, Paul Rocheleau.

**Q: Who will be the executive officers of PEN following the combination?**

A: Promptly following the effective time of the combination, the executive management team for PEN is expected to include the three individuals identified below. None of them will have employment agreements with PEN or any of its subsidiaries.

<u>Name</u>	<u>Position with the Combined Company</u>	<u>Current Position</u>
Scott E. Rickert, PhD.	Chairman of the Board Chief Executive Officer	Chief Executive Officer of NanoHolding & Nanofilm
Bruce Vereecken	Chief Financial Officer	Chief Financial Officer of NanoHolding & Nanofilm
Jeanne M. Rickert	Chief Legal Officer	General Counsel of NanoHolding & Nanofilm

**Q: What are the material federal income tax consequences of the combination to me?**

A: The Redomestication Merger and the Nano Merger have been structured to qualify as a reorganization within the meaning of Section 368 of the Internal Revenue Code of 1986, as amended, or the Code. No tax opinions will be given for any party. There will be no U.S. federal income tax consequences to Applied Nanotech's stockholders as a result of the combination.

Tax matters are very complicated, and the tax consequences of the combination to a particular stockholder will depend in part on such stockholder's circumstances. Accordingly, you are urged to consult your own tax advisor for a full understanding of the tax consequences of the combination to you, including the applicability and effect of federal, state, local and foreign income and other tax laws.

For a more complete description of the consequences of the combination, please see the section *The Combination – Proposal 1, Material U.S. Federal Income Tax Consequences to Applied Nanotech Shareholders* that starts on page 76.

**Q: What risks should Applied Nanotech's stockholders consider in deciding whether to vote in favor of the combination?**

A: Applied Nanotech's stockholders should carefully read the section *Risk Factors* beginning on page 13, which sets forth certain risks and uncertainties related to the combination, risks and uncertainties to which the combined company's business will be subject, risks and uncertainties to which Applied Nanotech, as an independent company, is subject and risks and uncertainties to which NanoHolding, as an independent company, is subject.

**Q: When do you expect the combination to be consummated ?**

A: Applied Nanotech and NanoHolding anticipate that the consummation of the combination (if approved) will occur as promptly as practicable after the special meeting. They expect at that time that all closing conditions will either have been satisfied or be waived. However, the exact timing of the consummation of the combination is not yet known. For a more complete description of the closing conditions under the Merger & Exchange Agreement, please see the section *The Combination – Proposal 1, The Merger & Exchange Agreement – Conditions to Completion of the Combination* that starts on page 67. See also, the section *Information About the Special Meeting, Anticipated Completion Date for the Combination* starting on page 29.

**Q: How will the combination affect stock options to acquire Applied Nanotech common stock?**

*A:* Upon the effectiveness of the combination, each outstanding option to purchase Applied Nanotech's common stock will continue and become an option to purchase an equivalent number of shares of PEN's Class A common stock.

**Q: What do I need to do now?**

*A:* You are urged to read this proxy statement carefully, including each of the annexes, and to consider how the combination affects you. If your shares are registered directly in your name, you may complete, date and sign the enclosed proxy card and mail return it in the enclosed postage-paid envelope. Alternatively, you can deliver your completed proxy card in person or vote by completing a ballot in person at the special meeting. If your shares are held in street name by your broker, bank or other nominee, you must instruct the broker, bank or nominee how to vote your shares following instructions that are provided to you.

**Q: What happens if I do not return a proxy card or otherwise provide proxy instructions?**

*A:* The failure to return your proxy card or otherwise provide proxy instructions will have the same effect as voting against Proposal 1, Proposal 2 and Proposal 3. If your shares are held in street name, the failure to give instructions as to how to vote your shares on Proposal 4 will have the same effect as voting against Proposal 4.

**Q: Should Applied Nanotech's stockholders send in their stock certificates now?**

*A:* No. After the combination is consummated, PEN shares will not be represented by certificates. Stockholders of Applied Nanotech will receive information as to the electronic certification of their PEN shares after the closing. After the PEN share information has been distributed to PEN shareholders Applied Nanotech will purge its shareholder records and you may destroy your Applied Nanotech share certificate(s).

**Q: Have NanoHolding's stockholders agreed to the combination?**

*A:* Yes. On May 28, 2014, NanoHolding's stockholders adopted the Merger & Exchange Agreement and approved the combination pursuant to a written consent in lieu of a meeting.

**Q: Have any of Applied Nanotech's stockholders agreed to vote in favor of the combination?**

*A:* Yes. In connection with the execution of the Merger & Exchange Agreement, the directors of Applied Nanotech and Sichuan Yinhee Chemical Co., Ltd. who hold, collectively, approximately 5% of Applied Nanotech's outstanding common stock have entered into an agreement with NanoHolding that provides, among other things, that they will vote in favor of the combination and the Merger & Exchange Agreement.

**Q: Has either Applied Nanotech or NanoHolding entered into any agreements with NanoHolding's and Applied Nanotech's stockholders restricting the transfer of shares of their common stock?**

*A:* Yes. Until the closing, the agreement that NanoHolding entered into with Applied Nanotech's directors and Sichuan Yinhee Chemical Co., Ltd. described above requires that any transferee acquiring shares of Applied Nanotech from a signatory stockholder agree to the voting covenants to assure that those shares are voted in favor of the combination. There are no agreements that restrict the transfer of shares in NanoHolding, but its stockholders have already approved the combination.

**Q: Who is paying for this proxy solicitation?**

A: Applied Nanotech will bear the cost of soliciting proxies, including the printing, mailing and filing of this proxy statement, the proxy card and any additional information furnished to Applied Nanotech's stockholders. Applied Nanotech has engaged Morrow & Co., LLC, a proxy solicitation firm, to solicit proxies from Applied Nanotech's stockholders. Morrow will be paid \$10,000 plus \$6.50 per holder to assist with the solicitation of proxies. Arrangements will also be made with banks, brokers, nominees, custodians and fiduciaries who are record holders of Applied Nanotech's common stock for the forwarding of solicitation materials to the beneficial owners of Applied Nanotech's common stock. Applied Nanotech will reimburse these banks, brokers, nominees, custodians and fiduciaries for the reasonable out-of-pocket expenses they incur in connection with the forwarding of solicitation materials.

**Q: Who can provide me with additional information and help answer my questions ?**

A: If you would like additional copies, without charge, of this proxy statement or if you have questions about the combination and the other proposals being considered at the special meeting, including the procedures for voting your shares, you should contact [ \_\_\_\_\_ ], **Applied Nanotech's proxy solicitor, by telephone at \_\_\_\_\_.**]

**SUMMARY**

This summary highlights selected information from this proxy statement and may not contain all of the information that is important to you. To better understand the combination and the other proposals being considered at the special meeting, you should read this entire proxy statement carefully, including the materials attached as annexes, as well as other documents referred to or incorporated by reference herein. See *Where You Can Find More Information* beginning on page 92. Page references are included in parentheses to direct you to a more detailed description of the topics presented in this summary.

**The Companies**

**Applied Nanotech, Inc.**

3006 Longhorn Boulevard, Suite 107  
Austin, Texas 78758  
(512) 339-5020

Applied Nanotech Holdings, Inc. (APNT) is an Austin, Texas-based global leader in nanotechnology research and development and has ongoing research programs and license agreements with product innovators around the world. For information about Applied Nanotech Holdings, Inc., please visit [www.appliednanotech.net](http://www.appliednanotech.net).

**NanoHolding Inc.**

10111 Sweet Valley Drive  
Valley View, Ohio 44125  
(216) 447-1199

NanoHolding is the parent company of Nanofilm, Ltd., a private company located in Valley View, Ohio, that develops nano-layer coatings, nano-based cleaners, and nano-composite products. NanoHolding's primary commercial products center on its unique eyewear glass cleaning and de-fogging products; other products include precision mold release treatments, stay-clean surface treatments for ceramic insulators, and scuff-resistant treatments for commercial dinnerware. For information about NanoHolding, please visit [www.nanofilmttechnology.com](http://www.nanofilmttechnology.com).

**Summary of the Combination**

Upon the terms and subject to the conditions of the Merger & Exchange Agreement, Applied Nanotech will merge with and into its wholly-owned subsidiary, and that subsidiary, PEN Inc., a Delaware corporation, will be the survivor. This first merger is the Redomestication Merger. Immediately after the Redomestication Merger, another subsidiary of Applied Nanotech will merge with and into NanoHolding Inc. That acquisition subsidiary will be the survivor, and will change its name to Nanofilm Holdings Inc. This is referred to as the Nano Merger. Then, for the final step in the combination, Carl Zeiss, Inc. will exchange its membership interest in NanoHolding's subsidiary for stock in PEN. After the Exchange, NanoHolding's subsidiary, Nanofilm Ltd., referred to as Nanofilm, will be an indirect wholly owned subsidiary of PEN. The Redomestication Merger, the Nano Merger and the Exchange are referred to as the combination. The three steps are linked: if one happens, they will all happen. If one is not closing, none of the steps will occur. Immediately after the effective time of the combination, NanoHolding's stockholders and Zeiss will own approximately 62% of the value of PEN common stock, and Applied Nanotech's former stockholders will own approximately 38% of the value of PEN common stock. The former stockholders of Applied Nanotech will include those holding the common stock of Applied Nanotech that is now outstanding as well as shares that Applied Nanotech is obligated to issue to, among others, certain of its convertible note holders and its present and former executive officers and directors, but excluding outstanding options issued by Applied Nanotech. Rickert Family, Limited Partnership, one of the stockholders of NanoHolding will receive Class B common stock of PEN in the combination that has 100 votes per share and after the combination Scott Rickert, as the sole general partner of that partnership will control approximately 99% of the voting power of the PEN common stock.

### **Reasons for the Combination (see page 59)**

After careful consideration of the terms and conditions of the Merger & Exchange agreement, the board of directors of Applied Nanotech has determined that the combination is fair to and in the best interests of Applied Nanotech and its stockholders. In reaching its decision, the board of directors of Applied Nanotech considered many factors, including the history of operating losses and limited financing options and the expense and dilution caused by recent financing activities and its meetings with Scott Rickert and the due diligence materials related to NanoHolding. The independent members of the Board who comprised the Special Committee that negotiated the Merger & Exchange Agreement concluded that they had explored available options for Applied Nanotech to remain independent, and there was sufficient information and appropriate procedural safeguards in place that they should not incur the expense of retaining an independent financial advisor.

### **Overview of the Merger & Exchange Agreement**

#### ***Consideration (see page 62)***

At the effective time of the Redomestication Merger:

- each share of Applied Nanotech common stock, other than dissenting shares, will be converted solely into the right to receive one share of PEN's Class A common stock;
- any dissenting shares will cease to represent any interest in PEN and will have the rights and remedies under the Texas Business Organizations Code ("TBOC"), except if the holder loses the rights under the TBOC for any reason, each shares will be converted solely into the right to receive one share of PEN Class A common stock; and
- any shares of Applied Nanotech common stock held as treasury stock will be cancelled and cease to exist and no consideration shall be delivered in exchange therefor.

At the effective time of the Nano Merger:

- each share of NanoHolding common stock, other than dissenting shares, shall be converted solely into the right to receive that number of shares of PEN common stock determined by the exchange ratio. Rickert Family, Limited Partnership, the only holder of NanoHolding Class B common stock, will receive shares of PEN Class B common stock. All other stockholders of NanoHolding will receive PEN Class A common stock;
- any dissenting shares will cease to represent any interest in NanoHolding and will have the rights and remedies under the Delaware General Corporation Law ("DGCL"), except if the holder loses the rights under the DGCL for any reason, each shares will be converted solely into the right to receive that number of PEN Class A common stock as determined by the exchange ratio; and
- any shares of NanoHolding common stock held as treasury stock or held or owned by PEN or any of its subsidiaries shall be cancelled and cease to exist and no consideration shall be delivered in exchange therefor.

In the Exchange, Zeiss will exchange its Class Z membership units in Nanofilm for PEN Class Z common stock based on the number of Class Z membership units in Nanofilm multiplied by the exchange ratio.

No fractional shares of PEN common stock will be issued in the combination. Instead, any NanoHolding stockholder or Zeiss who would otherwise be entitled to receive a fraction of a share of Applied Nanotech common stock will be entitled to receive one additional share of the applicable class of PEN common stock.



***Stock Options of Applied Nanotech (see page 75)***

Each outstanding option to purchase Applied Nanotech common stock unexercised prior to the effective time of the combination will become an obligation of PEN as a result of the Redomestication Merger. Accordingly, from and after the closing of the combination, each option assumed by PEN may be exercised solely for an equal number of shares of PEN Class A common stock.

***Conditions to Completion of the Combination  
(see page 67)***

Consummation of the combination is subject to a number of conditions (subject to certain exceptions in the Merger & Exchange Agreement), including, among others, the following:

- no action, suit or proceeding shall have been instituted before any court or governmental or regulatory body or instituted by any governmental authority to restrain, modify or prevent the carrying out of the combination, to seek material damages or a discovery order in connection with the combination, and there shall exist no injunction or other order issued by any governmental authority or court of competent jurisdiction which prohibits the consummation of any part of the combination;
- obtaining requisite Applied Nanotech and NanoHolding stockholder approvals;
- all representations and warranties in the Merger & Exchange Agreement must be true and correct, when read without any qualifications relating to “materiality,” or “Material Adverse Effect”, except in each case where the failure of to be true and correct has not had, and would not reasonably be expected to have, a material adverse effect on the party making the representations and warranties; and
- receipt of all required consents and performance or compliance with in all material respects all covenants and obligations on or before the closing of the combination, and delivery of certain certificates and other documents required under the Merger & Exchange Agreement for the closing.

In addition, the obligation of Applied Nanotech to complete the combination is further subject to the satisfaction or waiver of the following condition: there shall have not been any occurrence, event, incident, action, failure to act or transaction since September 30, 2013 which, subject to certain exceptions, has had or is reasonably likely to cause an effect that is materially adverse to the condition (financial or otherwise), properties, assets, liabilities, business, operations or results of operations of NanoHolding and its subsidiaries taken as a whole.

Similarly, the obligation of NanoHolding to complete the combination is further subject to the satisfaction or waiver of the following condition: there shall have not been any occurrence, event, incident, action, failure to act or transaction since September 30, 2013 which, subject to certain exceptions, has had or is reasonably likely to cause an effect that is materially adverse to the condition (financial or otherwise), properties, assets, liabilities, business, operations or results of operations of Applied Nanotech and its subsidiaries taken as a whole.

***No Solicitation (see page 68)***

Applied Nanotech agreed that, subject to specified exceptions in the Merger & Exchange Agreement, Applied Nanotech shall not, and shall not authorize or permit any investment banker, financial advisor, attorney, accountant or other person retained by or acting for or on behalf of Applied Nanotech to, directly or indirectly:

- initiate, assist, solicit, negotiate, or encourage any offer, inquiry or proposal from any person relating to any acquisition of that person or Applied Nanotech (regardless of the structure of any such acquisition);
- any other action that has the primary effect of avoiding the closing under the Merger & Exchange Agreement;

Applied Nanotech is required promptly to notify NanoHolding if Applied Nanotech receives any proposal or inquiry regarding a transaction that would be a superior proposal and provide NanoHolding with the significant terms and conditions of the proposal including the identity of the party making the proposal.

### **Termination of the Merger & Exchange Agreement (see page 72)**

Either Applied Nanotech or NanoHolding can terminate the Merger & Exchange Agreement under specified circumstances, which would prevent the combination from being consummated.

### **No Termination Fee (see page 72)**

There is no termination fee payable under the Merger & Exchange Agreement. If the combination does not occur, each party will bear its own expenses.

### **Voting and Conversion Agreement (see page 73)**

Substantially concurrently with the execution of the Merger & Exchange Agreement, the directors of Applied Nanotech and Sichuan Yinhee Chemical Co., Ltd. who hold, collectively, approximately 5% of Applied Nanotech's outstanding common stock entered into an agreement with NanoHolding that provide, among other things, that such directors and stockholders will vote in favor of the combination and the Merger & Exchange Agreement. In addition, the voting and conversion agreement requires that any transferee acquiring shares of Applied Nanotech from a signatory stockholder agree to the voting covenants to assure that those shares are voted in favor of the combination.

### **Management Following the Combination (see page 69)**

At the effective time of the combination, the executive management team of the combined company is expected to include the following individuals:

<u>Name</u>	<u>Position with the Combined Company</u>	<u>Current Position</u>
Scott E. Rickert, PhD.	Chairman of the Board Chief Executive Officer	Chief Executive Officer of NanoHolding & Nanofilm
Bruce Vereecken	Chief Financial Officer	Chief Financial Officer of NanoHolding & Nanofilm
Jeanne M. Rickert	Chief Legal Officer	General Counsel of NanoHolding & Nanofilm

### **The Board of Directors Following the Combination (see page 69)**

From and immediately after the effective time of the combination, the initial directors to serve on the board of directors of PEN shall be three continuing directors of Applied Nanotech: Ronald J. Berman, Dr. Robert Ronstadt and Howard Westerman and four persons nominated by NanoHolding: Douglas Q. Holmes, Jeanne M. Rickert, Scott E. Rickert, and James Sharp who is the Zeiss designee. Each of these will serve until their respective successors are duly elected or appointed and qualified or their earlier death, resignation or removal. In addition, until one year after the closing, PEN and its Board of Directors will permit a board observer to attend all meetings of the PEN Board of Directors in a nonvoting observer capacity. That observer is another director of Applied Nanotech, Paul Rocheleau.

### **Interests of Applied Nanotech's Directors and Executive Officers (see page 74)**

In considering the recommendation of Applied Nanotech's board of directors with respect to the Merger & Exchange Agreement and the other matters to be acted upon by Applied Nanotech's stockholders at the special meeting, Applied Nanotech's stockholders should be aware that members of the board of directors and executive officers of Applied Nanotech have interests in the combination that may be different from, or in addition to, interests they may have as stockholders.

### **Interests of NanoHolding's Director Nominees (see page 75)**

Applied Nanotech's stockholders also should be aware that the directors nominated by NanoHolding have interests in the combination that may be different from, or in addition to, interests of the shareholders of Applied Nanotech.

### **Material U.S. Federal Income Tax Consequences of the Combination (see page 76)**

Assuming that the first two steps of the combination, the Redomestication Merger and the Nano Merger, will be treated for U.S. federal income tax purposes as a reorganization within the meaning of Section 368(a) of the Code and subject to the qualifications and assumptions described in this proxy statement, neither Applied Nanotech nor its stockholders will recognize any gain or loss for federal income tax purposes as a result of the combination. Therefore, there will be no material U.S. federal income tax consequences of the combination for Applied Nanotech stockholders.

### **Risk Factors (see page 13)**

The combination, including the possibility that the transactions may not be consummated, poses a number of risks to Applied Nanotech and its stockholders. In addition, both Applied Nanotech and NanoHolding are subject to various risks associated with their businesses and their industries, and the combined business of PEN will also be subject to those and other risks.

### **Regulatory Approvals (see page 66)**

Neither Applied Nanotech nor NanoHolding is required to make any filings or to obtain approvals or clearances from any antitrust regulatory authorities in the United States or other countries to consummate the combination. In the United States, Applied Nanotech must comply with applicable federal and state securities laws, including filing this proxy statement with the SEC.

### **Anticipated Accounting Treatment**

The combination will be treated by Applied Nanotech as a reverse combination under the purchase method of accounting in accordance with U.S. generally accepted accounting principles, or GAAP. For accounting purposes, NanoHolding is considered to be acquiring Applied Nanotech in this transaction.

### **Appraisal Rights (see page 66)**

Applied Nanotech's stockholders are entitled to appraisal rights in connection with the combination. Texas law imposes very specific requirements on shareholders who want to exercise appraisal rights and those interested in appraisal rights should carefully review those provisions.

### **Comparison of Stockholder Rights (see page 77)**

Applied Nanotech is incorporated under the laws of the State of Texas and, as a result of the Redomestication Merger, Applied Nanotech stockholders will receive shares in PEN, a Delaware corporation, and after the combination your rights will be governed by the Delaware General Corporation Law and the certificate of incorporation and the bylaws of PEN. As a result, there will be material differences between the current rights of Applied Nanotech stockholders, governed by the restated articles of incorporation, as amended, and third amended and restated by-laws, as amended, of Applied Nanotech and the TBOC, and the rights they will have as holders of PEN Class A common stock.

### MARKET PRICE INFORMATION

Our common stock, \$0.001 par value, trades on the OTC Bulletin Board system under the symbol "APNT". The following table sets forth, on a per share basis for the periods indicated, the high and low sale prices for the common stock as reported by the OTC Bulletin Board system. These quotations reflect inter-dealer prices, without retail mark-up, mark-down or commission and may not represent actual transactions.

		<u>High</u>	<u>Low</u>
<b>2012</b>	First Quarter	\$0.37	\$0.22
	Second Quarter	\$0.25	\$0.17
	Third Quarter	\$0.21	\$0.14
	Fourth Quarter	\$0.21	\$0.05
<b>2013</b>	First Quarter	\$0.20	\$0.08
	Second Quarter	\$0.12	\$0.08
	Third Quarter	\$0.10	\$0.04
	Fourth Quarter	\$0.07	\$0.02
<b>2014</b>	First Quarter	\$0.11	\$0.03
	Second Quarter (through June __, 2014)		

As of June \_\_, 2014 the closing sale price for our common stock as reported on the OTC Bulletin Board system was \$0.0\_. As of that date, there were approximately [350] shareholders of record for our common stock. This does not include beneficial owners holding stock in street name in brokerage accounts. As of our last record of total shareholders, including those holding stock in street name, there were approximately [6,500] shareholders.

## RISK FACTORS

*You should consider the following factors in evaluating whether to approve the Merger & Exchange Agreement and the combination. These factors should be considered in conjunction with the other information included or incorporated by reference by Applied Nanotech in this proxy statement.*

### **Risks related to the Combination**

***You cannot be sure of the market value of the shares of PEN common stock you will receive in the business combination.***

Upon completion of the combination, each share of Applied Nanotech common stock that you hold will be converted into the right to receive one share of PEN Class A common stock. There will be no adjustment to the per share consideration or exchange ratio due to changes in the value of shares of NanoHolding, in the value of Nanofilm or because of changes in the market price of Applied Nanotech common stock; moreover, the Merger & Exchange Agreement does not provide for any price-based termination right. Accordingly, the market value of the shares of PEN Class A common stock that you will be entitled to receive upon completion of the combination could vary significantly from the market value on the date of this proxy statement or the date of the special meeting.

Variations in the value could be the result of changes in the business, operations or products of NanoHolding or Applied Nanotech prior to the combination, expectations regarding those businesses following the combination, market assessments of the likelihood that the combination will be completed or the timing of the completion of the combination, general market and economic conditions and other factors both within and beyond the control of any of the parties.

***Because the lack of a public market for the NanoHolding shares makes it difficult to evaluate the fairness of the exchange ratio, NanoHolding's stockholders and Zeiss may receive consideration in the business combination that is greater than -- or less than -- the fair market value of the NanoHolding business.***

The outstanding capital stock of NanoHolding is privately held and is not traded in any public market. The lack of a public market makes it extremely difficult to determine the fair market value of NanoHolding or its subsidiary Nanofilm. Since the percentage of Applied Nanotech's equity to be issued in exchange for the ownership of Nanofilm was determined based on negotiations between the parties, it is possible that the value of the PEN common stock to be issued to stockholders of NanoHolding and Zeiss in the combination will be greater than the fair market value of Nanofilm. Alternatively, it is possible that the value of the shares of PEN's common stock to be issued to them in the combination will be less than the fair market value of Nanofilm.

### ***Recommendation of the Applied Nanotech Board of Directors for the Combination***

After careful consideration of the terms and conditions of the Merger & Exchange Agreement the board of directors of Applied Nanotech has unanimously determined that the combination is fair to and in the best interests of Applied Nanotech and its shareholders and recommends that they vote for the combination.

In reaching its decision, the board of directors of Applied Nanotech considered the losses from operations that Applied Nanotech has had every year except for one during the past decade, the efforts undertaken over the years by Applied Nanotech to commercialize products using its intellectual property, and the terms of financing for Applied Nanotech's operations that were available to it in 2013 and in prior years. The board of directors also considered the due diligence materials provided by NanoHolding and the board's assessment of the management team, especially Dr. Rickert.

The board of directors did not obtain a fairness opinion on which to base its assessment. Applied Nanotech is not required to obtain an opinion from an unaffiliated third party that the price it is paying is fair to its public shareholders from a financial point of view.

***Some of Applied Nanotech's directors and officers, and the NanoHolding director nominees have conflicts of interest that may influence them to support or approve the business combination.***

Officers and directors of Applied Nanotech have arrangements that provide them with interests in the combination that are different from yours, including, among others, their continued service as an officer or director of the combined company and director and officer insurance protection. These interests, among others, may influence the officers and directors of Applied Nanotech to support or approve the business combination. The NanoHolding nominees also have interests in the combination that would be different from yours. For example, Dr. Rickert, the sole director of NanoHolding also has interests in the combination that are different from yours, including the receipt of the Class B common stock of PEN, his service and that of his wife, Jeanne Rickert, as officers and directors of PEN. More information about this is set out in *The Combination – Proposal 1, Interests of Applied Nanotech's Directors and Executive Officers in the Combination, and Interests of NanoHolding Director Nominees in the Combination*, that start on page 74 and page 75.

***The combination may be completed even though material adverse changes may result from the announcement of the combination, industry-wide changes and other causes.***

In general, either Applied Nanotech or NanoHolding can refuse to complete the business combination if there is a material adverse change affecting the other party after September 30, 2013 and the closing. However, some types of changes do not permit either party to refuse to close, even if those changes would have a material adverse effect on Applied Nanotech or NanoHolding. The following changes will not allow either party to refuse to complete the combination if the change does not have a materially disproportionate effect on Applied Nanotech or NanoHolding, as the case may be:

- changes in general economic conditions or capital or credit markets,
- changes to the economic conditions affecting the industries in which either of them operates,
- changes related to or arising from the execution, announcement or performance of, or compliance with, the Merger & Exchange Agreement or the consummation of the combination,
- changes in accounting requirements or principles or any change in applicable legal requirements or the interpretation thereof; or
- the failure to meet any projections.

If adverse changes occur but the parties must still complete the business combination, PEN's stock price may suffer.

***The closing of the business combination is subject to many conditions and if these conditions are not satisfied or waived, the business combination will not be completed.***

The closing of the combination is subject to a number of conditions as set forth in the Merger & Exchange Agreement that must be satisfied or waived, including, the Applied Nanotech shareholder approval and the absence of any law or order prohibiting the closing of the business combination.

The closing of the business combination is also dependent on the accuracy of representations and warranties made by the parties to the Merger & Exchange Agreement (subject to customary materiality qualifiers and other customary exceptions) and the performance in all material respects by the parties of obligations imposed under the Merger & Exchange Agreement.

For a more complete summary of the conditions that must be satisfied or waived prior to completion of the business combination, see the section entitled *The Combination – Proposal 1, The Merger & Exchange Agreement - Merger & Exchange Agreement—Conditions to Completion of the Combination* beginning on page 67.

There can be no assurance whether or when the conditions to closing of the business combination will be satisfied or waived or the business combination will be consummated.

***During the pendency of the business combination, Applied Nanotech may not be able to enter into a business combination with another party, incur additional financing or engage in certain other transactions because of restrictions in the Merger & Exchange Agreement.***

Restrictions in the Merger & Exchange Agreement do not allow Applied Nanotech to accomplish a financing (other than the bridge financing), make acquisitions or complete other transactions that are not in the ordinary course of business pending completion of the combination. As a result, if the combination is not completed, the parties may be at a disadvantage to their competitors. In addition, while the Merger & Exchange Agreement is in effect and subject to limited exceptions, Applied Nanotech is prohibited from soliciting, initiating, encouraging or taking actions designed to facilitate any inquiries or the making of any proposal or offer that could lead to the entering into certain extraordinary transactions with any third party, such as a sale of assets, an acquisition of Applied Nanotech's common stock, a tender offer for Applied Nanotech's common stock, or another business combination outside the ordinary course of business. Any such transactions could be favorable to Applied Nanotech shareholders.

***If the transactions under the Merger & Exchange Agreement are not consummated, Applied Nanotech will face difficulty continuing as a going concern and Applied Nanotech's stock price could decline.***

The consummation of the Merger & Exchange Agreement is subject to a number of closing conditions, including the approval by Applied Nanotech's stockholders, and other customary closing conditions. Applied Nanotech is targeting a closing of the transaction early in the third quarter of 2014.

If the proposed business combination is not consummated, Applied Nanotech will be subject to a number of material risks, and its business and stock price could be adversely affected, as follows:

- Applied Nanotech's research partners, customers, prospective customers, collaborators and other business partners and investors in general may view the failure to consummate the business combination as a poor reflection on its business or prospects.
- If the Merger & Exchange Agreement is terminated, Applied Nanotech will have a limited ability to continue its current operations without obtaining additional financing to fund its operations.
- As a result of the proposed business combination, current and prospective employees could experience uncertainty about their future roles within the combined company. This uncertainty may adversely affect Applied Nanotech's ability to retain its key employees, who may seek other employment opportunities.
- Applied Nanotech's management team may be distracted from day to day operations as a result of the proposed business combination or as a result of uncertainty about whether the combination will occur.
- The market price of Applied Nanotech's common stock may decline to the extent that the current market price reflects a market assumption that the proposed business combination will be completed.

In addition, if the Merger & Exchange Agreement is terminated and Applied Nanotech's board of directors determines to seek another business combination, it may not be able to find a third party willing to accomplish a transaction on terms that are as favorable as those in the Merger & Exchange Agreement. In that case, Applied Nanotech's board of directors may elect to, among other things, license or sell all or a significant portion of Applied Nanotech's intellectual property, or curtail its operations or otherwise change its strategy. In any of those situations, the consideration received by Applied Nanotech or its shareholders may be less attractive than the consideration to be received under the Merger & Exchange Agreement.

***NanoHolding will be subject to business uncertainties and certain operating restrictions until consummation of the business combination.***

Uncertainty about the effect of the combination on employees, customers and suppliers, and expenses associated with the Merger & Exchange Agreement and proposed combination may affect NanoHolding just as they may affect Applied Nanotech. Uncertainty about the combination may have an adverse effect on NanoHolding's relationships with customers, employees and suppliers and, consequently, on the NanoHolding business prior to closing and may have an adverse effect on combined company following the business combination. These uncertainties could disrupt the business of NanoHolding and cause customers, suppliers, and others that deal with NanoHolding to defer entering into contracts or making other decisions concerning business with NanoHolding or seek to change or cancel existing business. The uncertainty could also cause key employees of NanoHolding to lose motivation or to leave their employment. In addition, the Merger & Exchange Agreement restricts NanoHolding from making certain acquisitions and taking other specified actions until the business combination occurs without the consent of Applied Nanotech. These restrictions may prevent NanoHolding from pursuing attractive business opportunities that may arise prior to the completion of the business combination.

**Risks relating to PEN after the Combination.**

***The market price for PEN Class A common stock may be affected by factors different from those that historically have affected Applied Nanotech common stock.***

Upon completion of the business combination, Applied Nanotech shareholders will become PEN shareholders. Applied Nanotech's business differs from that of PEN, and the results of operations of PEN will be affected by some factors that are different from those currently affecting the results of operations of Applied Nanotech. For a discussion of the businesses of Applied Nanotech and NanoHolding and of some important factors to consider in connection with those businesses, see the sections entitled *Applied Nanotech's Business* and *NanoHolding's Business* that start on pages 30 and 37, respectively.

***The market price of the combined company's common stock may decline as a result of the business combination.***

The market price of the PEN's common stock may decline as a result of the business combination for a number of reasons including if:

- the combined company does not achieve the perceived benefits of the business combination as rapidly or to the extent anticipated by investors;
- the effect of the business combination on the combined company's business and prospects is not consistent with the expectations of investors; or
- investors react negatively to the effect on the combined company's business and prospects from the business combination.

***Former Applied Nanotech shareholders will have less influence, as a group, as shareholders of PEN.***

Immediately after completion of the business combination, former Applied Nanotech shareholders, who collectively own 100% of Applied Nanotech, will own, together with the holders of Applied Nanotech convertible debt and with others who have rights to acquire Applied Nanotech common stock, approximately 38% of outstanding PEN common stock. Consequently, Applied Nanotech shareholders, as a group, will exercise less influence over the management and policies of PEN than they currently have over the management and policies of Applied Nanotech.

***PEN's CEO will have control over key decision making as a result of his control of a majority of our voting stock.***

Scott Rickert, who will be the Chairman and CEO of PEN after the combination, will control the vote of all the Class B common stock of PEN, representing approximately 48% of the value of PEN common stock and approximately 99% of the voting power of PEN's outstanding common stock following the combination. As a result, Mr. Rickert has the ability to control the outcome of matters submitted to PEN stockholders for approval, including the election of directors and any merger, consolidation, or sale of all or substantially all of its assets. Under the terms of the Rickert Family, Limited Partnership, at the time of his death, control will transfer to his wife Jeanne Rickert. As a board member and officer, Mr. Rickert will owe a fiduciary duty to our stockholders and must act in good faith in a manner he reasonably believes to be in the best interests of our stockholders. As a stockholder, even a controlling stockholder, Mr. Rickert is entitled to vote as the general partner of Rickert Family, Limited Partnership in the interest of the Rickert family, which may not always be in the interests of our stockholders generally.

***Applied Nanotech's stockholders may not realize a benefit from the business combination commensurate with the ownership dilution they will experience in connection with the business combination.***

If the combined company PEN is unable to realize the benefits anticipated from the business combination, Applied Nanotech's stockholders will have experienced substantial dilution of their ownership interest without receiving any commensurate benefit. Significant management attention and resources will be required to maintain the current businesses of Applied Nanotech and NanoHolding and to execute the PEN business plan. Delays in implementing the PEN business plan or problems in the ongoing businesses could adversely affect PEN's results, financial condition and stock price following the combination. Moreover, there can be no assurance that PEN business plan will result in the realization of the full benefits of the innovation and new products that may be possible from the combination or that these benefits will be achieved within a reasonable period of time.

***The rights of former Applied Nanotech shareholders as shareholders of PEN will be governed by the restated certificate of incorporation and amended and restated by-laws of PEN and the DGCL.***

Upon consummation of the business combination, the rights of Applied Nanotech shareholders as shareholders of PEN will be governed by the restated certificate of incorporation and amended and restated by-laws of PEN and the Delaware General Corporation Law, which we refer to as the DGCL. There will be material differences between the current rights of Applied Nanotech shareholders, which are governed by the restated articles of incorporation, as amended, and amended and restated by-laws, of Applied Nanotech and the TBOC, and the rights they will have as holders of PEN Class A common stock. See the section entitled *The Combination – Proposal 1, Comparison of Shareholder's Rights* beginning on page 77.

***The timeline for commercial sales of new products, the profit margins that new products can command and customer acceptance of new products, are all key elements of PEN's business plan and are all unpredictable.***

The board of Applied Nanotech and of NanoHolding consider PEN's opportunity to create new products using the intellectual property of the two companies as a key benefit of the combination. To realize this benefit, PEN must identify products that can benefit from its intellectual property, take the products from concept to reality, and make and sell them commercially. Many factors affect a customer's acceptance of new products and many new product ideas are never realized. Many others never achieve commercial success. If PEN cannot develop and commercialize new products it will adversely impact its business and results of operations.



***PEN's business plan calls for the acquisition of businesses that are knowledgeable about the markets for new products to help PEN with the marketing, sales and distribution of the new products, the time required and the costs to accomplish these acquisitions are unknown.***

To understand the potential market for new products, to better understand target customers, and to market and distribute new products, PEN expects to identify businesses that are already knowledgeable about the marketing, sales and distribution of products in order to add to the product offering the new products enhanced by nanotechnology available to PEN. Identifying those companies, negotiating the acquisition and integrating new personnel into the product development team must all happen for PEN's new product development. If PEN cannot identify, or cannot successfully negotiate or finance the acquisition of a product company, PEN's ability to implement its business plan will be delayed either until an acquisition can be identified and consummated or until a different product opportunity is identified where such an acquisition can be accomplished.

***PEN's acquisition strategy is expected to require additional capital, and PEN's failure to raise capital when needed could prevent it from growing.***

To fund acquisitions of product companies or to acquire technology to complete the development of new products, PEN expects that it will be required to raise capital through public or private financings. If financing is not available on acceptable terms, or at all, PEN's failure to raise capital when needed could harm its business. Moreover, because there will not be earnings from new products for some period of time, financings may be equity financings that will dilute the holders of PEN common stock.

***PEN's designated executive team has not previously worked together to lead a public company, and any inability of members of the executive team to work together effectively or the loss of any of them could adversely affect its performance.***

While the persons expected to be PEN's executive officers have significant experience, some do not have any experience working for a public company, and they have not worked together as managers of a public holding company with several operating subsidiaries. PEN's acquisition strategy will also mean that new key players will be expected to join the management team to accomplish the development, marketing, sales and distribution of new products. PEN's success will depend, in part, on the ability of its executives to work effectively as a team in this new environment. Any inability of our executive officers to work together effectively or the loss of any of them, could impair PEN's ability to execute its strategy.

***PEN's strategy to leverage the intellectual property of Applied Nanotech and NanoHolding with profitable new products may be more difficult, costly or time-consuming than expected, which may adversely affect PEN's results and negatively affect the value of PEN common stock following the business combination.***

Applied Nanotech and the owners of Nanofilm have entered into the Merger & Exchange Agreement because each believes that combining the businesses of Applied Nanotech and NanoHolding under PEN will enable the development of new products enabled by nanotechnology. Few companies, NanoHolding among them, have been able to develop commercial products based on nanotechnology. If PEN is not able to successfully develop products enhanced by nanotechnology, the anticipated benefits of the combination may not be realized fully, or at all, or may take longer to realize than expected, and the value of PEN common stock may be affected adversely.

***The failure to manage successfully the business and operations of PEN while new products are under development until they can generate commercial sales may adversely affect PEN's future results.***

PEN management must continue to manage the historical operations of Applied Nanotech and NanoHolding and expects to make them profitable on a stand-alone basis in order to enable PEN to have time to accomplish its growth plans. Identifying new products that can be manufactured, marketed and sold at margins that justify the investment and then taking those products to market will take time and PEN must fund the ongoing operations of Applied Nanotech and NanoHolding, the costs of acquisitions of product companies, the acquisition of any additional required intellectual property rights, and product development, marketing and distribution in order to realize its plans. Therefore, in addition to executing its business plan, PEN must continue the contract research business of Applied Nanotech and work to make it profitable on a stand-alone basis, as well as the operations of NanoHolding in order to have the cash flow to support its operations even as it works to identify potential product opportunities to use its intellectual property. PEN expects to continue the operations of Applied Nanotech and NanoHolding at their current locations, but there may still be some disruptions resulting from the business combination as well as the changes and challenges that generally affect ongoing operations. Disruptions or the failure to address changes in the ongoing businesses of Applied Nanotech and NanoHolding could adversely affect PEN's results, financial condition and stock price following the combination.

***PEN may not be able to adequately protect its intellectual property rights or may be accused of infringing intellectual property rights of third parties.***

PEN considers the technology of Applied Nanotech and NanoHolding, patents, trade dress, trade secrets, proprietary technology and similar intellectual property as critical to its success, and will rely on patent, trademark and copyright law, trade secret protection and confidentiality and/or license agreements with our employees and others to protect its proprietary rights. Effective intellectual property protection may not be available in every country in which products are manufactured or sold. PEN may also be required to obtain additional intellectual property rights in order to complete some product development projects.

PEN may not be able to discover or determine the extent of any unauthorized use of its proprietary rights. The protection of its intellectual property may require the expenditure of significant financial and managerial resources. Moreover, the steps PEN takes to protect our intellectual property may not adequately protect our rights or prevent third parties from infringing or misappropriating its proprietary rights. PEN may be subject to litigation and disputes related to its intellectual property and products. The costs of defending, bringing and supporting such litigation and disputes may be considerable, and there can be no assurances that favorable outcomes will be obtained.

***PEN does not intend to pay dividends for the foreseeable future.***

PEN intends to retain all of its earnings for the foreseeable future to finance the operation and expansion of its business and does not anticipate paying cash dividends. As a result, stockholders can expect to receive a return on PEN's Class A common stock only if the market price of the stock increases.

***The ability of PEN after the business combination to use Applied Nanotech's net operating loss carryforwards may be limited.***

Pursuant to Sections 382 and 383 of the Internal Revenue Code of 1986, as amended (the "Code"), the annual use of Applied Nanotech's net operating losses are expected to be very limited as a result of the ownership change of 50% that will occur in connection with the combination.

***Failure of the NanoMerger to qualify as a reorganization within the meaning of Section 368 of the Code could have adverse tax consequences.***

The parties intend for the Redomestication Merger and the Nano Merger to qualify as a reorganization within the meaning of Section 368 of the Code. If the NanoMerger does not qualify, PEN could have a significant tax liability.

### **Risks Relating to Applied Nanotech**

***Our success is dependent on our principal technologies***

Our technology platforms, which include nanocomposites, nanoelectronics, nanosensors, thermal management, and electron emission activities, are emerging technologies. Our financial condition and prospects are dependent upon commercializing our technology, licensing our intellectual property to others, or introduction of the technology into the marketplace. Additional R&D needs to be conducted on some of our technologies before products can be produced using this technology. Market acceptance of products using our technology will be dependent upon acceptance within the industries of those products of the quality, reliability, performance, efficiency, and breadth of application and cost-effectiveness of the products. There can be no assurances that these products will be able to gain commercial market acceptance.

***Our technology development is in its early stages and the outcome is uncertain***

Some of our applications of nanotechnologies, and certain products that use these technologies, will require significant additional development, engineering, testing and investment prior to commercialization. We are exploring the use of our technology in several different types of products. We have developed proof of concepts of potential products based on our technologies. In some cases, we may develop products jointly with others based on our technology. Upon successful completion of the development process, our development partners will likely be required to license our technology to produce and sell the products. We expect that our development partners will want to retain rights to any intellectual property that they develop in the process.

If any of the potential products that are being developed using our technologies are successfully developed, it may not be possible for us or potential licensees or partners to successfully introduce the products, distribute them, market them to customers, or produce these products in significant quantities at a price that is competitive with other similar products. At the present time, the only significant revenue that we receive related to our technology is related to reimbursed research expenditures and development fees. These revenues are identified in our quarterly filings on Form 10-Q and our annual filings on Form 10-K in the section: Management's Discussion and Analysis of Financial Condition and Results of Operations. The first products using our technology were introduced in the marketplace in 2011, and we began receiving royalties as a result.

***We may not be able to provide system integration***

In order to prove that our technologies work and will produce a complete product, we may be required to integrate a number of highly technical and complicated subsystems into a fully integrated prototype. There is no assurance that we will be able to successfully complete the development work on some of our proposed products or that there will ultimately be any market for those products.

Many products that may be developed using our technology will need to be integrated into end-user products by manufacturers of those products. Although we intend to develop products to be integrated into existing manufacturing capabilities, manufacturers may be required to make modifications to, or expand their manufacturing capabilities. Manufacturers may elect not to integrate products using our technology into their end-user products, or they may not devote adequate resources to modifying their manufacturing capabilities so that our technologies can be successfully incorporated into their end-user products. The cost and complexity of integration may delay the introduction of products using our technology.

***Our development partners have certain rights to jointly developed property and to license our technology.***

In some cases, we have committed to license our technology to our development partners upon completion of certain development projects that are in process. The terms of all such licenses have not yet been finalized. Our development partners usually also have rights to any jointly developed property; however, any such jointly developed property would likely be based, at least in part, on our underlying technology which would require our partners to enter into a license agreement with us. In the case of Ishihara, they have the right to use our jointly owned technology without license and the existing license agreement is only to preserve their exclusivity. They could choose to give up that exclusivity and then would owe no further royalties.

***Products using our technology may not be accepted by the market .***

Since our inception, we have focused our product development and R&D efforts on technologies that we believe will be a significant advancement over currently available technologies. With any new technology, there is a risk that the market may not appreciate the benefits or recognize the potential applications of the technology. Market acceptance of products using our technology will depend, in part, on our ability and the ability of our licensees and partners to convince potential customers of the advantages of such products as compared to competitive products. It will also depend upon our ability to train manufacturers and others to use our products.

***We have limited resources and our focus on particular products may result in our failure to capitalize on other opportunities.***

We have limited resources available to successfully develop and commercialize our technology. There is a wide array of potential applications for our technology, and our limited resources require us to focus on specific product areas, while ignoring others. We focus our efforts on those projects for which we can obtain external funding since the availability of funding provides an external verification of the probability of commercial success of resulting products.

***Rapid technological changes could render our technology obsolete, and we may not remain competitive.***

The industries in which we compete are highly competitive and are characterized by rapid technological change. Our existing and proposed products will compete with other existing products and may compete against other developing technologies. Development by others of new or improved products, processes or technologies may reduce the size of potential markets for our products. There is no assurance that other products, processes or technologies will not render our proposed products obsolete or less competitive. Most of our competitors have greater financial, managerial, distribution and technical resources than we do. We will be required to devote substantial financial resources and effort to further R&D. There is no assurance that we will successfully differentiate our technology from our competitors' technology, or that we will adapt to evolving markets and technologies, develop new technologies, or achieve and maintain technological advantages.

***We have limited manufacturing capacity and experience.***

Our employees are primarily scientists, and we have no significant manufacturing experience. We have no established commercial manufacturing facilities, and we have no intention of establishing a large scale manufacturing facility on our own. We are focusing our efforts on licensing our intellectual property to others for use in their manufacturing processes, or working with strategic partners that have manufacturing capabilities. To the extent that any of the products that we develop require significant manufacturing facilities, we intend to either contract with a qualified manufacturer, or enter into a joint venture or other similar arrangement. We have established a pilot manufacturing facility for our inks, nanocomposites, and thermal management materials. Should the development proceed to the point where a production facility is required, we intend to license or contract with others for production. This will make our success dependent on these third party relationships.

***The health effects of nanotechnology are unknown.***

There is no scientific agreement on the health effects of nanomaterials, but some scientists believe that in some cases, nanomaterials may be hazardous to an individual's health or the environment. The science of nanotechnology is based on arranging atoms in such a way as to modify or build materials. Depending on the nanomaterials used, the resulting material may not be found naturally in nature; therefore, the effects are unknown. The Company takes appropriate precautions for its employees working with carbon nanotubes and believes that any health risks related to carbon nanotubes used in potential products can be minimized. Future research into the effects of nanomaterials in general, and carbon nanotubes in particular, on health and environmental issues may have an adverse effect on products using our technology.

***We are dependent on the availability of materials and suppliers.***

The materials used in producing current and future products using our technology are purchased from other vendors. We anticipate that raw materials used in products to be developed by us will be readily available to us and to potential manufacturers of our products. However, there is no assurance that the current availability of these materials will continue in the future, or if available, will be procurable at favorable prices.

***We have a history of net losses.***

We have a history of net losses. From our inception through December 31, 2013, we incurred net losses of approximately \$121 million. Although we expect to at least breakeven in 2014, there is no guarantee that we will be profitable at any time in the future. We have incurred net income and losses for the ten preceding years as shown below:

Year Ended December 31	Net Income (Loss)
2004	\$ (7,139,109)
2005	\$ (5,818,816)
2006	\$ (6,593,892)
2007	\$ (4,256,891)
2008	\$ (2,685,867)
2009	\$ (2,152,605)
2010	\$ (411,304)
2011	\$ (2,570,248)
2012	\$ (5,129,150)
2013	\$ (3,140,888)

Although we are working to be profitable in the future, we may not be. It is not possible for us to achieve sustainable profitability solely based on our research revenues, given the rate limitations imposed by the government and market factors related to private research contracts, especially with our cost structure. It is critical that we commercialize our technology to achieve profitability, whether that commercialization is the result of licensing, product sales, or other strategic relationships. It will require capital in excess of our current capital to commercialize any of our technologies. Our profitability in 2014 is dependent upon a combination of obtaining additional research funding, product sales by our licensees, product sales by us, and significant additional cost cutting. We may, however, continue to incur additional operating losses for an extended period of time as we continue to develop our technologies. We do, however, expect the magnitude of those losses, if they continue, to decrease. Currently, we are a contract research and development organization and are dependent on license agreements and research funding to achieve breakeven or profitability. In order to continue development of our technology, we anticipate that substantial research and development expenditures will continue to be incurred. We have funded our operations to date primarily through the proceeds from the sale of our equity securities and debt offerings. Our auditors have included a going concern paragraph in their opinion on our financial statements for 2013, as they did for 2012, which could impact our ability to obtain financing, or the terms of such financing. We expect to at least breakeven in 2014; however, we will need to raise additional capital.

***We have no current royalty agreements producing significant revenue.***

At the present time, our strategy is dependent on licensing our technology to other companies and obtaining royalties based on products that these licensees develop and sell. We are beginning to sell certain products ourselves; however, we have no plans to manufacture any products in significant quantities ourselves, and as such at the present time, and we have limited product revenues. We may enter into joint ventures or other business arrangements where we collaborate with others to sell or manufacture products. While we do have existing licenses, none of the licensees are currently producing products that generate royalties at the present time, and therefore at, we are receiving no royalty revenue. Successful implementation of our strategy requires product sales by us. We have two licensees that could introduce products into the marketplace; however, we expect royalties to be insignificant in 2014 and there is no guarantee that products will ever be introduced by our licensees, or that they will be successful.

We may license our technology to be used in other applications. It is our intention that all future license agreements will include a provision that requires the payment of ongoing royalties, although there is no assurance that will occur.

***Our revenues have been dependent on government contracts in the past.***

Historically, a significant portion of our revenues have been derived from contracts with agencies of the United States government and it continues to be our main source of revenue. The contracts are a critical revenue source for us and are critical to our development process. Following is a summary of those revenues for the past ten years:

Year Ended December 31	Revenues from Government Contracts	Percentage of Total Revenue
2004	\$ 305,721	80%
2005	\$ 208,211	37%
2006	\$ 583,236	52%
2007	\$ 2,328,010	58%
2008	\$ 2,295,887	58%
2009	\$ 1,694,082	42%
2010	\$ 2,920,030	36%
2011	\$ 2,956,717	46%
2012	\$ 1,733,728	48%
2013	\$ 2,048,840	52%

We currently have commitments for future government funding of approximately \$1.9 million. We do not intend to seek any government funding unless it directly relates to achievement of our strategic objectives.

Contracts involving the United States government are, or may be, subject to various risks including, but not limited to, the following:

- Unilateral termination for the convenience of the government
- Reduction or modification in the event of changes in the government’s requirements or budgetary constraints
- Increased or unexpected costs causing losses or reduced profits under fixed-price contracts or unallowable costs under cost reimbursement contracts
- Potential disclosure of our confidential information to third parties
- The failure or inability of the prime contractor to perform its prime contract in circumstances where we are a subcontractor
- The failure of the government to exercise options provided for in the contract
- The right of the government to obtain a non-exclusive, royalty free, irrevocable world-wide license to technology developed under contracts funded by the government if we fail to continue to develop the technology

In addition, the current political environment and current budget deficits may result in cuts in government research funding, which could have a significant negative impact on us. Additionally, any delays in payment by the government as a result of the failure of Congress to increase any debt limitations, to extend debt deadlines, or other limitations imposed, would likely have a significant negative impact on us.

***We have technologies subject to licenses.***

In May 2000, we licensed the rights to 6 carbon nanotube patents from Till Keesmann in exchange for an initial payment of \$250,000 and additional minimum royalty payments of \$1.0 million, all of which were made. This agreement gave us the exclusive right to license these patents to others. In 2008, as part of a litigation settlement, and as the result of a lack of interest in these patents from potential licensees, we agreed to return the licensing rights to Mr. Keesmann. We retain our irrevocable right to use these patents, and we are entitled to 50% of any royalties generated by these patents, up to a maximum of \$1.2 million. We believe it is extremely unlikely we will receive any royalties from these patents, nor will we ever owe any royalties to Mr. Keesmann.

***We may be exposed to litigation liability.***

We have had lawsuits that arise in the normal course of business. We have been subject to litigation in the past and have settled litigation in the past that has in certain instances resulted in material payments. We expect all current lawsuits to be resolved with no material negative impact on our financial statements, and we are unaware of any other potential significant litigation. If we were to become subject to a judgment that exceeds our ability to pay, that judgment would have a material impact on our financial condition and could affect our ability to continue in existence.

***We need capital and the source of that funding is uncertain.***

We expect to continue to incur substantial expenses for R&D, product testing, and administrative overhead. The majority of R&D expenditures are for the development of our technologies. Most of the proposed products using our technology will not be available for commercial sale or routine use in the immediate future. Commercialization of existing and proposed products that would use our technology will require additional capital in excess of that currently available to us. A shortage of capital could prevent us from achieving profitability for an extended period of time. Because the timing and receipt of revenues from the sale of products using our technology will be tied to the achievement of certain product development, testing, manufacturing and marketing objectives, which cannot be predicted with certainty, there may be substantial fluctuations in our results of operations. If revenues do not increase as rapidly as anticipated, or if product development and testing requires more funding than anticipated, we may be required to curtail our activities and/or seek additional financing from other sources. We intend to seek additional financing through the offer of debt, equity, or any combination of the two at any time.

We have developed a plan to allow us to maintain operations until we are able to sustain ourselves. That plan required significant cost cuts and increases in our research revenue, as well as raising additional capital. We believe that we have the existing resources to continue operations for a period through at least the end of July 2014 and possibly until the end of the year. Increased revenues may extend that period. Our plan is primarily dependent on raising funds through product sales, and revenue generated from performing contract research services, as well as cost cuts.

Our plan is based on current development plans, current operating plans, the current regulatory environment, historical experience, and general economic conditions. Changes could occur which would cause certain assumptions on which this plan is based to be no longer valid. Our plan is primarily dependent on increasing revenues, selling products, cutting costs, and raising additional funds through additional debt and equity offerings. If adequate funds are not available from operations or additional sources of financing, we may have to eliminate, or reduce further, expenditures for research and development, and testing of our products. We may have to obtain funds through arrangements with other entities that may require us to relinquish rights to certain of our technologies or products. These actions could materially and adversely affect us.

***Changes in patent laws could have a negative impact on us.***

New legislation, regulations, or rules related to obtaining or enforcing patents could significantly increase our operating costs and make it more difficult to enforce or license our patents. If new legislation, regulations, or rules are implemented by Congress, the United States Patent and Trademark Office, or the courts that impact the patent application process, the patent enforcement process, or the rights of patent holders, these changes could negatively affect our expenses and potential revenue.

***Our business is subject to changing regulation of corporate governance and public disclosure.***

Because our common stock is publicly traded, we are subject to certain rules and regulations of federal and state entities charged with the protection of investors and the oversight of companies whose securities are publicly traded. These entities have continued to develop additional regulations and requirements in response to laws enacted by Congress, most notably the Sarbanes-Oxley Act of 2002. Complying with these new regulations has resulted in, and is likely to continue to result in, increased general & administrative costs and a diversion of management time and attention from revenue generating and other business activities to compliance activities.

***We may be unable to enforce or defend our ownership and use of proprietary technology.***

Our ability to compete effectively with other companies will depend on our ability to maintain the proprietary nature of our technology. Although we have been awarded patents, have filed applications for patents, or have licensed technology under patents that we do not own, the degree of protection offered by these patents or the likelihood that pending patents will be issued is uncertain. Competitors in both the United States and foreign countries, many of which have substantially greater resources and have made substantial investment in competing technologies, may already have, or may apply for and obtain patents that will prevent, limit or interfere with our or our licensees' ability to make and sell our products using our technology. Competitors or potential licensees may also intentionally infringe on our patents. The defense and prosecution of patent suits is both costly and time-consuming, even if the outcome is favorable to us.

In foreign countries, the expenses associated with obtaining and maintaining patents can be prohibitive for a company with our limited resources. In addition, there is an inherent unpredictability in obtaining and enforcing patents in foreign countries. An adverse outcome in the defense of a patent suit could subject us to significant liabilities to third parties. Although third parties have not asserted infringement claims against us, there is no assurance that third parties will not assert such claims in the future.

***We rely on unpatented proprietary technology.***

We also rely on unpatented proprietary technology, and there is no assurance that others will not independently develop the same or similar technology, or otherwise obtain access to our proprietary technology. To protect our rights in these areas, we require employees, consultants, advisors and collaborators to enter into confidentiality agreements. These agreements may not provide meaningful protection for our trade secrets, know-how, or other proprietary information in the event of any unauthorized use, misappropriation or disclosure of such trade secrets, know-how, or other proprietary information. While we have attempted to protect proprietary technology that we develop or acquire and will continue to attempt to protect future proprietary technology through patents, copyrights and trade secrets, we believe that our success will depend upon further innovation and technological expertise.

***Public perception(s) of ethical and social issues may discourage the use of nanotechnology.***

Nanotechnology has received both positive and negative publicity and is increasingly the subject of public discussion and debate. Governments may, for social or health purposes, prohibit or regulate the use of nanotechnology. This may restrict our ability to license our technology, or the ability to commercialize nanotechnology-based products.

***Our business is subject to economic uncertainties affecting others with whom we have relationships.***

A portion of our research revenues come from private sources, primarily large multinational corporations. In addition, our strategy is dependent upon the receipt of royalties related to the introduction of new products by these and other companies. During times of extreme economic uncertainty, companies may cut back on spending on research projects, or delay the introduction of new products.

***The loss of key personnel could adversely affect our business.***

Our future success will depend on our ability to continue to attract and retain highly qualified scientific, technical and managerial personnel. Competition for such personnel may be intense. In addition, our limited financial resources make it difficult for us to pay market salaries. We may not be able to attract and retain all personnel necessary for the development of our business. In addition, some of the know-how and processes developed by us reside in our key scientific and technical personnel. The loss of the services of key scientific, technical and managerial personnel could have a material adverse effect on us until we are able to replace those personnel.

***We have significant convertible debt.***

We have significant amounts of convertible debt due in August 2014. We do not have sufficient cash flow to pay this debt and therefore are dependent upon the majority of the debt being converted to equity, extended, or being replaced with another funding source. If debt holders do not convert, or otherwise agree to extend amounts due, we likely will be unable to meet our cash flow obligations and may be forced to curtail activities, seek financing on less favorable terms, or cease operations.

***We have limited resources.***

We are a small company with limited human and financial resources. Most of our competitors are larger than us with greater financial strength. Our limited resources may prevent us from moving as quickly as the market requires, or from taking advantage of all the opportunities that we have available to us on a timely basis. We do not have the resources to commercialize products ourselves and must rely on others for our ultimate success. Other competitors may move more quickly and gain an advantage by establishing a presence in the market place before us.

***Our licensees may have conflicting priorities.***

The products that are produced by our licensees using technologies that they have licensed from us generally make up only part of their overall business. There may be other factors besides the product itself that affect product introduction and sales by our licensees. These considerations may include other products sold by the licensee, financial commitments to other product lines, marketing considerations, financial considerations, desire to minimize royalties, and other factors. In addition, licensees may decide they no longer wish to maintain exclusivity and not make payments required to do so, may make improvements to the products such that they no longer believe they use our technology, may intentionally infringe on our technology for selected products, or may underreport sales of the products to minimize royalties.

***We have limited experience with product sales.***

Our future profitability is dependent upon increasing our product sales and this is an important part of our business plan; however, we have limited experience in the sale of products, have not had significant success with product sales, and we do not have the financial resources to develop, market, distributed, and sell products. Our experience in generating revenue is through research and development agreements and license agreements. Product sales require a different skill set and will require us to hire new personnel and obtain resources to implement our business plan.

***We have insufficient available authorized shares.***

We have approximately 157 million shares of common stock outstanding as of the record date and only 160 million shares authorized. We have convertible notes and options outstanding, which if all converted, would exceed our ability to deliver shares. At current rates and prices, if converted, our notes would require the issuance of approximately 36 million shares, and if exercised, our options would require the issuance of approximately 6 million shares. We intend to increase our authorized shares at the special meeting. If prior to an increase in our authorized shares, our stock price were to increase significantly and note holders wished to convert, or option holders wished to exercise, we may be unable to deliver shares. We may be liable for damages based on investors lost profits if we are unable to honor our existing agreements.

**Risks relating to NanoHolding**

***NanoHolding is disadvantaged by its relatively small size in selling into the optical industry, and its size also limits its ability to introduce new products to customers outside the optical industry.***

NanoHolding is smaller in size than other companies that sell products into the optical industry. Larger companies may have a broader product line to offer customers and have the resources to put products into more distribution channels than NanoHolding has the resources to pursue. NanoHolding's size also means it has fewer resources to hire people to pursue sales and marketing opportunities for products for other customers which inhibits its growth.

***Sales to industrial customers that incorporate NanoHolding products into their own product offerings makes NanoHolding dependent on its customer's commitment and success.***

Some NanoHolding products are sold to industrial customers that incorporate the NanoHolding product into their own products for their customers. This means the success of NanoHolding's product is dependent on the level of support, marketing and customer assistance of NanoHolding's industrial customer, and NanoHolding cannot control timing of marketing or introduction if the improved products, or the timing or methods used to address customer concerns or directly affect marketing or distribution of its products. If the industrial customer has other priorities or is unsuccessful in its marketing or customer service, NanoHolding's results of operations will be adversely affected.

***Terms of secured debt make NanoHolding vulnerable if operational issues adversely impact its working capital.***

Nanofilm redeemed a majority in number of its members in 2012 and took on secured debt in 2013 to pay notes issued to some former members in the redemption. That debt was refinanced in April 2014. The amount borrowed in the refinancing was \$988,000, aggregating working capital financing for the business and amounts that had been used to repay notes to former members. NanoHolding must comply with the terms of its debt agreements in order to borrow for its regular working capital needs. Customer decisions to delay shipments, disruption in the supply chain or other operating difficulties that increase the inventory on hand or that delay collection of accounts receivable could mean that the lender will no longer advance funds and NanoHolding could need different terms from its lender in order to continue operations.

***NanoHolding's products may infringe the intellectual property rights of others, which may subject it to claims, or prevent or delay its product development efforts and stop it from selling or increase the costs of its products.***

NanoHolding's commercial success depends in part on its ability to operate without infringing the patents and other intellectual property rights of third parties. For example, there could be issued patents of which NanoHolding is not aware and its products may infringe one or more of those patents. There also could be patents that NanoHolding believes it does not infringe, but that NanoHolding may ultimately be found to infringe.



NanoHolding may also face claims that it is employing proprietary technology of third parties without authorization. If a court held that NanoHolding is using third party technology without authorization or that any third-party patents are valid, enforceable and cover NanoHolding's products or their use, the holders of any of these patents or other intellectual property may be able to block the sale of NanoHolding's products unless NanoHolding obtains a license or changes the products so as not to use the third-party's intellectual property. NanoHolding may not be able to enter into licensing arrangements or redesign the products at a reasonable cost or on reasonable terms.

***NanoHolding may be unable to adequately prevent disclosure of trade secrets and other proprietary information.***

NanoHolding relies on trade secrets to protect its proprietary know-how and technology, especially where NanoHolding does not believe patent protection is appropriate or obtainable. NanoHolding relies in part on confidentiality agreements with its employees and consultants to protect its trade secrets and other proprietary information. These agreements may not effectively prevent disclosure of confidential information and may not provide an adequate remedy in the event of unauthorized disclosure. In addition, others may independently discover its trade secrets and proprietary information. Costly and time-consuming litigation could be necessary to enforce and determine the scope of its proprietary rights. Failure to obtain or maintain trade secret protection could enable competitors to use its proprietary information to develop products that compete with NanoHolding's products.

***Any lawsuits relating to infringement of intellectual property rights necessary to defend NanoHolding or enforce its rights will be costly and time consuming.***

NanoHolding's ability to defend its intellectual property may require litigation to enforce its rights or to defend litigation brought by a third-party. Any of these lawsuits, regardless of their success, could be time consuming and expensive to defend and resolve and may require delay or suspension of commercial sales while they are pending. The cost could cause NanoHolding to forego litigation or to settle on terms that are disadvantageous. If litigation is undertaken or defended, that attendant cost or delay could have a material, adverse impact on NanoHolding's results of operations.

## FORWARD LOOKING STATEMENTS

This proxy statement includes forward-looking statements within the meaning of Section 21E of the Exchange Act. For this purpose, any statements in this proxy statement, other than statements of historical fact, including statements regarding the proposed combination and the expected timetable for completing the transaction; future financial and operating results, including future products; benefits of the transaction; future opportunities of PEN, the combined company; the plans for product development programs; and the strategy, plans and objectives of management of Applied Nanotech, NanoHolding or PEN, may be forward-looking statements under the provisions of The Private Securities Litigation Reform Act of 1995. In this proxy statement, words such as "anticipate," "believe," "could," "estimate," "expect," "intend," "may," "plan," "project," "should," "target," "will," "would" or other words that convey uncertainty of future events or outcomes are used to identify these forward-looking statements. Actual results may differ materially from those indicated by forward-looking statements as a result of various important factors, including risks relating to: the ability to consummate the proposed business combination; the ability to implement the PEN business plan while continuing the operations of Applied Nanotech and NanoHolding, the ability to locate and accomplish additional acquisitions and to finance those transactions, to build marketing and distribution capability for new products and obtain access to required intellectual property, conduct development and commercialization activities; and the ability to obtain, maintain and enforce patent and other intellectual property protection for products and product candidates. These and other risks are described in greater detail in the section entitled *Risk Factors* beginning on page 13. If one or more risk factors materialize, or if any underlying assumptions prove incorrect, actual results, performance or achievements may vary materially from any future results, performance or achievements expressed or implied by these forward-looking statements.

In addition, any forward-looking statements in this proxy statement represent Applied Nanotech's views only as of the date of this proxy statement and should not be relied upon as representing Applied Nanotech's views as of any subsequent date. Applied Nanotech anticipates that subsequent events and developments will cause its views to change. However, while Applied Nanotech may elect to update these forward-looking statements publicly at some point in the future, Applied Nanotech specifically disclaims any obligation to provide updates, except as may be required by law, whether as a result of new information, future events or otherwise. If Applied Nanotech consummates the combination described in the Merger & Exchange Agreement, the descriptions of its strategy, future operations and financial position, future revenues, projected costs and prospects and the plans and objectives of management in this proxy statement may no longer be applicable.

## INFORMATION ABOUT THE SPECIAL MEETING

### *Time, Place & Purpose of the Special Meeting*

Our special meeting of shareholders will be held on July \_\_, 2014 at 10:00 A.M. at \_\_\_\_\_ in Dallas Texas, unless postponed or adjourned to a later date.

The purpose of the special meeting is for our shareholders to consider and vote on four proposals:

1. To approve the Merger & Exchange Agreement and the combination contemplated by that agreement;
2. To approve an amendment to our amended and restated articles of incorporation to increase the authorized number of shares of capital stock from 162 million to 502 million and our authorized shares of common stock from 160 million to 500 million;
3. To advise, by a non-binding vote, the directors regarding compensation of our executive officers; and
4. To adjourn the meeting if additional proxies are needed in order for there be sufficient votes to approve Proposal 1 and the combination.

Our board of directors unanimously recommends a vote **FOR** each of the four proposals that will be presented at the meeting.

Proposal 1 asks our shareholders to approve the Merger & Exchange Agreement and the combination described in that agreement. The effect of the combination will be to redomesticate Applied Nanotech in Delaware, change its name to PEN Inc., and, in a related merger and exchange, to make Nanofilm Ltd. a subsidiary of PEN. In the Redomestication Merger the total number of authorized shares of PEN common stock will be significantly greater than the number now authorized by Applied Nanotech, and the common stock of PEN will be subdivided into three different classes. Other than as specified herein, all shares of PEN common stock are identical, regardless of which class they are part of. The different classes of common stock have different voting rights, and the Class Z shares have certain other rights. Applied Nanotech shareholders will receive Class A common stock of PEN in the Redomestication Merger. Each outstanding share of Applied Nanotech common stock will be converted into a share of Class A common stock of PEN. Those shares, together with shares issued or reserved for issuance for existing commitments to issue shares of Applied Nanotech, will represent approximately 38% of the total PEN common stock immediately following the closing. The PEN shares issued in the combination to stockholders of NanoHolding and Zeiss, the owners of Nanofilm, Ltd., will be approximately 62% of the total PEN common stock. Shares of Class A common stock have one vote per share. Shares of Class B common stock issued to the Rickert Family Limited Partnership will have 100 votes per share. It is expected that upon completion of the combination, this Rickert partnership will own approximately 48% of the PEN common stock and will control approximately 99% of the voting power of PEN common stock. Zeiss will own approximately 9% of PEN through the ownership of Class Z common stock that is non-voting but has other rights described in this proxy. Scott Rickert, the sole general partner of this Rickert partnership is expected to be the Chief Executive Officer and Chairman of PEN after the combination. All stockholders of PEN will be subject to future dilution for, among other things, the conversion of the notes issued in the bridge financing by Applied Nanotech. This is set out in chart form on page 64.

Proposal 2 at the special meeting will be to seek approval for an increase in the authorized number of shares of Applied Nanotech common stock if the combination does not occur. Approval of this proposal is important to enable us to meet our existing obligations and to provide a greater variety of financing options to us if the combination does not occur. If the combination does not close and if the share increase is approved, we will issue or reserve approximately 44 million shares in satisfaction of existing obligations and we expect the balance of the increased number of Applied Nanotech shares, approximately 300 million shares, will be available for issuance without stockholder approval (unless approval is otherwise required by applicable law, regulation, agreement or other arrangements).

The third proposal is required under SEC rules by which we ask for an advisory (non-binding) vote to approve compensation to be paid to our current Chief Operating Officer and President, Dr. Yaniv, if the combination occurs. There is more information about their compensation under *The Advisory (Non-Binding) Vote on Certain Compensation – Proposal 3* that starts on page 87.

The fourth proposal will only be presented if, when the meeting is called to order, we do not have the vote to approve the combination (Proposal 1). If that happens, those who are in attendance will be asked to vote to adjourn the meeting to a later date so that we can solicit additional proxies to approve the combination.

### *Record Date and Quorum*

The board has fixed June \_\_, 2014 as the “record date” for determining shareholders that will be entitled to notice of and to vote at the special meeting. Only shareholders of record as of June \_\_, 2014 will be entitled to notice of the meeting and to vote at the meeting.

The required quorum for the special meeting is a majority of the common stock issued and outstanding on the record date. If a quorum is not present when the meeting is called to order on the day and time stated above, the shareholders will be asked to vote to adjourn the meeting in order to enable us to have more shareholders in attendance, either in person or by proxy. Those who are present at the time of the meeting, though less than a quorum to transact other business, are sufficient to have a vote on adjournment of the meeting to a later date.

### *Attendance*

Shareholders may attend the special meeting either in person or by proxy. Whether or not you plan to attend the special meeting, PLEASE vote your shares by internet or by telephone or complete, sign, date and return the proxy card included with this proxy statement. An addressed, postage prepaid envelope is included for your convenience.

If your shares of Applied Nanotech's common stock are held by a bank, broker or other nominee, you are considered the beneficial owner of shares held in "street name," and the proxy materials are being forwarded to you together with a voting instruction card. Beneficial owners may also attend the special meeting. Since a beneficial owner is not the stockholder of record, a beneficial owner *may not vote* these shares in person at the special meeting *unless* you obtain a proxy from your broker issued in your name giving you the right to vote the shares at the special meeting. If you do not attend, or you don't obtain a proxy from your broker, your shares will NOT be voted. Your broker will not be able to vote your shares of Applied Nanotech's common stock without specific instructions from you. For your vote to count, you must instruct your broker how to vote on Proposal 1 (the combination), Proposal 2 (the share increase), Proposal 3 (the advisory vote on executive compensation) and Proposal 4 (to adjourn, if necessary, to seek additional votes in favor of the combination). PLEASE instruct your broker to vote your shares by following the procedure provided by your broker.

For entry to the special meeting, each shareholder may be asked to present valid picture identification, such as a driver's license. Shareholders holding stock in brokerage accounts ("street name" holders) will need to bring a copy of a brokerage statement reflecting stock ownership as of the record date. Cameras, recording devices and other electronic devices will not be permitted at the meeting.

### *Vote Required*

To approve Proposal 1, the Merger & Exchange Agreement and the combination, requires the affirmative vote of the holders of a majority of the issued and outstanding shares of Applied Nanotech common stock entitled to vote. For Proposal 1 you may vote **FOR, AGAINST** or **ABSTAIN**. Votes to abstain will not be counted as votes cast in favor of Proposal 1 for the Merger & Exchange Agreement and the combination, but will count for the purpose of determining whether a quorum is present. **If you fail to submit a proxy or to vote in person at the special meeting, or if you vote to abstain, it will have the same effect as a vote "AGAINST" Proposal 1 and against the Merger & Exchange Agreement and the combination.**

Similarly, to approve Proposal 2 and authorize the share increase requires the affirmative vote of the holders of a majority of the issued and outstanding shares of Applied Nanotech common stock entitled to vote. For Proposal 2 you may vote **FOR, AGAINST** or **ABSTAIN**. Votes to abstain will not be counted as votes cast in favor of Proposal 2 for the share increase, but will count for the purpose of determining whether a quorum is present. **If you fail to submit a proxy or to vote in person at the special meeting, or if you vote to abstain, it will have the same effect as a vote "AGAINST" Proposal 2 and the share increase.**

The vote on Proposal 3 is an advisory vote only. Whatever the result, it will be reported. Applied Nanotech and its board are not bound by the vote, and the compensation may be paid even if the shareholders vote against Proposal 3. **If you fail to submit a proxy or to vote in person at the special meeting, or if you vote to abstain, it will have the same effect as a vote "AGAINST" Proposal 3 and the compensation.**

To approve Proposal 4 to authorize adjournment of the special meeting to solicit additional proxies if there are insufficient votes at the time of the special meeting to approve Proposal 1 and the combination requires the affirmative vote of the holders of a majority of the shares present in person or represented by proxy and entitled to vote. **If you fail to submit a proxy or to vote in person at the special meeting, or if you vote to abstain, your absence will not affect the vote. If your shares are held in street name, and are present at the meeting but you have not provided voting instructions, it will have the same effect as a vote "AGAINST" Proposal 4 and the adjournment.**

If your shares of Applied Nanotech common stock are registered directly in your name with the transfer agent of Applied Nanotech, Registrar & Transfer Company, you are considered, with respect to those shares of Applied Nanotech common stock, the shareholder of record. If you are a shareholder of record, this proxy statement and the enclosed proxy card have been sent directly to you by Applied Nanotech. **To vote, please complete and return the proxy card. Even if you are planning to attend the meeting, to be sure your shares are voted, PLEASE return the proxy card.**

If your shares of Applied Nanotech common stock are held through a bank, brokerage firm or other nominee, you are considered the beneficial owner of shares of Applied Nanotech common stock held in “street name”. If you are a beneficial owner of our shares, this proxy statement/prospectus has been forwarded to you by your bank, brokerage firm or other nominee who is the shareholder of record. As the beneficial owner, you have the right to direct your bank, brokerage firm or other nominee how to vote your shares by following their instructions for voting. **Without instructions from you, your bank, brokerage firm or other nominee can NOT vote your shares for Proposal 1, Proposal 2, Proposal 3, or on Proposal 4. If you do not give instructions, your shares will be broker non-votes and it will have the same effect as a vote “AGAINST” each of these proposals. If you do not want to be treated as voting against these proposals, you must instruct your bank, brokerage firm or other nominee to vote your shares FOR each of the proposals.**

**PLEASE** take action to vote your shares at the special meeting. Our board recommends a vote **FOR** each of the four proposals being presented at the meeting.

#### *Proxies and Revocation of Proxies*

If you are a shareholder of record, you may have your shares of Applied Nanotech common stock voted on matters presented at the special meeting in any of the following ways:

- by telephone or over the Internet, by accessing the telephone number or Internet website specified on the enclosed proxy card. The control number provided on your proxy card is designed to verify your identity when voting by telephone or by Internet. Please be aware that if you vote by telephone or over the Internet, you may incur costs such as telephone and Internet access charges for which you will be responsible;
- by completing, signing, dating and returning the enclosed proxy card in the accompanying prepaid reply envelope; or
- in person—you may attend the special meeting and cast your vote there.

If you are a beneficial owner, you will receive instructions from your bank, brokerage firm or other nominee that you must follow in order to have your shares of Applied Nanotech common stock voted. Those instructions will identify which of the above choices are available to you in order to have your shares voted. Please note that if you are a beneficial owner and wish to vote in person at the special meeting, you must provide a legal proxy from your bank, brokerage firm or other nominee at the special meeting.

Please refer to the instructions on your proxy or voting instruction card to determine the deadlines for voting by telephone or over the Internet. If you choose to submit a proxy by mailing a proxy card, your proxy card should be mailed in the accompanying prepaid reply envelope, and your proxy card must be filed with the Corporate Secretary of Applied Nanotech by the time the special meeting begins. **Please do not send in your share certificates with your proxy card.** If the combination is completed your shares of Applied Nanotech will automatically become shares of PEN Class A common stock and you will not be required to exchange your share certificates.

If you vote by proxy, regardless of the method you choose to vote, the individuals named on the enclosed proxy card, and each of them, with full power of substitution, will vote your shares of Applied Nanotech common stock in the way that you indicate. When completing the Internet or telephone processes or the proxy card, you may specify whether your shares of Applied Nanotech common stock should be voted for or against or to abstain from voting on all, some or none of the specific items of business to come before the special meeting.

If you properly sign your proxy card but do not mark the boxes showing how your shares of Applied Nanotech common stock should be voted on a matter, the shares of Applied Nanotech common stock represented by your properly signed proxy will be voted “ **FOR** ” Proposal 1 to approve the Merger & Exchange Agreement, “ **FOR** ” Proposal 2 to increase the number of authorized shares of our capital stock and common stock, “ **FOR** ” Proposal 3 to approve on a non-binding, advisory basis, the compensation arrangements for Dr. Yaniv that will become effective if and when the combination occurs, and “ **FOR** ” any adjournment of the special meeting, if necessary or appropriate, to solicit additional proxies if there are insufficient votes at the time of the special meeting to approve Proposal 1 and the combination.

You have the right to revoke a proxy, whether delivered over the Internet, by telephone or by mail, at any time before it is exercised, by voting again at a later date through any of the methods available to you, by attending the special meeting and voting in person, or by giving written notice of revocation to Applied Nanotech prior to the time the special meeting begins. Written notice of revocation should be mailed to: Applied Nanotech, Inc., 3006 Longhorn Boulevard, Suite 107, Austin, Texas 78758.

If you have any questions or need assistance voting your shares, please contact \_\_\_\_\_, Applied Nanotech' proxy solicitor, by calling toll-free at 1-800-\_\_\_\_\_. Banks, brokerage firms, and other nominees may call collect at 212-\_\_\_\_\_.

**IT IS IMPORTANT THAT YOU VOTE YOUR SHARES OF APPLIED NANOTECH COMMON STOCK PROMPTLY. WHETHER OR NOT YOU PLAN TO ATTEND THE SPECIAL MEETING, PLEASE COMPLETE, DATE, SIGN AND RETURN, AS PROMPTLY AS POSSIBLE, THE ENCLOSED PROXY CARD IN THE PRE-ADDRESSED POSTAGE-PAID ENVELOPE, OR FOLLOW THE INSTRUCTIONS ON THE PROXY CARD TO VOTE BY TELEPHONE OR OVER THE INTERNET. SHAREHOLDERS WHO ATTEND THE SPECIAL MEETING MAY REVOKE THEIR PROXIES BY VOTING IN PERSON.**

Under the voting and conversion agreement signed at substantially the same time as the Merger & Exchange Agreement, the directors and executive officers of Applied Nanotech and Sichuan Yinhe Chemical Co., Ltd. are required to vote all their shares of Applied Nanotech common stock aggregating 8,288,333 or slightly more than 5% of the outstanding common stock "FOR" Proposal 1 to approve the Merger & Exchange Agreement and the combination and "FOR" the adjournment of the special meeting, if necessary or appropriate, to solicit additional proxies if there are insufficient votes at the time of the special meeting to approve the proposal to approve the Merger & Exchange Agreement and the combination. These same shareholders have informed Applied Nanotech that they intend to vote "FOR" Proposal 2 to increase the authorized number of shares of capital stock and common stock and "FOR" Proposal 3 to approve, by non-binding, advisory vote, certain compensation arrangements for Dr. Yaniv that will be effective at the closing of the combination if Proposal 1 is approved.

#### *Adjournments and Postponements*

Although it is not currently expected, the special meeting may be adjourned for the purpose of soliciting additional proxies if there are insufficient votes at the time of the special meeting to approve the proposal to approve the Merger & Exchange Agreement or if a quorum is not present at the special meeting. An adjournment generally may be made with the affirmative vote of the holders of a majority of the shares of Applied Nanotech common stock present in person or represented by proxy and entitled to vote on the matter at the special meeting. Any adjournment of the special meeting for the purpose of soliciting additional proxies will allow shareholders who have already sent in their proxies to revoke them at any time prior to their use at the special meeting as adjourned.

#### *Anticipated Completion Date for the Combination*

When the closing conditions set forth in the Merger & Exchange Agreement have all been satisfied or waived, including the approval of the Applied Nanotech shareholders at the special meeting, the combination can close. It is expected that will occur promptly following the special meeting as there are no governmental or regulatory approvals that need to be obtained by any of the parties to the Merger & Exchange Agreement. Accordingly, the parties expect that the combination will occur before the end of July, 2014. However, it is possible that events or circumstances outside the control of the parties could result in the combination closing at a different time or not at all. The closing conditions are described in greater detail in the section titled *Proposal 1- The Combination, The Merger & Exchange Agreement – conditions to completion of the Combination* starting on page 67.

#### *Solicitation of Proxies, Payment of Solicitation Expenses*

Applied Nanotech has engaged Morrow & Co., LLC, 470 West Avenue, Stamford CT 06902 to assist in the solicitation of proxies for the special meeting. Applied Nanotech will pay a fee of \$10,000 plus \$6.50 per holder to Morrow in connection with the solicitation. Applied Nanotech has agreed to reimburse Morrow for certain out-of-pocket fees and expenses and also will indemnify Morrow against certain losses, claims, damages, liabilities or expenses. Applied Nanotech also may reimburse banks, brokerage firms, other nominees or their respective agents for their expenses in forwarding proxy materials to beneficial owners of Applied Nanotech common stock. Applied Nanotech's directors, officers and employees also may solicit proxies by telephone, by facsimile, by mail, on the Internet or in person. They will not be paid any additional compensation for soliciting proxies.

## APPLIED NANOTECH'S BUSINESS

### General

We are a global leader in nanotechnology research and development focused on generating revenues through performing research services. Our goal is to ultimately commercialize the technology that we develop, although that will require capital in excess of our current resources. We are currently focused on stabilizing our financial situation and operating the Company based solely on revenues from our research activities at breakeven or better. Our nanotechnology research is aimed at solving problems at the molecular level - working with the basic properties of matter to create new and improved materials and technologies. In our core focus areas, we have succeeded in overcoming the challenge of nanotechnology, which is how to controllably assemble the fundamental nanoparticle building blocks in order to achieve these new materials for both existing and new applications. Our research efforts are currently primarily focused on the areas of nanosensors, nanocomposites and nanoelectronics.

Our nanotechnology research involves performing contract R&D services for others to develop products and materials for new applications, and then leveraging this research by applying it to other similar applications in other industries. During this process, we also develop intellectual property ("IP") around our products and technologies.

We were founded in 1987, incorporated in Texas in 1989, and completed our initial public offering in 1993; however, as a result of our strategic review process, we completely shifted direction and refocused the business in 2006. Since that time, the majority of our research has been focused in other areas, but based on fundamental knowledge and skills that we gained in the course of our work prior to 2006.

### Business Model

Our business model is built on generating research revenues based the development of innovative products and technologies based on strong intellectual property, with the goal of creating a portfolio of recurring revenue streams through a combination of the following methods:

- Performing research services for others;
- Licensing our technology to others;
- Forming strategic relationships with others to commercialize our technology; and
- Selling products based on our technology.

Since development of IP is a critical part of our strategy, before starting on, or accepting, a project, we analyze the potential to develop IP. As a result of this focus, we have built an extensive IP portfolio over the past 20 years, and we continue to develop new intellectual property every year. We have built a strong base of research revenues over the last four years; however, we cannot sustain profitability on a long term basis based solely on research revenues. In order for us to grow and achieve success in the marketplace, it is critical for us to commercialize the technologies that we develop. In the absence of commercialization, we are simply a research and development organization and will not be able to monetize the intellectual property that we develop.

Much of our research comes from government contracts, and there are restrictions that prevent us from earning a profit on, or even covering all of the costs associated with, government contracts. In addition, with private research contracts there is a relationship between revenues received on the contract and rights granted to the licensee under the contract. Since a critical component of any research contract is for us to retain the IP rights, we must contribute to the overall cost of the project, and therefore are unable to charge rates that result in us earning a profit on the contract. Our goal on private research contracts is, at a minimum, to cover all out of pocket costs and contribute to our overall overhead.

In commercializing our technology, because of limited resources, we initially focused on licensing our technology to others. Our research partners frequently have licensing rights as a result of the research that they funded, and upon completion of the work, license the technology for specific applications. Our goal from our license agreements is to obtain upfront payments, generate recurring royalties based on product shipments by the licensee, and secure minimum royalty payments by the licensee in future years to maintain their license. In rare cases, we may license technologies for a one time upfront payment, either to induce the licensee to introduce a product so that others will follow and become potential licensees for us, or because the technology licensed is not part of our core business moving forward. License agreements and the royalties from product shipments are a critical element in us eventually attaining sustainable long-term profitability. We expect to continue to pursue license agreements in those situations where we believe it is the best approach.

In recent years we have explored the commercialization of certain of our high potential products and technologies with internal teams focused on commercialization. Commercialization of products through these internal units would require raising capital, either by the company as a whole, or specifically related to the units through formation of a subsidiary.

We have also worked to commercialize these high potential technologies through strategic relationships and direct sales of products using our technology. In 2011, we began direct sales of some of our products, and we expanded that focus in 2012 and 2013. While we were able to grow sales of products, we did not have adequate capital and were unsuccessful at generating enough product sales to cover the costs associated with the effort. In November 2013, we abandoned all direct sales efforts and eliminated our sales force. We will continue to generate some direct product sales based on inquiries handled by our technical people.

Our focus for 2014 is on our core research and development revenues and on controlling costs to reach breakeven and achieve breakeven as a Company. Once we have attained stable operations, we intend to prepare a business plan and raise sufficient funds to enable us to commercialize our technology.

## Research and Development

Our research and development (R&D) activity is the driver of our technology innovations and is critical in developing and protecting our intellectual property, and therefore, we spend significant amounts on research and development. A significant portion of our research and development costs are associated with revenue producing projects and are a critical component of revenue generation for us. We spent \$3,324,195; \$4,471,208; and \$5,517,937 on research and development in the years ended December 31, 2013, 2012, and 2011, respectively. This represents approximately 57%, 54%, and 63% of our total operating costs and expenses in each of those years. We are eliminating virtually all unfunded research and development cost. We will continue to seek funding for our research, so our spending will be dependent on the amount contracts we are able to obtain.

Much of our intellectual property and research relates to next-generation technologies that are not in wide current use and as such, additional development work is required before products can be manufactured using these technologies. Our research and development efforts occur across a continuum moving from concept to commercialization as follows:

Concept → Laboratory → Development → Pilot/Introduction → Commercialization

We have developed a distinctive competence in accelerating the process of moving ideas from the research lab to the pilot stage. We've also created pilot plant facilities for selected technologies to facilitate commercialization. Because of a lack of resources, we have had limited success in achieving actual commercialization of our products.

## Business Segments

Our operations currently consist of only one reportable business segment. While we have three separate companies, the overwhelming majority of the revenue is derived from one company, we report as one segment. Applied Nanotech Holdings, Inc. ("ANHI") is the parent company. ANHI is where we incur general operating overhead that is the approximate cost of being a public company, effectively the amount in excess of that which might be incurred by a private company performing these same activities. ANHI's activities are generally limited to communicating and reporting to shareholders, consolidating financial information, monitoring activities at subsidiaries, and reviewing potential investments.

Applied Nanotech, Inc. ("ANI"), a subsidiary of ANHI, has been almost the entire focus of our current efforts and until 2012 was our only operating subsidiary. ANI has its own management structure; including its own President and CEO, Dr. Zvi Yaniv. ANI generated all of the revenues in the consolidated group during 2011 and 2012, and it performs the majority of the research and development. In 2012 we formed EZDiagnostix, Inc., ("EZDX") to focus on commercializing our sensor technology. EZDX was able to generate some research revenue in 2013 related to the sensor technology, but was unable to raise the funds necessary to begin commercialization of its technology. As a result, in August 2013, as a cost saving measure, we made the decision to cease operations at EZDX, eliminate its staff, and transfer its only research contract to ANI. Should there be opportunities to raise capital in the future; ANI expects to pursue commercialization of the EZDX technology.

## Overall

We are a global leader in nanotechnology, focusing our efforts on research, development of proof of concepts and prototypes for proposed products, commercializing our technology, and licensing our technology to others. We are developing world-class technologies that generally fall under one of five technology platforms. These platforms are:

- Nanosensor technology;
- Nanocomposites, based on carbon nanotube composites; and
- Nanoelectronics applications.

Our research and development efforts are all focused in the first four areas; however, we previously developed an extensive portfolio of intellectual property in the electron emission area and may be able to monetize that IP by licensing or selling it if there is interest at some point in the future. We are no longer actively pursuing any research projects in the electron emission area.

Our goal is to ultimately commercialize our core technologies by selling products ourselves, or in conjunction with strategic partners, or in limited cases, by licensing these technologies to others to allow them to manufacture products using our technology. However, commercialization, other than by licensing, will require resources significantly in excess of those available to us at the present time. We have a pilot facility that enables us to manufacture significant quantities of some of our products.

## **Nanoelectronics Applications**

We consider nanoelectronics a very promising area with the potential for short term commercialization.

### **Conductive Inks**

Copper Inks - As a result of the move towards flexible electronics, the extra processes of soldering are slowly disappearing. New processes that are digital in nature are required to allow industries to move from the design process directly to the production line. One of our areas of focus is conductive inks, starting with copper. Nanotechnology will play an important role in this process because at this time, only nanoparticles are capable of producing inks that are compatible with the nozzles used in digital printing.

To facilitate our development of conductive copper inks, we entered into a research and development agreement with Ishihara Chemical Company, Ltd., a leading industrial chemical products company headquartered in Japan, to develop conductive inks that can be deposited using an additive process such as ink-jet printing, aerosol-jet printing or screen printing. The target market for these technical inks includes printed circuit boards, flexible electronics and displays, communications instrumentation, and Radio Frequency Identification tags and others. Our work with Ishihara started with a feasibility study in early 2006 and culminated with a license agreement for copper inks and pastes in July 2009. As a result of this partnership, we have received over \$2.5 million in research funding from Ishihara and a \$1.5 million up-front license payment. Because of Ishihara's heavy financial commitment to the project, all IP generated by the project is jointly owned by ANI and Ishihara and the license agreement signed in 2009 gave Ishihara the exclusive right to use this technology. Ishihara can choose to give up this exclusivity at any time. Ishihara is currently readying its production facility and conducting pilot and prototype manufacturing. We expect Ishihara to introduce a product at some point in the future, but not in 2014, and we will receive a 4% royalty on product shipments by Ishihara if they introduce a product. If, however, Ishihara chooses to give up its exclusivity, it will owe no future royalties.

Solar inks - After our initial work in copper, we expanded our work with conductive inks to other inks including nickel, silver, aluminum, and others, as well as to various conductive pastes. In particular, we have developed aluminum and silver inks and pastes that are ideal for use in the production of solar cells. In the photovoltaic solar cell industry, cells are made starting with silicon wafers and printing aluminum pastes on one side and silver pastes on the other. Currently, the industry uses screen printing techniques, which involves direct contact with the wafer. The wafer thickness can't be reduced any further because the contact method in use today causes cracking and breaking. Our inks are capable of being printed using noncontact methods, which would allow the wafer thickness to be reduced. Since over half of the cost of the cell is the silicon wafer, this has significant cost reduction potential. In addition, inks result in a more efficient solar cell than the existing pastes. We have also developed a highly efficient aluminum paste that can be used in current solar cell production.

In 2011, we licensed our solar ink technology to Sichuan Anxian Yinhee Construction and Chemical Company ("YHCC"), a Chinese chemical company, for an upfront payment of \$1.5 million. An additional payment of \$500,000 was paid in 2012, after we achieved certain technical standards. This original license agreement covered Asia, excluding Korea and Japan. In 2012, we amended the license agreement with YHCC to cover the rest of the world in exchange for an upfront payment of \$500,000. We received \$250,000 in 2012 and the remaining \$250,000 in 2013. In 2014 we further amended our agreements, transferring the patents to an affiliate of YHCC and receiving a royalty free license back for use in fields other than solar applications.

### **Competition**

There are silver inks on the market today, but because of the high cost of silver relative to copper, a successful copper ink is likely to open up many additional markets. Most existing inks and pastes in the markets today are manufactured and sold by large multinational chemical companies. For example, the two largest suppliers of inks and pastes for solar cell production are DuPont and Ferro. We are unable to compete directly with companies of that size; consequently, we are targeting, as partners and licensees, medium sized companies with the resources to compete.

### **Intellectual Property**

We have developed a strong intellectual property position in this area. Even after the transfer to the affiliate of YHCC, we have over 40 U.S. and foreign patents and patent applications pending related to copper and other conductive metallic inks.

### **Technical Inks Printing Solution (TIPS)**

Conductive inks have the power to revolutionize many types of electronics manufacturing. Our strategy is to provide a comprehensive solution for end users by not only developing inks, but assisting in the process from start to finish. We call this our Technical Inks Printing Solution. As part of our concept, we have done extensive research on raw materials (nanoparticles). We have developed relationships with nanoparticle suppliers and are able to supply a variety of nanoparticles as a result of these relationships. In addition, we have conducted research and development on a variety of potential end user products to help develop specifications for the inks. We have also formed relationships with hardware manufacturers with the goal of providing seamless integration into high volume manufacturing for companies wishing to use conductive inks in their manufacturing processes.



## Competition

Numerous other companies are working with other technologies with the goal of achieving results similar to the goals of our technology. The ultimate success of products using our technology depends on the results of our research compared with results achieved by others, as well as other factors including marketing, resources, and production capabilities.

## Sensors

### Overview

We have greatly expanded our work and intellectual property in the area of sensor technology. Our approach to sensor technology offers the unique advantage of manipulating materials at the molecular level, where sensing events occur. We are pursuing a multiplatform approach to address specific market needs. Some of the potential applications are as follows:

**Ion Mobility Sensors.** We are currently developing sensors based on Ion Mobility Sensor (“IMS”) technology focusing on Differential Mobility Spectroscopy (“DMS”). These sensors are ideal for use when both high sensitivity and high selectivity (low false positives) are required. We have also improved on existing IMS and DMS technology by developing our proprietary nonradioactive gas ionization sources to replace the radioactive isotopes that are currently used in these tools. We are currently involved in projects to develop highly sensitive Mercaptan and Methane sensors for use in the natural gas industry under funding from the NorthEast Gas Association, and sensors for detection of citrus greening disease under funding from the California Citrus Research Board.

We have also worked with applying this technology to other applications including other agricultural pathology areas, wound care, and breath analysis. There has been extensive research performed that indicates that there is a significant correlation between changes in the level of particular gases in a person’s breath and changes in that person’s health. In fact, research indicates that these changes occur quickly and can be a predictor of future health changes. Breath analysis has the potential to significantly lower health care costs, as a preventive tool, by providing early indications of potential changes in people’s health and providing that information digitally to health professionals.

**Hydrogen Sensors.** These sensors are initially targeted for use in fuel cells for automobiles and for remote monitoring of large power transformers. We developed a hydrogen sensor for use in the measurement of hydrogen in power transformer products. We may explore alternatives to maximize the value to be received from this sensor development by selling our intellectual property portfolio in this area.

**Carbon Monoxide Sensors.** We have developed a low-power carbon monoxide sensor that can last for 10,000 hours on a single battery. The sensor will be specific to carbon monoxide with no cross sensitivity to other gases and elements and is also easily portable and highly sensitive. We are seeking a development partner interested in commercializing this technology.

**Biosensors.** Our carbon nanotube technology is ideally suited for use in biosensors. Sensors based on carbon nanotubes or other nanomaterials can be used to detect chemical, organic, or biological warfare agents, as well as explosives, hydrogen, ammonia and numerous other chemicals. We have developed several proofs of concepts demonstrating the viability of our sensor technology, and are currently seeking development partners to license the technology and integrate it into specific products.

**Other Sensors.** We have demonstrated that carbon nanotubes can be used to develop sensors for detecting chemical industrial agents and biological warfare agents. We have also demonstrated that carbon nanotubes and other nanodetectors can be used for the remote detection of explosives, sensors used in environmental monitoring, health care, the food industry, and biotech-biopharma applications. We are currently seeking funding to take our research in this area to the next level of development, which would include proofs of concept, and product development.

## Competition

Our competition in the sensor area will come from a variety of technologies and companies depending on the purpose and use of the sensor. There are other technologies used in sensors; however, we believe carbon nanotube based sensors and other nanodetectors are more versatile, can sense a broader range of materials, and are more selective (sensitive) in their sensor results. We believe that selecting the right strategic partners for development of proof of concepts for our sensor technology is an important step in the market acceptance of sensors using our technology.

## **Intellectual Property**

In the sensor area, we have developed intellectual property related to several types of sensors, with over 70 U.S. and foreign patents and patent applications pending.

## **Nanocomposites**

We are in the advanced stages of development of nanomaterials using carbon nanotube ("CNT") and other composites. We believe that some of the first widespread use of nanotechnology by established companies will be in this area as they work to improve existing products, materials, and processes. The first products using our technology were introduced in the market place in 2011 and fall within the nanocomposites area. Our work with CNT composites has been in several areas, including epoxies, nylons, polyesters, vinyl esters and glass fibers.

**Epoxies** - Epoxies are used in industries with significant worldwide markets, with applications including adhesives, paints, coatings, and composites. The objective of our CNT epoxy program has been to create composite materials to be used as an alternative to traditional materials. We have reinforced epoxy with CNTs to take advantage of CNTs mechanical properties while reducing the weight of materials needed for specific applications. We have developed patented processes and know-how which has enabled us to uniformly disperse CNTs throughout the epoxy to create significant improvements in strength, toughness, durability, vibration dampening, and other mechanical properties.

In September 2005, we signed a development contract with Yonex Co. Ltd., a large sporting goods manufacturer, to develop nanocomposites to be used in sporting equipment. This agreement culminated in a license agreement in October 2008 that allowed Yonex to use our technology in its tennis and badminton racquets. In 2010, we completed an additional agreement with Yonex to license this technology for use in golf shafts. This development agreement served as the foundation of our work in the CNT composites area. In 2011, Yonex introduced golf shafts and badminton racquets using our technology and began generating royalties for us. In 2013, Yonex bought out the remainder of payments under its license for a lump sum payment. No further royalties will be received from Yonex.

**Other CNT Enhanced Resins** - In addition to epoxy resins, we have done work with other types of resins including polyesters and vinyl esters. Our polyester resin development has been funded by the U.S. Army for applications primarily related to ballistic protection, although polyester resins enhanced by CNTs have many other applications. Vinyl esters are currently widely used in a variety of industrial applications including storage tanks, piping, and construction, and we have done initial work in this area with promising results.

**Nylons** - The addition of CNTs to nylons can enhance certain mechanical properties and the electrical conductivity of insulating material. Of all the types of nylons available, Nylon 6 is the most common, with an estimated 60% of the world volume and with uses in a variety of industries including textiles, carpeting, safety belts, fishing lines, and many other applications. We have developed a patented process for coating nylon pellets with CNTs to improve electrical conductivity. Nylon 6 with improved electrical conductivity can be used for its anti-static qualities, electrostatic discharge, and electromagnetic/RF shielding.

**Glass Fibers** - We have applied our knowledge in CNT enhanced composites to develop a strengthened fiberglass that can be used for applications with long lifetime requirements, such as wind turbine blades. Current wind blade research is focused on lowering the weight of materials to reduce overall cost and increase efficiency. Our early research has shown dramatic results in lowering the weight of materials using CNT strengthened materials, and we are continuing to apply resources with our partners, to further develop this technology.

## **Competition**

A wide range of companies work with composite materials, including some working with CNT enhanced composites. Since each project is unique, our competition would come from different companies for different applications. Since we rely on patented technology, competition comes from different composites, or different formulations of CNT composites. Some of the companies known to be working in the CNT composite area are Zyvex Performance Materials in Columbus, Ohio, GSI Creos in Tokyo, Japan, and Amroy Europe, Ltd. in Finland.

## **Intellectual Property**

We have developed a strong intellectual property position in the nanocomposites area with over 50 U.S. and foreign patents and patent applications pending.

## **Electron Emission Activities**

Until 2006, our main focus for virtually the entire history of ANHI was on electron emission activities. We performed extensive research and accumulated significant intellectual property in this area. The bulk of that activity has centered on Field Emission Display (“FED”) technology. FED is a next generation display technology that is ideally suited for use in large flat screen televisions. Our intellectual property in the electron emission area is mature and well developed. We are now dependent on a manufacturer to introduce a product using our technology. As such, we are no longer devoting any resources to further develop this technology, unless funded for a specific application. We are no longer actively seeking funding in this area. We are, however, closely monitoring developments in the industry to determine if a manufacturer introduces a product that requires a license for our technology.

## **Key Intellectual Property**

Our most significant patent in the electron emission area is a basic patent that we refer to as the Raman Spectrum Patent (U.S. Patent 5,869,922) covering electron emission from a wide range of carbon films. This patent covers field emission devices using various forms of carbon films including carbon nanotubes (CNT) and other forms of carbon that fall within a particular range on the Ultraviolet Raman band. This basic patent is fundamental and has broad applicability and wide geographic coverage, having been issued in the U.S., China, South Korea, Japan, and validated in several European countries. In addition to this basic patent, we have a wide variety of other patents that compliment this basic patent in specific situations. Since we believe anyone using our technology will require a license to the Raman patent, as a cost saving measure, we are letting all other electron emission patents lapse as maintenance fees become due. Our patents in this area are aging and the likelihood of monetization decreases with each passing year.

## **Competition**

Because of the strength of our intellectual property in the electron emission area, our competition comes from other technologies, rather than from other companies. For displays, this competition comes from LCD displays, Plasma displays, LED displays, and color picture tubes.

## **Intellectual Property Rights**

An important part of our business and product development strategy is to seek, when appropriate, protection for our products and proprietary technology through the use of various United States and foreign patents. In fact, before starting any research projects, we analyze the potential for the project to generate valuable IP. Our patent portfolio consists of over 240 patents, including issued patents and patent applications pending before foreign and United States Patent and Trademark Offices. We consider our patent portfolio to be our most valuable asset. However, as a cost saving measure, we are becoming much more selective in filing patents in foreign jurisdictions and are focusing our efforts on the U.S.

The patenting of technology-related products and processes involves uncertain and complex legal and factual questions. To date, no consistent policy has emerged regarding the breadth of claims of such technology patents. Therefore, there is no assurance that our pending United States and foreign applications will issue, or what scope of protection any issued patents will provide, or whether any such patents ultimately will be upheld as valid by a court of competent jurisdiction in the event of a legal challenge. Interference proceedings, to determine priority of invention, also could arise in any of our pending patent applications. The costs of such proceedings would be significant and an unfavorable outcome could result in the loss of rights to the invention at issue in the proceedings. If we fail to obtain patents for our technology, and are required to rely on unpatented proprietary technology, there is no assurance that we can protect our rights in such unpatented proprietary technology, or that others will not independently develop substantially equivalent proprietary products and techniques, or otherwise gain access to our proprietary technology.

Competitors have filed applications for, or have been issued patents, and may obtain additional patents and proprietary rights relating to products or processes used in, necessary to, competitive with, or otherwise related to, our patents. The scope and validity of these patents, and the extent to which we may be required to obtain licenses under these patents or under other proprietary rights and the cost and availability of licenses is unknown. This may limit our ability to license our technology. Litigation concerning these or other patents could be protracted and expensive. If suit were brought against us for patent infringement, a challenge in the suit by us as to the validity of the other patent would have to overcome a legal presumption of validity. There can be no assurance that the validity of the patent would not be upheld by the court or that, in such event, a license of the patent to us would be available. Moreover, even if a license were available, the payments that would be required are unknown and could materially reduce the value of our interest in the affected products. We do, however, consider our patents to be very strong and defensible in any action that may be brought against us.

We also rely upon unpatented trade secrets. No assurances can be given that others will not independently develop substantially equivalent proprietary information and techniques or otherwise gain access to our trade secrets or disclose such technology or that we can meaningfully protect our rights to our unpatented trade secrets.

We require our employees, directors, consultants, outside scientific collaborators, sponsored researchers, and other advisors to execute confidentiality agreements upon the commencement of employment or consulting relationships with us. These agreements provide that all confidential information developed or made known to the individual during the course of the relationship is to be kept confidential and not disclosed to third parties except in specific circumstances. In the case of employees, the agreements provide that all inventions conceived by the individual shall be our exclusive property. There is no assurance, however, that these agreements will provide meaningful protection for our trade secrets in the event of unauthorized use or disclosure of such information.

### **Government Regulation**

Products using our technology may be subject to government regulation in the United States and in other countries. Products using our technology must satisfy mandatory safety standards established by the U.S. Occupational Safety and Health Administration (“OSHA”), and manufacturing must meet pollution control standards established by the U.S. Environmental Protection Agency (“EPA”) and comparable state and foreign regulatory agencies. We may also be subject to regulation under the Radiation Control for Health and Safety Act administered by the Center for Devices and Radiological Health (“CDRH”) of the U.S. Food and Drug Administration. These and other governmental agencies, both in the United States and in foreign countries, may adopt additional rules and regulations that may affect us and products using our technology. Additionally, our arrangements with our licensees and their affiliates may require compliance with export and import control regulations of the U.S. and other countries. The cost of compliance with these regulations has not been significant in the past and is not expected to be material in the future.

A portion of our revenue has consisted of reimbursement of expenditures under U.S. government contracts. We recognized \$2,048,840 of revenue in 2013; \$1,733,728 of revenue in 2012; and \$2,956,717 of revenue in 2011, related to government contracts. These reimbursements represent all or a portion of the costs associated with such contracts. As of December 31, 2013, we have several government contracts in process that have approximately \$1.9 million of revenue yet to be recognized. Government contracts are subject to delays and risk of cancellation. Also, government contractors generally are subject to various kinds of audits and investigations by government agencies. These audits and investigations involve review of a contractor’s performance on its contracts, as well as its pricing practices, the costs it incurs and its compliance with all applicable laws, regulations and standards. We have been audited by the government, with no material changes, and in the future we expect to be audited by the government; however we expect the results of any government audits to have an insignificant effect on our operations and our financial statements.

### **Employees**

As of February 21, 2013 we had 16 full-time employees, including 3 executive officers, and 1 part time employee. At the present time, we do not anticipate the need to hire significant additional employees to support our plans for increasing revenue levels in the next 12 months; however, if revenues increase beyond expected levels, we may hire additional employees. We are not subject to any collective bargaining agreements, and we consider our relations with our employees to be good.

### **APPLIED NANOTECH’S PROPERTY**

We lease a facility in Austin that is used for our corporate headquarters and research and development activities. Our original lease has been extended through 2019. Our new rent, starting in March 2014, is approximately \$15,000 per month, down from approximately \$20,000 per month because we reduced our space from approximately 22,000 square feet to approximately 16,000 square feet.

We believe that these facilities are suitable for our current needs and will be adequate for our anticipated activities, at least through the end of the lease period.

## NANOHOLDING'S BUSINESS

### Overview

NanoHolding develops and sells a portfolio of nano-layer coatings, nano-based cleaners, and nano-composite products based on its proprietary technology. We say “nano” to describe the nanoscale particles that are incorporated into NanoHolding products to provide particular performance characteristics. NanoHolding’s primary commercial products center on its customized eye care glass cleaning and de-fogging products; other products include precision mold release treatments, stay-clean surface treatments for ceramic surfaces, and scuff-resistant treatments for commercial dinnerware. Ongoing research and development applies NanoHolding’s knowledge of nanotechnology to control and manipulate materials at the molecular level to solve everyday problems for customers in the optical, transportation, military, sports, and safety industries. NanoHolding was founded in Ohio in 1985.

Revenue is based on the successful development of products and technologies using proprietary intellectual property and the sale of liquid products, and wet and dry towelettes, based on these technologies. NanoHolding’s goal continues to be to create segment leading brands through direct sales of high quality consumer products, and by developing and producing customized formulas for sale to strategic, industrial partners to be incorporated into their customer’s products. Whenever feasible NanoHolding is actively involved in the manufacture of its formulas in order to produce reliable, consistent quality for the products that NanoHolding and its commercial partners bring to the marketplace.

NanoHolding continues to develop and introduce formulas and packaged formulas for purchase by its customers in the optical, safety, military, sports, consumer products, precision-casting, electronics, and transportation markets. NanoHolding’s main products are:

- packaged products for retail sale to consumers for eyeglass and sunglass lens cleaning and conditioning,
- packaged products for retail sale to consumers for antifog and conditioning of masks and goggles,
- packaged products for sale to the military for safety anti-fogging and conditioning of lenses, masks, head gear and other applications such as head’s up displays,
- liquids for sale to industrial customers who resell to those who need porcelain coatings for restaurant dinnerware, and
- liquids for sale to suppliers to local governments and agencies for coatings for porcelain and other applications in mass transportation.

In addition, NanoHolding has developed a series of formulations used in the manufacture of precision casting and decorative architectural glass products which provides a barrier to soiling, helping keep decorative art-glass clean longer and making it easier to clean.

Recently, NanoHolding completed development of a new long-lasting, anti-bacterial formula for use in several of its existing products. Use of this formulation has been shown to prevent bacteria growth, in laboratory testing, for several days. The formulations can be customized for different applications, market segments and to specific customer needs.

### Marketing and Distribution

NanoHolding sells its products directly to retailers in the United States and internationally, including manufacturers who utilize product formulations in their own branded products. For certain customers or market segments, NanoHolding relies on outside sales agents or distributors

### Manufacturing Operations

Most of NanoHolding’s manufacturing is done at its 74,000 square foot Valley View, Ohio facilities. Additional manufacturing, packaging and assembly is done by third-party contract manufacturers in the United States, India and Taiwan.

### Intellectual Property and Proprietary Rights

NanoHolding’s nanotechnology expertise and related intellectual property is specialized in the areas of molecular self-assembly, transparent nano-composites, and liposomal surfactants. Its research and development is focused on the molecular engineering of liquid formulas that can be applied by hand or by machine. The intellectual property developed from this work is protected primarily in the form of trade secrets, as opposed to patents. This intellectual property strategy is similar to that used by leading companies in the fragrance and flavors industry. NanoHolding has twenty four issued patents and two pending patent applications.

### Competition

NanoHolding’s products have a small number of significant competitors in the market segments in which the products are sold. NanoHolding does not believe that any of those competitors utilize nanotechnology in their products, nor do their products offer the performance advantages provided by its products that incorporate nanotechnology in their formulations. NanoHolding’s products do compete for certain customers or certain applications against lower priced, traditional materials. Most of the companies selling products into NanoHolding’s market segments are privately-held, U.S. packaging or catalog companies. Examples include Hilco Accessories, California Accessories, and Amcon Laboratories and internationally from the catalog company, Prosen, Inc., from the Peoples Republic of China.



## **Government Regulation**

NanoHolding's products and its manufacturing operations must satisfy governmental safety standards. In the U.S. this is the Occupational Safety and Health Administration, and there are comparable regulations in other parts of the world. There are also environmental regulations regarding manufacturing and transportation of NanoHolding's products under the U.S. Environmental Protection Agency and other state and local regulations, including foreign regulation for products manufactured or shipped outside the U.S. NanoHolding takes these requirements into account in product development. Cost of compliance with these regulations has not been significant in the past and NanoHolding does not expect it to be material in the future.

## **Backlog**

Sales are primarily pursuant to purchase orders for delivery of products. NanoHolding does not believe that a backlog as of any particular date is indicative of future results. Some agreements give customers the right to purchase a specific quantity of products during a specified time period, but these agreements do not obligate the customers to purchase any minimum quantity. The quantities actually purchased by the customer, as well as the shipment schedules, are frequently revised during the agreement term to reflect changes in the customer's needs. Because of NanoHolding's small size, a customer's delay of a product shipment can make a difference in the results for a particular accounting period. For these reasons we do not believe that these agreements are meaningful for determining backlog amounts.

## **Business Segment and Geographical Information**

NanoHolding's operations comprise a single business segment. All long-lived assets are located in the United States.

## **Sources and availability of raw materials and the names of principal suppliers**

NanoHolding uses third-party suppliers and contract manufacturers in the United States to obtain substantially all of its raw materials, components and packaging products. Over time, one unrelated third party has become NanoHolding's leading supplier in the United States. As is customary in its industry, historically NanoHolding has not had long-term or exclusive agreements with third-party suppliers or contract manufacturers and has generally made purchases through purchase orders. NanoHolding believes that it has good relationships with its suppliers and manufacturers and that there are alternative sources should one or more of these suppliers or manufacturers become unavailable. The loss of, or a significant adverse change in its relationship with, any of its key suppliers or manufacturers, or any supply change disruptions could have a material adverse effect on NanoHolding's business, prospects, results of operations, financial condition or cash flows.

## **Key Customers**

A limited number of key customers account for a substantial portion of NanoHolding's commercial revenue. In particular, revenue from three customers constituted approximately 31%, 14% and 12%, respectively, of 2013 total revenue. Many of NanoHolding's customers are significantly larger than it is and, therefore, may be able to exert a high degree of influence over NanoHolding. The loss of one of the largest customers or the failure to attract new customers could have a material adverse effect on NanoHolding's business, results of operations and financial condition.

## **Research and Development**

Research and development activity is the driver of NanoHolding's new product development and improvement of existing products. For 2012 and 2013 research and development costs were \$1,144,154 and \$878,364, respectively, and are included in operating expenses on the accompanying consolidated statements of operations. This represents approximately 28% and 24% of NanoHolding's total operating costs in each of those years. The ability to engineer product performance using nanotechnology is one of the ways NanoHolding distinguishes its products in marketing and sales of products in its different market segments. Research and development work includes development and refinement of formulas, optimization for performance, testing and characterization, and work on manufacturing processes and techniques both for producing the product, and for a customer's use of the product.

## **Employees**

As of March 31, 2014, NanoHolding had 32 full-time employees and 5 part-time employees. NanoHolding does not anticipate hiring additional employees for the operations of NanoHolding during the next twelve months. NanoHolding is not subject to any collective bargaining agreements and NanoHolding's relations with its employees are good

## APPLIED NANOTECH'S MANAGEMENT DISCUSSION AND ANALYSIS

### Overview

We are a nanotechnology company, primarily engaged in research and development, with the goal of creating products that we expect to develop, or improve, using nanotechnology. Historically, we have generated revenues by performing research services, licensing our technology, and selling products based on our technology. In the fall of 2013, as a result of limited resources, we restructured our operations to focus primarily on maximizing our research revenues and minimizing costs. As a result of further cuts in 2014, we are now focusing almost exclusively on our research contracts and have temporarily abandoned all commercialization efforts related to our technology. As such, there will be no significant product sales in the foreseeable future. It is not possible for us to commercialize products on our own without a significant infusion of capital. We are currently focused on stabilizing our operations and achieving cash-flow breakeven based on our research revenues only.

### Outlook

We have a plan to achieve positive cash flow from current operations for 2014, prior to interest expense and expenses related to the business combination. Our plan anticipated a significant loss for the first quarter of 2014 and it anticipates a loss for the full year. A critical component of our plan is to maintain our research revenue at its current level, or above, and this will require the receipt of additional contracts. If we do not receive the expected revenue sources as quickly as anticipated by the plan, we likely will be required to cut expenses further, and to raise additional funding. Longer term, if the business combination does not occur as planned, we will need financing to continue as a going concern. If we are unable to raise additional funding on commercially acceptable terms, we may be forced to drastically curtail activities or obtain funding on terms that are more unfavorable for the Company. Our ability to raise additional funds will also be dependent, in part, on whether our shareholders approve Proposal 2 to increase the number of our authorized shares to permit us to raise equity or convertible debt financing.

We have a history of net operating losses, and we expect a significant net loss in 2014. In recent years we have been focusing on increasing our revenues, reducing our costs, and are targeting at least breakeven operations and positive cash flow, prior to working capital needs, for 2014. There can be no assurances that we will achieve this target in 2014, or the future; however, we believe that based on our recent results, our revenue backlog, anticipated new contracts, and our recent cost cuts, that we will be able to at least reach positive monthly operating cash flow from current operations in 2014. However, it is not possible for us to ever achieve more than nominal profitability on an ongoing basis based solely on research activities, and our research activities are not capable of generating sufficient cash flow to commercialize any products based on our technology.

As discussed in Liquidity and Capital Resources below, we have significant amounts of convertible debt coming due in August 2014. If this transaction is approved and consummated, these notes will be converted into equity of Pen, Inc. If this transaction is not consummated, we do not have the funds to pay these notes and will be required to negotiate extensions, or new conversion terms with the note holders. We believe the note holders are willing to negotiate terms that will enable the Company to survive; however, the terms likely would be unfavorable to existing shareholders.

Our plan is based on current development plans, current operating plans, the current regulatory environment, historical experience in the development of products, and general economic conditions. Changes could occur which would cause certain assumptions on which this plan is based to be no longer valid. Our plan is primarily dependent upon cutting costs, maintaining the level of research revenues that we achieved in 2013 and raising money. Although we do not expect funding our operations to be an insurmountable problem, if adequate funds are not available from operations, or additional sources of financing, we likely will have to reduce costs further, or obtain funds through arrangements with other entities that may require us to relinquish rights to certain technologies or products. Such results could materially and adversely affect us.

**Stock based compensation** - We frequently grant stock options to employees and others. We have granted significant options in the past, but in 2012 the compensation committee essentially discontinued options for employees and officers, making this policy less critical. We have, however, continued to grant options to the Board of Directors as compensation for their services. We may grant significantly more options in the future. We account for any options issued using the fair value method of accounting.

**Other** - As a matter of policy, we review our major assets for impairment. Our major operating assets are accounts receivable, and property and equipment. We depreciate our property and equipment over their estimated useful lives. We did not identify any impaired items in 2012, 2013, or 2014. We have not experienced significant bad debt expense, and we do not believe that we need an allowance for doubtful accounts for any exposure to loss in our accounts receivable at either December 31, 2013 or March 31, 2014.



## Liquidity and Capital Resources

The Company has a history of net losses and negative cash flow from operations. We have had losses in each of the last three years, and expect a significant net loss in 2014, as well. The accompanying financial statements have been prepared in conformity with generally accepted accounting principles, which contemplate continuation of the Company as a going concern, and do not include any adjustments that may be required if it were unable to continue as a going concern. Management and the Board believe that the actions taken to date in 2014 and currently being taken will allow the Company to achieve positive cashflow from current operations for 2014, prior to interest expense and expenses associated with the business combination.

The principal source of our liquidity has historically been from funds received from exempt offerings of our common stock and convertible debt. We have not raised any money from common stock offerings in 2012, 2013, or 2014. We did raise money from convertible debt during those periods. We issued convertible notes payable with a face amount of \$935,700 and \$513,375 in 2012 and 2013, respectively. In 2014, we have issued convertible notes totaling \$211,250 through the date of this filing. Included in this total is \$75,000 raised in the private placement of convertible notes, of up to \$250,000, as contemplated by the Merger & Exchange Agreement. These funds are earmarked for expenses to enable us to accomplish the proposed combination and to increase our working capital by allowing for a reduction of accounts payable, accrued expenses, and the retirement of other notes with more unfavorable terms.

We believe that our current cash level, when combined with our backlog, expected revenue, and cost reductions, is sufficient for us to operate at least through the end of September 2014, and possibly the end of the year. We have cut costs significantly, and if revenue sources do not materialize as quickly as we expect, we intend to cut expenses further to a level to enable us to continue operations. However, without raising additional funds, or completion of the business combination, it will require the continued cooperation of our vendors and note holders.

### Cash Flow Activity for the Years Ended December 31, 2013, and 2012

Our cash balance decreased during 2013 – from approximately \$300,000 at December 31, 2012 to approximately \$120,000 at December 31, 2013. Our working capital also decreased significantly, both as a result of a decrease in our current assets and an increase in our current liabilities. Our current liabilities increased significantly as a result of movement of our long-term debt to current as well as a significant increase in accrued expenses as a result of cash conservation programs and working capital management.

The primary factor that drives our cash used in operations is our net loss. Factors affecting our net loss are discussed in the Results of Operations section below. In 2012 and 2013, because of our reduced cash position, a substantial portion of the net loss was offset by management of working capital items, including deferral of officer, employee, and board compensation resulting in an increase in accrued expenses. We also significantly increased accounts payable in 2012 and generally maintained that level in 2013.

Our cash flow from financing activities resulted from the issuance of convertible notes payable, partially offset by payments on long term debt and capital leases. We issued convertible notes payable with a face amount of \$935,700 and \$513,375 in 2012 and 2013, respectively. These notes are convertible into common stock, and a portion of these notes have been converted as of December 31, 2013. We also have convertible notes still outstanding from prior years. If the business combination occurs, all of the notes other than those issued as part of the bridge financing in 2014 will either be converted before the closing, or will be converted in connection with the closing of the combination.

Cash used in investing activities was the result of the purchase of capital assets in both years. We would expect minimal cash to be used in investing activities in 2014. No material commitments exist as of December 31, 2013, for future purchases of capital assets.

Our contractual obligations as of December 31, 2013 consist of notes payable (including interest), operating leases, and capital leases. The notes payable are convertible into common stock at fixed rates of \$0.08 to \$0.25 per share, as well as a small portion at variable rates of 30% to 50% below the market price at the time of conversion. A summary of our obligations at December 31, 2013 is as follows:

	Total	2014	2015	2016	2017	2018	2019
Capital leases	\$ 10,427	\$ 10,427	\$ –	\$ –	\$ –	\$ –	\$ –
Operating leases	\$ 1,031,732	\$ 220,896	\$ 200,424	\$ 199,742	\$ 186,804	\$ 191,744	\$ 32,122
Convertible notes payable	\$ 2,335,240	\$ 2,335,240	\$ –	\$ –	\$ –	\$ –	\$ –

We will not have the cash available to meet our cash requirements for fiscal 2014, when considering the notes payable; however, we believe that many of the holders of the notes due in 2014 will extend, and may agree to convert both principal and interest to common stock so no cash will need to be paid.

## Cash Flow Activity for the Three Months Ended March 31, 2014 and 2013

Our cash position increased during the period from approximately \$120,000 at December 31, 2013 to approximately \$160,000 at March 31, 2014. This increase in cash is primarily the result of cash provided by financing activities raised through the issuance of convertible notes.

For the quarter ended March 31, 2014 (the “2014 Period”), operating activities used approximately \$10,000 of cash, as compared to approximately \$85,000 of cash provided by operating activities in the same period in 2013 (the “2013 Period”). The cash used in operating activities in the 2014 Period was the result of the net loss, offset by noncash expenses and working capital management. During the same period in 2013 a \$600,000 deposit related to a potential acquisition from 2012 was returned to us, providing significant working capital to us in that period.

We would expect our cash used in, or provided by, operating activities to fluctuate in future quarters in 2014, depending on the timing of receipt of various items. The proceeds from the current fundraising round of convertible notes discussed below are earmarked to increase working capital on our balance sheet by allowing for a reduction of accounts payable and accrued expenses, as well as to pay transaction expenses related to the proposed business combination. Each of these items will have a negative effect on cash flow from operations. We expect positive cash flow from operations in future quarters in 2014, but not in all quarters, depending on the timing of the receipt of funds from the convertible notes and timing of payment of expenses,

We had no capital expenditures in either period, and we expect cash used in or provided by investing activities to remain at relatively insignificant levels for the balance of 2014.

Our cash provided by financing activities was approximately \$45,000 and \$230,000 in the 2014 and 2013 Periods, respectively. In both periods, this was the result of issuing convertible notes payable to supplement our cash balance, partially offset by payments on capital leases and notes payable. We are currently in the process of raising up to \$250,000 in additional convertible notes, and as a result cash provided by financing activities may increase in the second quarter of 2014. A total of \$75,000 of these notes have been issued in the period between April 1, 2014 and the date of this filing.

If the combination does not occur, we will have approximately \$2.4 million of convertible notes payable, including accrued interest, due in August 2014. We do not have the funds to pay these notes, nor are we likely to be able to raise outside funding to pay these notes prior to the due date. We expect the majority of the remaining notes to be extended, or converted into common stock in 2014 and future years; however, if note holders were to pursue immediate collection of these notes, it would have a negative impact on our ability to survive and continue operations. We currently do not have the authorized shares available to either convert the notes currently outstanding, or to issue new equity. If Proposal 2 to increase the authorized shares passes, this issue related to availability of shares will be solved; however, if Proposal 2 is not approved, our financing alternatives will be limited, and it will have a significant negative effect on our ability to survive.

We do not expect significant additional fundraising prior to the shareholder’s meeting. If the combination is not approved, or does not occur, we will need to determine whether we can sustain research operations while pursuing an alternate transaction or develop a plan to commercialize products based on our intellectual property and seek funding for that plan. While we expect to be able to obtain any funds needed for operations, there is no assurance that any financing alternatives can be arranged on commercially acceptable terms.

## Results of Operations

### Comparison of the Results of Operations for the Years Ended December 31, 2013 and 2012

**Business Segments** We operate with a single reportable business segment.

**Revenues** Following is a summary of key revenue categories for the two years covered by this report.

	2013	2012
Government Revenues	\$ 2,048,840	\$ 1,733,728
Other Contract Research	1,054,305	309,274
Upfront License Fees	250,000	750,000
Product Royalties	238,936	433,453
Product Sales	286,622	228,200
Other Revenues	39,659	138,713
Total Revenues	\$ 3,918,362	\$ 3,593,368
<b>Revenue backlog at December 31</b>	<b>\$ 2,812,000</b>	<b>\$ 2,929,000</b>

Our total revenue increased 9% from 2012 to 2013. In 2013, we focused on rebuilding our core, bread and butter, research efforts and both our government and private research revenue increased as a result. We are anticipating about \$3.6 million of revenues in 2014.

Our royalty revenue, both upfront payments and product royalties, decreased from 2012 to 2013, primarily as a result of our decreased focus on licensing. The upfront payments were all from YHCC in both years, and the product royalties were all from Yonex in both years. We are no longer actively pursuing licensing arrangements, except in limited situations, so we expect no upfront payments in 2014. We also will receive no product sale royalties from Yonex in the future, as Yonex bought out their license in 2013. We have two remaining licenses that could generate licenses in the future, but we expect any royalties in 2014 to be insignificant.

Our product sales increased from 2012 to 2013. However, we do not have the capital required to effectively pursue product sales and the results we were achieving did not justify the costs that we were incurring. In the fall of 2013, we eliminated our salesperson and sales support as part of our cost reduction program. We expect some product sales in 2014 as a result of inquiries received by our technical personnel, but those sales will be significantly reduced from 2013.

The revenue backlog as of December 31, 2013 results from several government programs and private contracts. The majority of these programs are currently in progress and generating revenue, with the remainder related to contracts awarded, but not yet started. The overwhelming majority of this backlog will be converted into revenue in 2014. We also have some expected contracts that we consider likely that have not yet been finalized, and therefore, are not included in the backlog numbers as of December 31, 2013.

We expect revenue to be lower in 2014 than in 2013. We expect our research revenue levels to approach 2013 levels; however, with no royalties and reduced product sales, we expect our total revenues in 2014 to be less than 2013. Research revenues are also negatively impacted in 2014 by two factors. Our research revenues are primarily based on invoicing for costs incurred. We have reduced the number of research employees, resulting in fewer employees to work on programs. We also have reduced employee wage rates. This also results in a reduction in costs available to be billed on programs. It is unlikely that revenues could equal 2013 levels without raising significant additional capital that would allow us to aggressively pursue product sales, or increasing costs.

#### Cost of sales

Because we do not ship significant amounts of products or provide homogenous services, we do not incur costs of sales in the traditional sense. We do keep track of our costs on individual projects, but because there is a wide variation in cost percentages, presenting cost of sales information is not meaningful. Government sponsored research has nominal or no gross margins and is primarily just a reimbursement of costs. In some cases we charge nominal amounts for projects that have much higher costs because we are proving a concept that will be helpful to us in other areas, or are seeking a significantly larger follow up contract with the customer. In other instances we may perform research contracts that have significant positive margins because we are able to capitalize on work that we have done and knowledge that we have gained in the past. At the present stage of our development, it is more meaningful to look at total research and development costs in conjunction with revenues than to look at solely internally funded research projects and the cost of research associated with revenue producing contracts. We have, however, broken out some of our costs in the R&D discussion below.

#### Research and development

Following is a summary of research and development expenditures for the past two years.

	2013	2012
Direct Materials – Funded Projects	\$ 189,625	\$ 405,014
Direct Materials – Internal Projects	110,219	422,675
Direct Subcontractors – Funded Projects	327,455	321,332
Direct Labor - Funded Projects	877,466	734,263
Direct Labor – Internal Projects	209,513	552,330
Overhead Labor	302,265	296,450
Benefits	433,545	634,037
Facilities and supplies	762,572	937,894
Other Overhead	111,535	167,213
<b>Total Research and development</b>	<b>\$ 3,324,195</b>	<b>\$ 4,471,208</b>

Our research and development spending varies with revenue, as a significant portion of our spending is on funded programs. Overall, in 2013 we focused on cost reductions and elimination of spending not related to the generation of revenue. Our spending on internal projects in 2013 was significantly down from 2012 and was largely in support of potential product sales – working with potential customers, tailoring our technology to products, and providing samples, as well as continued refinement of our licensed products, as opposed to new research. Subcontractors are usually involved in specific projects and the amount spent on subcontractors depends on the type of contracts that we have in process at any particular time. We intend to pursue further cost cuts in 2014, and we expect total research and development spending in 2014 to be below that of 2013.

We expect to continue to incur substantial expenses in support of additional research and development activities related to the commercial development of our technologies, as long as we have the revenues to support it. If research revenue does not materialize as expected at the present time, we would reduce research expenditures accordingly.

### Selling, general, and administrative

Following are some key components of selling, general, and administrative expense:

	2013	2012
Labor and benefits	\$ 1,429,800	\$ 1,525,923
Board of Director costs	\$ 169,773	\$ 180,038
Professional fees	\$ 203,563	\$ 876,964
Patent expense	\$ 424,239	\$ 629,985
Trade shows and conferences	\$ 40,540	\$ 83,734
Other S, G, & A	\$ 249,121	\$ 503,652
Total selling, general, and administrative	<u>\$ 2,517,036</u>	<u>\$ 3,800,296</u>

The most significant cost in selling, general and administrative expense is labor and benefits. It was reduced in 2013, primarily as a result of the vacancy in the CEO position. The amount will decrease significantly further in 2014 as the result of staff reductions late in 2013, the savings from which will show up in 2014, and significant additional cuts in 2014.

Board of Director costs were similar in both years. The reduction in 2013 is the result of the resignation of one of the Directors in 2013.

Professional fees decreased significantly from 2012 to 2013 because in 2012, we were pursuing a potential acquisition. As a result we incurred significant consulting, investment banking, legal due diligence, accounting due diligence, and other related professional fees in 2012. That effort was abandoned and no such fees were incurred in 2013.

We also spend a significant amount on patents. Our patent expense decreased from approximately \$630,000 in 2012 to approximately \$425,000 in 2013 as we did an extensive review of our portfolio and discontinued maintenance payments on old patents that we considered to no longer have value to us. We expect patent expense to decrease significantly further in 2014, as we continue to cull old patents that we believe no longer have value from our patent portfolio, and as we become more selective in our foreign filings.

We expect our ongoing selling, general, and administrative expenses to be significantly lower in 2014, as we focus on keeping costs low to match our revenue levels. We will have the full year effect of staff reductions implemented in 2013, additional staff reductions made in 2014, and cuts in salary levels in 2014. Total selling, general, and administrative expenses will be significantly affected by transactions costs. Further, if the business combination is consummated, we are obligated to issue 7,074,000 shares to all outside Directors of the Company, except David Li, for time spent on Company matters in excess of that covered by their normal compensation as Directors, including time related to the merger. The exact expense recorded will be dependent on the value of the stock at the time that it is issued.

### Other income

Following is a summary of other income for the last three fiscal years.

	2013	2012
Interest expense from capital leases and other	\$ (6,226)	\$ (11,025)
Interest expense associated with notes payable	\$ (194,296)	\$ (187,797)
Interest expense associated notes payable discount	\$ (1,022,100)	\$ (253,779)
Interest income	\$ 3,803	\$ 1,587

The majority of our convertible notes bear interest at a rate of 8%. In addition, the value of the conversion feature was recorded as a discount at the time of issuance and is being amortized to expense over the life of the notes. We also lowered the conversion price on certain notes in 2013 to induce conversion and recognized additional discount at the time of conversion. We expect interest expense to increase further in 2014 as the result of additional note issuances and conversion discounts. Also, under the terms of the Merger and Exchange Agreement, all existing convertible notes are required to be converted to stock. In order to induce note holders to agree to convert, conversion prices were lowered significantly, which will result in a substantial noncash interest charge in 2014.

Our interest income is earned as a result of the investment of excess cash balances. Our interest income is negligible in all years, and we expect it to be negligible in 2014.

## **Overview**

The largest single component of cost that we incur is payroll related expense. Excluding the cost related to stock based compensation, we incurred payroll related expense of approximately \$3.6 million in 2012, and \$3.2 million in 2013. We expect payroll related expense in 2014 to decrease to approximately \$1.5 million, as a result of our cost reduction efforts, which involve the full year effect of cuts made in 2013, reduction in salary rates in 2014, and further staff reductions.

We expect our overall spending rate for 2014, excluding any revenue or transaction costs related to this business combination, to average approximately \$300,000 per month from the date of this filing forward. Based on this, we believe we can reach positive cash flow from current operations, excluding transaction costs, on a monthly basis, but there is no assurance that this will occur, or that we will achieve the level of revenue required to achieve that. This expenditure level is based on anticipated revenue levels. If these revenue levels are not attained, we will not incur many of these expenses, and our expense level will also be lower than anticipated. In addition, we have significant amounts of accrued expense, accounts payable, and notes payable that when paid will have a negative impact on overall cash flow. Ultimately, we will be required to raise additional cash to address these issues.

## **Seasonality and Inflation**

Applied Nanotech Holdings' business is not seasonal in nature. Management believes that Applied Nanotech Holdings' operations have not been affected by inflation.

## **Comparison of the Results of Operations for the Three Months Ended March 31, 2014 and 2013**

Our net loss for the three months ended March 31, 2014 was approximately \$450,000, substantially down from the net loss of approximately \$1.375 million for the same period in 2013. Our loss from operations also decreased by approximately 50% from the 2013 Period to the 2014 Period – from approximately \$665,000 to approximately \$345,000. The reasons for the decreased loss are discussed in more detail below.

Our revenues for the quarter ended March 31, 2014, totaled approximately \$880,000, compared to approximately \$950,000 for the same quarter in 2013. The revenues in both periods were substantially all the result of reimbursed research expenditures. The majority of the revenues in both periods came from government sources, which is included in government contract revenue in the statement of operations. The decrease related to reductions in royalties and product sales, while total research revenues remained relatively consistent from period to period. The royalties decreased because the royalties in the 2013 Period were from Yonex, and Yonex made a one-time lump sum payment later in 2013 to buy out the remainder of their license. As such there will be no future royalties from Yonex. Product sales decreased because we eliminated our sales force later in 2013 and are no longer focusing on product sales. Product sales will remain at negligible levels for the balance of 2014.

At the present stage of our development, significant conclusions cannot be drawn by comparing revenues from period to period; however, we would expect the quarterly revenue for the balance of 2014 to approximate the first quarter level in the majority of quarters. As discussed above, our revenue levels are expected to decrease in 2014. Our current business strategy is built on generating revenue through research contracts and keeping costs down to a level to attain positive cash flow from operations. Our revenues will not increase significantly without commercialization of our technology, which will require capital in excess of that currently available to us.

We had a research revenue backlog of approximately \$2.8 million as of both March 31, 2014 and 2013. Our ability to perform continued research, or fulfill our backlog, should not require significant additional personnel. We expect our revenue backlog to continue to support our expected revenue levels.

We incurred research and development expenses of approximately \$625,000 for the 2014 Period, a decrease from the approximately \$875,000 incurred in the 2013 Period. This decrease in research expenses is a direct result of our cost cutting initiatives and elimination of almost all unfunded research activities. We expect research and development expenditures to remain near the current level for the balance of 2014; however, significant new revenue producing research programs beyond those already identified could cause research and development expenditures to increase.

Our selling, general, and administrative expenses decreased from approximately \$750,000 for the 2013 Period to approximately \$600,000 for the 2014 Period. The 2014 amount includes approximately \$175,000 of expenses related to the proposed business combination. Without those expenses, the selling general and administration expenses would have been approximately \$425,000. This decrease in selling, general, and administrative expenses was primarily the result of our cost cutting efforts, which included a reduction in the number of administrative personnel, a reduction in salary rates, a reduction in patent expenses, and a reduction in travel and other expenses. Significant additional cuts were made in March 2014, so excluding transaction costs, the quarterly selling general and administrative expenses should decline further in future quarters as the effect of those cuts are realized over an entire quarter. The actual amount of decrease is dependent on the amount of transaction costs incurred related to the proposed business combination. We expect significant additional transaction related costs in the second and third, quarters of 2014.

Our interest expense decreased significantly from 2013 to 2014. The 2013 period contained significant noncash interest charges related to lowering the conversion price on convertible notes to induce conversion by the note holder. As discussed above, there will be similar charges in future quarters of 2014 and interest expense will increase significantly in future quarters and overall will be higher for the full 2014 year than for 2013.

Our interest income is insignificant in both periods. Historically, our interest income results from the investment of excess funds in short term interest bearing instruments, primarily certificates of deposit, commercial paper, and money market funds. We expect our interest income to remain at insignificant levels for the balance of 2014 as a result of limited investible funds and the current interest rate environment.

## **NANO HOLDING'S MANAGEMENT DISCUSSION AND ANALYSIS**

### **Overview**

NanoHolding Inc. and Subsidiary ("NanoHolding") develops and markets products based on technology which permits the fabrication of oriented, ultra-thin films of organic or polymeric coatings. NanoHolding also produces a line of personal lens cleaners and accessories. These products are marketed globally primarily to customers in the eyeglass industry.

### **Critical Accounting Policies and Estimates**

Discussion and analysis of NanoHolding's consolidated financial condition and consolidated results of operations are based upon its consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of these consolidated financial statements requires NanoHolding to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingent assets and liabilities. NanoHolding continually evaluates its estimates, including those related to bad debts, inventories, recovery of long-lived assets, income taxes, and the valuation of certain liability instruments and equity transactions. NanoHolding bases its estimates on historical experience and on various other assumptions that it believes to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Any future changes to these estimates and assumptions could cause a material change to NanoHolding's reported amounts of revenues, expenses, assets and liabilities. Actual results may differ from these estimates under different assumptions or conditions. NanoHolding believes the following critical accounting policies affect the more significant judgments and estimates used in the preparation of the consolidated financial statements.

### **Accounts Receivable**

NanoHolding has a policy of reserving for uncollectible accounts based on its best estimate of the amount of probable credit losses in its existing accounts receivable. NanoHolding periodically reviews its accounts receivable to determine whether an allowance is necessary based on an analysis of past due accounts and other factors that may indicate that the realization of an account may be in doubt. Account balances deemed to be uncollectible are charged to the allowance after all means of collection have been exhausted and the potential for recovery is considered remote.

As a basis for estimating the likelihood of collection has been established, NanoHolding considers a number of factors when determining reserves for uncollectible accounts. NanoHolding believes that it uses a reasonably reliable methodology to estimate the collectability of its accounts receivable. NanoHolding reviews its allowances for doubtful accounts on at least a quarterly basis. NanoHolding also considers whether the historical economic conditions are comparable to current economic conditions. If the financial condition of its customers or other parties that NanoHolding has business relations with were to deteriorate, resulting in an impairment of their ability to make payments, additional allowances may be required.

## **Inventory**

Inventory is stated at the lower of cost or market. Cost is determined using the first-in, first-out (FIFO) method.

## **Revenue Recognition**

Pursuant to the guidance of ASC Topic 605, NanoHolding recognizes sales when persuasive evidence of an arrangement exists, delivery has occurred, the purchase price is fixed or determinable and collectability is reasonably assured. Net sales is recognized when the product is shipped to the customer and title is transferred.

## **Sales Incentives and Consideration Paid to Customers**

NanoHolding accounts for certain promotional costs such as sales incentives and cooperative advertising as a reduction of net sales.

## **Income Taxes**

In 2013 and 2012, NanoHolding operated as a limited liability company and passed all income and loss to its member based on their proportionate interest in Nanofilm. Accordingly, no provision for federal and state income taxes has been made in the consolidated financial statements for the years ended December 31, 2013 and 2012.

Beginning in March 2014, income taxes are accounted for pursuant to generally accepted accounting standards for corporate income taxes, which is an asset and liability approach that requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of events that have been recognized in NanoHolding's financial statements or tax returns. The charge for taxes is based on the results for the period as adjusted for items, which are non-assessable or disallowed. It is calculated using tax rates that have been enacted or substantively enacted by the balance sheet date.

Deferred tax is accounted for using the balance sheet asset and liability method in respect of temporary differences arising from differences between the carrying amount of assets and liabilities in the consolidated financial statements and the corresponding tax basis used in the computation of assessable tax profit. In principle, deferred tax liabilities are recognized for all taxable temporary differences, and deferred tax assets are recognized to the extent that it is probably that taxable profit will be available against which deductible temporary differences can be utilized.

Deferred tax is calculated using tax rates that are expected to apply to the period when the asset is realized or the liability is settled. Deferred tax is charged or credited in the income statement, except when it is related to items credited or charged directly to equity, in which case the deferred tax is also dealt with in equity. Deferred tax assets and liabilities are offset when they related to income taxes levied by the same taxation authority and NanoHolding intends to settle its current tax assets and liabilities on a net basis.

## **Recent Accounting Pronouncements**

Accounting standards that have been issued or proposed by FASB that do not require adoption until a future date are not expected to have a material impact on the consolidated financial statements upon adoption. NanoHolding does not discuss recent pronouncements that are not anticipated to have an impact on or are unrelated to its financial condition, results of operations, cash flows, or disclosures.

## **RESULTS OF OPERATIONS**

### **Comparison of Results of Operations for the Years Ended December 31, 2013 and 2012**

*Sales.* For the year ended December 31, 2013, NanoHolding had sales of \$9,075,348, as compared to sales of \$10,600,279 for the year ended December 31, 2012, a decrease of \$1,524,931 or 14.4%. The decrease in sales from 2012 to 2013 consisted of a \$1,371,607 or 13.4% decrease in sales to third parties and a decrease in sales to a related party of \$153,324 or 42.3%. The decrease in sales for the year ended December 31, 2013 as compared to the 2012 period was primarily attributable to a 2013 delay in sales of the anti-fog cloth due to the necessity to reformulate and change a certain raw material included that product. NanoHolding reformulated the materials included on its anti-fog cloth and commenced shipments of this product in late 2013 and beyond. Additionally, during 2013, the customer who purchased a majority of the liquid anti-fog lens cleaner to be used in their anti-fog lens kit systems discontinued its anti-fog lens kit and accordingly, NanoHolding's sales decreased.

*Cost of sales.* Cost of sales includes the cost of raw materials, labor, depreciation, freight out and other overhead costs. For the year ended December 31, 2013, cost of sales was \$5,644,017 as compared to \$6,493,041 for the year ended December 31, 2012, a decrease of \$849,024, or 13.1%, consistent with the decrease in sales.

*Gross profit and gross margin.* NanoHolding' gross profit was \$3,431,331 for the year ended December 31, 2013 as compared to \$4,107,238 for the year ended December 31, 2012, representing gross margins of 37.8% and 38.7%, respectively. The decrease in gross margins was attributable to lower sales described earlier.

*Operating expenses.* For the year ended December 31, 2013, operating expenses amounted to \$3,611,259 as compared to \$4,055,614 for the year ended December 31, 2012, a decrease of \$444,355 or 11.0%. For the years ended December 31, 2013 and 2012, operating expenses consisted of the following:

	Year Ended December 31, 2013	Year Ended December 31, 2012
Salaries, wages and contract services	\$ 1,865,415	\$ 2,392,331
Professional services	522,085	405,492
Sales and marketing	340,270	351,416
Occupancy	375,903	352,706
Travel and entertainment	154,332	217,170
Depreciation	115,571	152,384
Administrative	200,056	137,118
Materials and development	37,627	46,997
Total	<u>\$ 3,611,259</u>	<u>\$ 4,055,614</u>

- Salaries, wages and contract services for the year ended December 31, 2013 decreased by \$526,916, or 22.0%, as compared to the year ended December 31, 2012. The decrease was mainly attributable to the full year impact of a reduction in workforce of 8 employees during 2012. NanoHolding expects that salaries, wages and contract services to increase due to merit increases and increased staffing.
- Professional services fees for the year ended December 31, 2013 increased by \$116,593, or 28.7%, as compared to the year ended December 31, 2012. The increase was attributable to an increase in accounting fees of \$64,758 and an increase in legal fees of \$72,333 offset by a decrease in other professional fees of \$20,498.
- For the year ended December 31, 2013, sales and marketing expense decreased by \$11,146 or 3% as compared to the year ended December 31, 2012.
- For the year ended December 31, 2013, occupancy costs increased by \$23,197 or 6.6% as compared to the 2013 Interim Period. This increase is primarily attributable to an increase in contract facility lease for corporate office and Real Estate tax accrual for production facility.
- For the year ended December 31, 2013, travel and entertainment expenses decreased by \$62,838 or 28.9% as compared to the year ended December 31, 2012. This decrease is primarily attributable to a decrease in overall sales expenses due to cost cutting measures.
- For the year ended December 31, 2013, depreciation expenses included in operating expenses decreased by \$36,813 or 24.2% as compared to the year ended December 31, 2012. This decrease is primarily attributable to a decrease in depreciable assets.
- For the year ended December 31, 2013, administrative expenses increased by \$62,938 or 45.9% as compared to the year ended December 31, 2012. This increase is primarily attributable to an increase in bank fees from securing loan with Fifth Third to pay off investors and bad debt recovery.
- For the year ended December 31, 2013, materials and development expenses decreased by \$9,370 or 20.0% as compared to the year ended December 31, 2012. This decrease is primarily attributable to a decrease in research costs for coatings, as NanoHolding focused more on application development for these materials and scaled up new anti-fog product.



*Income (loss) from operations.* As a result of the factors described above, for the year ended December 31, 2013, loss from operations amounted to \$179,928, as compared to income from operations of \$51,624 for the year ended December 31, 2012, a decrease of \$231,552 or 448.5%.

*Other income (expense).* Other income (expense) includes interest expense, other income, net and interest income. For the year ended December 31, 2013, total other expense amounted to \$38,392 as compared to other income of \$10,094 for the year ended December 31, 2012. During 2013, NanoHolding incurred interest expense of \$80,326 and compared to \$0 in 2012. In 2012, NanoHolding had no outstanding interest-bearing debt. In 2013, NanoHolding recorded other income of \$41,894 and compared to \$9,806 in 2012, an increase of \$32,088.

*Net income (loss).* As a result of the foregoing, NanoHolding's net loss was \$(218,320), or \$(0.11) per share (basic and diluted), for the year ended December 31, 2013, as compared to net income of \$61,718, or \$0.02 per share (basic and diluted) for the year ended December 31, 2012.

### Comparison of Results of Operations for the Three Months Ended March 31, 2014 and 2013

*Sales.* For the three months ended March 31, 2014 (the "2014 Interim Period"), NanoHolding had sales of \$2,771,411, as compared to sales of \$2,394,663 for the three months ended March 31, 2013 (the "2013 Interim Period"), an increase of \$376,748 or 15.7%. The increase in sales during the 2014 Interim Period as compared to the 2013 Interim period consisted of a \$349,638 or 14.9% increase in sales to third parties and an increase in sales to a related party of \$27,110 or 48.8% which was primarily attributable an increase in shipments of the anti-fog cloths which was delayed in the 2013 period.

*Cost of sales.* Cost of sales includes the cost of raw materials, labor, depreciation, freight out and other overhead costs. For the 2014 Interim Period, cost of sales was \$1,450,141 as compared to \$1,361,852 for the 2013 Interim Period, an increase of \$88,289, or 6.5% and was attributable to an increase in sales.

*Gross profit and gross margin.* NanoHolding's gross profit was \$1,321,270 for the 2014 Interim Period as compared to \$1,032,811 for the 2013 Interim Period, representing gross margins of 47.7% and 43.1%, respectively. The increase in gross margins was attributable to increased sales and a change in product mix to products with higher gross margins.

*Operating expenses.* For the 2014 Interim Period, operating expenses amounted to \$995,581 as compared to \$853,288 for the 2013 Interim Period, an increase of \$142,293 or 16.7%. For the 2014 and 2013 Interim Periods, operating expenses consisted of the following:

	<u>2014 Interim Period</u>	<u>2013 Interim Period</u>
Salaries, wages and contract services	\$ 533,561	\$ 486,107
Professional services	186,026	72,303
Sales and marketing	73,517	82,008
Occupancy	90,735	94,600
Travel and entertainment	22,084	31,642
Depreciation	22,137	32,643
Administrative	45,862	40,872
Materials and development	21,659	13,113
Total	<u>\$ 995,581</u>	<u>\$ 853,288</u>

- Salaries, wages and contract services for the 2014 Interim Period increased by \$47,454, or 9.8%, as compared to the 2013 Interim Period. The increase was mainly attributable to a planned expenditure for market development activities and increased headcount. NanoHolding expects that salaries, wages and contract services will increase primarily due to continued emphasis on planned market development programs for the balance of 2014.
- Professional services for the 2014 Interim Period increased by \$113,723 or 157.3%, as compared to the 2013 Interim Period. The increase was attributable to an increase in accounting fees of \$35,599, an increase in legal fees of \$31,623, and an increase in other professional fees of \$6,101 which are attributable to an increase in fees related to the proposed acquisition.
- For the 2014 Interim Period, sales and marketing expenses decreased by \$8,491 or 10.4% as compared to the three months ended March 31, 2013.
- For the 2014 Interim Period, occupancy costs decreased by \$3,865 or 4.1% as compared to the 2013 Interim Period.
- For the 2014 Interim Period, travel and entertainment expenses decreased by \$9,558 or 30.2% as compared to the 2013 Interim Period. This decrease is primarily attributable to a decrease in overall sales expenses due to cost cutting measures.
- For the 2014 Interim Period, depreciation expenses included in operating expenses decreased by \$10,506 or 32.2% as compared to the 2013 Interim Period. This decrease is due to some assets becoming fully depreciated.

- For the 2014 Interim Period, administrative expenses increased by \$4,990 or 12.2% as compared to the 2013 Interim Period.
- For the 2014 Interim Period, materials and development expenses increased by \$8,546 or 65.2% as compared to the 2013 Interim Period. This increase is primarily attributable to an increase in emphasis on development of product and market development projects for lens coatings.

*Income (loss) from operations.* As a result of the factors described above, for the 2014 Interim Period, income from operations amounted to \$325,689, as compared to \$179,523 for the 2013 Interim Period, an increase of \$146,166 or 81.4%.

*Other income (expense).* Other income (expense) includes interest expense, other income, net and interest income. For the 2014 Interim Period, total other expense amounted to \$7,320 as compared to other expenses of \$24,072 for the 2013 Interim Period. During the 2014 Interim Period, NanoHolding incurred interest expense of \$7,333 as compared to \$28,526 for the 2013 Interim Period.

*Income taxes.* For the 2014 Interim Period, income tax expense amounted to \$47,608 as compared to \$0 for the 2013 Interim Period. Beginning in March 2014, NanoHolding became subject to federal and state corporate income taxes.

*Net income.* As a result of the foregoing, net income attributable to NanoHolding was \$231,455, or \$0.12 per share (basic and diluted) for the 2014 Interim Period as compared to net income attributable to NanoHolding of \$132,884, or \$0.07 per share (basic and diluted) for the 2013 Interim Period.

### Liquidity and Capital Resources

Liquidity is the ability of a company to generate funds to support its current and future operations, satisfy its obligations and otherwise operate on an ongoing basis. At March 31, 2014 and December 31, 2013, NanoHolding had cash balances of \$230,170 and \$100,367, respectively.

The following table sets forth a summary of changes in working capital from December 31, 2012 to December 31, 2013 and from December 31, 2013 to March 31, 2014:

	December 31, 2013	December 31, 2012	December 31, 2012 to December 31, 2013	
			Change	Percentage Change
<b>Working capital:</b>				
Total current assets	\$ 3,234,068	\$ 4,067,347	\$ (833,279)	(20.5%)
Total current liabilities	1,326,050	1,455,064	129,014	8.9%
Working capital:	<u>\$ 1,908,018</u>	<u>\$ 2,612,283</u>	<u>\$ (704,265)</u>	<u>(27.0%)</u>
	March 31, 2014	December 31, 2013	December 31, 2013 to March 31, 2014	
			Change	Percentage Change
<b>Working capital:</b>				
Total current assets	\$ 3,434,502	\$ 3,234,068	\$ 200,434	6.2%
Total current liabilities	1,207,354	1,326,050	118,696	9.0%
Working capital:	<u>\$ 2,227,148</u>	<u>\$ 1,908,018</u>	<u>\$ 319,129</u>	<u>16.8%</u>

Working capital decreased \$704,265 to \$1,908,018 at December 31, 2013 from \$2,612,283 at December 31, 2012 and working capital increased \$319,129 to \$2,227,148 at March 31, 2014 from \$1,908,018 at December 31, 2013.

The decrease in working capital from December 31, 2012 to December 31, 2013 is primarily attributable to a decrease in cash and cash equivalents of \$1,440,214 as described below, an increase in accounts payable of \$430,929, and an increase in a bank revolving line of credit of \$199,919 offset by an increase in accounts receivable (third party and related party) of \$399,820, an increase in inventory of \$209,478 and a decrease in notes payable of \$870,787.

In conjunction with the redemption of Class A common shares in 2012, Nanofilm issued promissory notes to certain Class A stockholders totaling \$1,935,084. Interest payments were due quarterly at an annual interest rate of 6%. The notes were to be repaid at 45% of the principal balance due on December 31, 2013 with the remaining balance due December 31, 2014. The notes were personally guaranteed by the majority member and were subordinated to future debt incurred. As discussed below, in July 2013, Nanofilm received a bank loan from Fifth Third Bank and repaid all remaining notes.

On July 30, 2013 Nanofilm entered into a financing arrangement with Fifth Third Bank to provide funds to repay notes payable to Class A stockholders and provide working capital. The financing arrangement provided for a \$600,000 term loan (the "Term Loan") and a \$1,200,000 Revolving Credit Facility ("Revolving Credit Facility") as described below.

	Term Loan	Revolving Credit Facility
Amount	\$600,000	\$1,200,000
Loan term	5 years	1 year
Interest rate	Libor plus 3% (3.138% at December 31, 2013)	Libor plus 2.75% (2.92% December 31, 2013)
Monthly payment	\$5,000 monthly plus interest	Interest only

The notes were secured by substantially all of the assets of Nanofilm and were personally guaranteed by the NanoHolding's chief executive officer/principal stockholder.

The bank term loan and revolving credit facility were as follows:

	Term Loan	Revolving Credit Facility
Balance at December 31, 2013	\$ 575,000	\$ 199,919
Less: current portion	(60,000)	(199,919)
Bank term loan, net of current portion	<u>\$ 515,000</u>	<u>\$ —</u>

Pursuant the Term Loan agreement, in addition to covenants to provide quarterly and annual financial statements and other standard covenants, effective December 31, 2014, NanoHolding's Fixed Charge Coverage Ratio ("Fixed Ratio"), as defined in the Term Loan Agreement, may not be less than 1.20 to 1.0, calculated as of the last day of each fiscal year. The Fixed Ratio shall equal the ratio of (a) earnings before interest, income taxes, depreciation and amortization ("EBITDA") plus rent and operating leases, less distributions, dividends and certain capital expenditures, as defined to (b) the consolidated sum of (i) interest expense and (ii) all principal payments with respect to indebtedness that were paid or were due and payable plus rent and operating lease expense incurred and all cash taxes paid during the respective fiscal year. If these covenants are not met, the Term Loan shall become immediately due on demand.

At December 31, 2013, maximum funds available to borrow under the Revolving Credit Facility amounted to \$1,000,081. The weighted average interest rate during the period was approximately 3%.

In April 2014, NanoHolding entered into a \$1,500,000 revolving credit note agreement (the "Revolving Note") with Mackinac Commercial Credit, LLC. The unpaid principal balance of this Revolving Note is payable on demand, is secured by all of the assets of its subsidiary, and bears interest computed at a rate of interest (the "Effective Rate") which is equal to 7.0% above the LIBOR Rate, as defined, payable monthly. NanoHolding will pay a late charge of 5.0% of any monthly payment not received by Lender within 10 calendar days after said payment is due. NanoHolding may, at any time or from time to time upon three business days' written notice to Lender, prepay the Note in whole provided that (i) if its prepays the Revolving Note in full and terminates the Revolving Note after the date hereof, or (ii) Lender, after the date hereof, terminates the Revolving Note after default, then NanoHolding will pay, in addition to all other amounts, a termination premium equal to 2.0% of the maximum loan amount. NanoHolding used the proceeds of the Revolving Note disbursed at closing to retire and extinguish all of the indebtedness to Fifth Third Bank. NanoHolding borrowed approximately \$988,000 under the Revolving Note which repaid Fifth Third Bank.

The increase in working capital from December 31, 2013 to March 31, 2014 is primarily attributable to an increase in cash and cash equivalents of \$129,803 as described below, and a decrease in accounts payable of \$377,222 offset by an increase in a bank revolving line of credit of \$200,000.

#### Cash flow activity for the year ended December 31, 2013 and 2012

Net cash flow used in operating activities was \$214,079 for the year ended December 31, 2013 as compared to net cash provided by operating activities of \$1,147,574 for the year ended December 31, 2012, a decrease of \$1,361,651.

- Net cash flow used in operating activities for the year ended December 31, 2013 was primarily attributable to the use of cash to fund the net loss of \$218,320 adjusted for non-cash activities such as bad debt recovery of \$45,343, a change in inventory obsolescence reserves of \$126,275 and depreciation and amortization expense of \$244,077 and changes in operating assets and liabilities such as an increase in accounts receivable – related party of \$75,259, a decrease in accounts payable of \$193,558 and a decrease in accrued expenses of \$149,571, offset by a decrease in accounts receivable of \$929,429 and a decrease in inventory of \$511,428.
- Net cash flow provided by operating activities for the year ended December 31, 2012 was primarily attributable to changes in operating assets and liabilities such as: a decrease in accounts receivable of \$929,429 from the collection of outstanding accounts receivable balances and a decrease in inventory of \$511,428 offset primarily by a decrease in accounts payable of \$193,558 and a decrease in accrued expenses of \$149,571.

Net cash flow used in investing activities reflects the purchase of property and equipment of \$66,109 and \$106,243 for the year ended December 31, 2013 and 2012, respectively.

Net cash flow used in financing activities was \$1,160,026 for the year ended December 31, 2013 as compared to \$1,325,170 for the year ended December 31, 2012. During the year ended December 31, 2013, Nanofilm repaid notes payable of \$1,935,084 repaid a bank line of credit of \$525,081 and repaid bank loans of \$25,000 offset by proceeds received from a bank line of credit of \$725,000 and proceeds from bank loans of \$600,000. During the year ended December 31, 2012, Nanofilm used cash to pay distributions to members of \$129,328 and redeemed LLC member units for \$1,190,617.

#### Cash flow activity for the three months ended March 31, 2014 and 2013

Net cash flow used in operating activities was \$57,683 for the 2014 Interim Period as compared to net cash used in operating activities of \$337,390 for the 2013 Interim Period.

- Net cash flow used in operating activities for the 2014 Interim Period was primarily attributable to changes in operating assets and liabilities such as an increase in accounts receivable of \$103,507 and a decrease in accounts payable of \$377,222 offset by net income of \$270,761 adjusted for the add back of non-cash items such as a change in inventory obsolescence reserve of \$63,729 and depreciation and amortization expense of \$42,183.
- Net cash flow used in operating activities for the 2013 Interim Period was primarily attributable to changes in operating assets and liabilities such as: an increase in accounts receivable of \$433,666 and an increase in inventory of \$212,362 offset by net income of \$155,451 adjusted for the add back of non-cash items such as a change in inventory obsolescence reserve of \$36,379 and depreciation and amortization expense of \$55,071.

Net cash flow used in investing activities reflects the purchase of property and equipment of \$2,514 and \$19,095 for the 2014 and 2013 Interim Periods, respectively.

Net cash flow provided by financing activities was \$190,000 for the 2014 Interim Period as compared to net cash used in financing activities of \$50,045 for the 2013 Interim Period. During the 2014 Interim Period, NanoHolding received proceeds from a bank line of credit of \$200,000 offset by the repayment of bank loans of \$10,000. During the 2013 Interim Period, NanoHolding used cash to redeem LLC member units for \$50,045.

## Contractual Obligations and Off-Balance Sheet Arrangements

### Contractual Obligations

NanoHolding has certain fixed contractual obligations and commitments that include future estimated payments. Changes in NanoHolding's business needs, cancellation provisions, changing interest rates, and other factors may result in actual payments differing from the estimates. NanoHolding cannot provide certainty regarding the timing and amounts of payments. NanoHolding has presented below a summary of the most significant assumptions used in its determination of amounts presented in the tables, in order to assist in the review of this information within the context of NanoHolding's consolidated financial position, results of operations, and cash flows. The following tables summarize NanoHolding's contractual obligations as of March 31, 2014, and the effect these obligations are expected to have on NanoHolding's liquidity and cash flows in future periods.

Contractual obligations:	Payments Due by Period				
	Total	Less than 1 year	1-3 years	3-5 years	5+ years
Bank loans	\$ 565,000	\$ 60,000	\$ 180,000	\$ 325,000	\$ —
Bank line of credit	399,919	399,919	—	—	—
Operating leases	1,311,232	383,746	927,486	—	—
Total	<u>\$ 2,276,151</u>	<u>\$ 783,755</u>	<u>\$ 1,107,486</u>	<u>\$ 325,000</u>	<u>\$ —</u>

### Off-balance Sheet Arrangements

NanoHolding has not entered into any other financial guarantees or other commitments to guarantee the payment obligations of any third parties. NanoHolding has not entered into any derivative contracts that are indexed to its shares and classified as shareholder's equity or that are not reflected in NanoHolding's consolidated financial statements. Furthermore, NanoHolding does not have any retained or contingent interest in assets transferred to an unconsolidated entity that serves as credit, liquidity or market risk support to such entity. NanoHolding do not have any variable interest in any unconsolidated entity that provides financing, liquidity, market risk or credit support to it or engages in leasing, hedging or research and development services with it.

### Pro Forma Financial Information.

The following unaudited combined pro forma balance sheet has been derived from the unaudited consolidated balance sheet of Applied Nanotech Holdings, Inc. and Subsidiaries (the "Company" or "we") at March 31, 2014, and adjusts such information to give the effect of 1) the conversion of convertible debt and accrued expenses to common shares and 2) the acquisition of Nanoholding Inc. and Subsidiary ("Nanoholding"), as if it would have existed on March 31, 2014. The unaudited combined pro forma balance sheet gives effect to the anticipated share exchange agreement between the Company, the Company's debt holders, Nanoholding, and the non-controlling interest of Nanoholding's subsidiary. Nanoholding is a holding company formed under the laws of Delaware on February 24, 2014. Nanoholding is a majority owner of membership interests in Nanofilm, Ltd. ("Nanofilm"), a company formed under the laws of the Ohio on June 14, 1995 as a limited liability company. Nanofilm develops and markets products based on technology which permits the fabrication of oriented, ultra-thin films of organic or polymeric crystals. The Company also produces a line of personal lens cleaners and accessories. These products are marketed internationally primarily to customers in the eyeglass industry.

The following pro forma combined statements of operations for the year ended December 31, 2013 and for the three months ended March 31, 2014 have been derived from the consolidated statement of operations of the Company and Nanoholding. The unaudited pro forma combined balance sheet and unaudited combined statements of operations are presented for informational purposes only and do not purport to be indicative of the combined financial condition that would have resulted if the acquisition would have existed on December 31, 2013 and March 31, 2014.

**APPLIED NANOTECH HOLDING, INC. AND SUBSIDIARIES**  
**UNAUDITED PRO FORMA COMBINED BALANCE SHEET**  
**March 31, 2014**

	Applied Nanotech Holdings, Inc. and Subsidiaries	Nanoholding Inc. and Subsidiary	Pro Forma Adjustments		Pro Forma Balances
	March 31, 2014 (Unaudited)	March 31, 2014 (Unaudited)	Dr	Cr.	(Unaudited)
<b>ASSETS</b>					
<b>CURRENT ASSETS:</b>					
Cash and cash equivalents	\$ 159,039	\$ 230,170	\$ –	\$ –	\$ 389,209
Accounts receivable, net	327,177	1,627,810	–	–	1,954,987
Accounts receivable - related party	–	35,517	–	–	35,517
Inventories	–	1,387,253	–	–	1,387,253
Prepaid expenses	78,401	153,752	–	–	232,153
Total Current Assets	564,617	3,434,502	–	–	3,999,119
Property and equipment, net	141,692	633,035	–	–	774,727
Intangible assets	–	–	3,959,074	–	3,959,074
Other assets	27,114	37,890	–	–	65,004
Total Assets	<u>\$ 733,423</u>	<u>\$ 4,105,427</u>	<u>\$ 3,959,074</u>	<u>\$ –</u>	<u>\$ 8,797,924</u>
<b>LIABILITIES AND STOCKHOLDERS' EQUITY (DEFICIT)</b>					
<b>CURRENT LIABILITIES:</b>					
Accounts payable	\$ 704,002	\$ 344,638	\$ –	\$ –	\$ 1,048,640
Accrued expenses	1,376,981	355,189	1,014,461	–	717,709
Current portion of bank term loan	–	60,000	–	–	60,000
Bank revolving line of credit	–	399,919	–	–	399,919
Convertible notes payable, net	1,823,729	–	1,823,729	–	–
Income taxes payable	–	47,608	–	–	47,608
Deposits and deferred revenue	194,355	–	–	–	194,355
Total Current Liabilities	<u>4,099,067</u>	<u>1,207,354</u>	<u>2,838,190</u>	<u>–</u>	<u>2,468,231</u>
<b>LONG-TERM LIABILITIES:</b>					
Accrued compensation - stock appreciation rights Plan A	–	58,999	–	–	58,999
Deferred lease incentives	–	40,628	–	–	40,628
Equity credits issued	–	11,373	–	–	11,373
Bank loans, net of current portion	–	505,000	–	–	505,000
Total Liabilities	<u>4,099,067</u>	<u>1,823,354</u>	<u>2,838,190</u>	<u>–</u>	<u>3,084,231</u>
<b>STOCKHOLDERS' EQUITY(DEFICIT):</b>					
Preferred stock, \$1.00 par value, 2,000,000 shares authorized; no shares issued and outstanding	–	–	–	–	–
Common stock, 160,000,000 shares authorized, \$.001 par value, 157,053,526 and shares issued and outstanding, respectively	157,054	–	–	391,680	548,734
Paid-in capital	118,045,073	197	121,567,771	9,560,670	6,038,169
Accumulated deficit	(121,567,771)	(873,210)	–	121,567,771	(873,210)
	<u>(3,365,644)</u>	<u>(873,013)</u>	<u>121,567,771</u>	<u>131,520,121</u>	<u>5,713,693</u>
Non-controlling interest in Nanofilm	–	3,155,086	3,155,086	–	–
Total Stockholders' Equity (Deficit)	<u>(3,365,644)</u>	<u>2,282,073</u>	<u>124,722,857</u>	<u>131,520,121</u>	<u>5,713,675</u>
Total Liabilities and Stockholders' Equity (Deficit)	<u>\$ 733,423</u>	<u>\$ 4,105,427</u>	<u>\$ 127,561,047</u>	<u>\$ 131,520,121</u>	<u>\$ 8,797,924</u>

See accompanying notes to unaudited pro forma combined financial statements.

**APPLIED NANOTECH HOLDING, INC. AND SUBSIDIARIES**  
**UNAUDITED PRO FORMA COMBINED STATEMENT OF OPERATIONS**

	Applied Nanotech Holdings, Inc. and Subsidiaries	Nanoholding Inc. and Subsidiary	Pro Forma Adjustments		Pro Forma Balances
	For the Three Months Ended March 31, 2014 (Unaudited)	For the Three Months Ended March 31, 2014 (Unaudited)	Dr	Cr.	(Unaudited)
SALES	\$ 882,432	\$ 2,771,411	\$ -	\$ -	\$ 3,653,843
COST OF SALES	-	1,450,141	-	-	1,450,141
GROSS PROFIT	882,432	1,321,270	-	-	2,203,702
OPERATING EXPENSES					
Research and development	626,355	146,969	-	-	773,324
Selling, general and administrative	601,688	848,612	-	-	1,450,300
Total Operating Expenses	1,228,043	995,581	-	-	2,223,624
INCOME (LOSS) FROM OPERATIONS	(345,611)	325,689	-	-	(19,922)
OTHER INCOME (EXPENSE):					
Interest income	30	-	-	-	30
Interest expense	(98,454)	(7,333)	-	-	(105,787)
Other	-	13	-	-	13
Total Other Income (Expense)	(98,424)	(7,320)	-	-	(105,744)
INCOME (LOSS) BEFORE INCOME TAXES	(444,035)	318,369	-	-	(125,666)
Provision for income taxes	-	(47,608)	-	-	(47,608)
NET INCOME (LOSS)	\$ (444,035)	\$ 270,761	\$ -	\$ -	\$ (173,274)
Net loss per common share:					
Basic	\$ -				\$ -
Diluted	\$ -				\$ -
Weighted average shares outstanding:					
Basic	154,425,018				548,733,000
Diluted	154,425,018				548,733,000

See accompanying notes to unaudited pro forma combined financial statements

**APPLIED NANOTECH HOLDING, INC. AND SUBSIDIARIES**  
**UNAUDITED PRO FORMA COMBINED STATEMENT OF OPERATIONS**

	Applied Nanotech Holdings, Inc. and Subsidiaries	Nanoholding Inc. and Subsidiary	Pro Forma Adjustments		Pro Forma Balances (Unaudited)
	For the Year Ended December 31, 2013	For the Year Ended December 31, 2013	Dr	Cr.	
SALES	\$ 3,918,362	\$ 9,075,348	\$ —	\$ —	\$ 12,993,710
COST OF SALES	—	5,644,017	—	—	5,644,017
GROSS PROFIT	3,918,362	3,431,331	—	—	7,349,693
OPERATING EXPENSES					
Research and development	3,324,195	878,364	—	—	4,202,559
Selling, general and administrative	2,516,236	2,732,895	—	—	5,249,131
Total Operating Expenses	5,840,431	3,611,259	—	—	9,451,690
LOSS FROM OPERATIONS	(1,922,069)	(179,928)	—	—	(2,101,997)
OTHER INCOME (EXPENSE):					
Interest income	3,803	40	—	—	3,843
Interest expense	(1,222,622)	(80,326)	—	—	(1,302,948)
Other	—	41,894	—	—	41,894
Total Other Income (Expense)	(1,218,819)	(38,392)	—	—	(1,257,211)
LOSS BEFORE INCOME TAXES	(3,140,888)	(218,320)	—	—	(3,359,208)
Provision for income taxes	—	—	—	—	—
NET LOSS	\$ (3,140,888)	\$ (218,320)	\$ —	\$ —	\$ (3,359,208)
Net income (loss) per common share:					
Basic	\$ (0.02)				\$ (0.01)
Diluted	\$ (0.02)				\$ (0.01)
Weighted average shares outstanding:					
Basic	131,744,328				548,733,000
Diluted	131,744,328				548,733,000

See accompanying notes to unaudited pro forma combined financial statements.



## Notes to Unaudited Pro Forma Combined Financial Statements

On March 10, 2014, the Company entered into an Agreement and Plan of Merger and Exchange (the “Merger Agreement”) with Nanoholding and with Carl Zeiss, Inc. (“Zeiss”), the Class Z member of Nanofilm, pursuant to which, subject to the terms and conditions of the Merger Agreement, NanoHolding will merge with and into the Company and become a wholly-owned subsidiary of the Company. Immediately thereafter Zeiss will exchange its interest in Nanofilm for stock in the Company. Upon completion of the Merger, current stockholders of the Company and holders of certain debt convertible into the Company’s common stock are expected to receive approximately 38% of the Company’s outstanding common stock and stockholders of NanoHolding and Zeiss are expected to receive approximately 62% of the Company’s outstanding common stock. Consummation of the Merger is subject to certain conditions, including (i) approval by the holders of at least a majority of the Company’s common stock, (ii) payment or conversion of all of the Company’s debt that is convertible into its equity securities (exclusive of the any securities issued as part of the Bridge Financing), and (iii) the absence of any law restraining, enjoining or prohibiting the Merger. Moreover, each party’s obligation to consummate the Merger and the exchange is subject to certain other conditions including (a) the accuracy of the other parties’ representations and warranties (subject to customary materiality qualifiers) and (b) the other parties’ material compliance with its covenants and agreements contained in the Merger Agreement. The Company intends to treat this transaction as a reverse acquisition using the acquisition method of accounting with the Company as the acquiree for accounting purposes.

We have derived the Company’s historical financial data at March 31, 2014 and for the three months ended March 31, 2014 from its unaudited financial statements contained on Form 10-Q as filed with the Securities and Exchange Commission and for the year ended December 31, 2013 from its audited financial statements contained on Form 10-K as filed with the Securities and Exchange Commission.

We have derived Nanoholding’s historical consolidated financial statements as of March 31, 2014 and the three months ended March 31, 2014 and for the year ended December 31, 2013 from Nanoholding’s consolidated financial statements contained elsewhere in this proxy statement.

The unaudited combined pro forma balance sheet gives effect to the anticipated share exchange agreement between the Company, the Company’s debt holders, Nanoholding, and the non-controlling interest of Nanoholding’s subsidiary and includes the following pro forma adjustments. The pro forma combined statements of operations do not include any adjustment for the amortization of intangible assets as the allocation of the purchase price has not been determined.

	Debit	Credit
1) To reflect conversion of debt and accrued expenses into approximately 45,210,000 shares of common shares		
Convertible notes payable, net	1,823,729	–
Accrued expenses	1,014,461	–
Common stock	–	45,210
Paid-in capital	–	2,792,980
2) To reflect anticipated share exchange agreement between the Company, Nanoholding, and the non-controlling interest of Nanoholding’s subsidiary		
Intangible assets	3,959,074	–
Non-controlling interest in Nanofilm	3,155,086	–
Common stock	–	346,470
Paid-in capital	–	6,767,690
Paid-in capital	121,567,771	–
Accumulated deficit	–	121,567,771

The information presented in the unaudited pro forma combined financial statements does not purport to represent what our financial position or results of operations would have been had the Share Exchange Agreement and all related transactions occurred as of the dates indicated, nor is it indicative of our future combined financial position or combined results of operations for any period. You should not rely on this information as being indicative of the historical results that would have been achieved had the companies always been combined or the future results that the combined company will experience after the Share Exchange Agreement and all related transactions.

These unaudited pro forma combined financial statements should be read in conjunction with the accompanying notes and assumptions and the historical financial statements and related notes of us and Nanoholding.

## THE COMBINATION – PROPOSAL 1

### Background of the Combination

Dr. Rickert was contacted by a search firm retained by Applied Nanotech in July 2013 to determine whether he would have any interest in becoming the Chief Executive Officer of Applied Nanotech. He indicated that he would not consider an employment relationship absent a broader business combination. On July 30, Dr. Ronstadt and Dr. Rickert spoke on the phone to explore the concept. Dr. Ronstadt said he would follow up with Dr. Rickert if, after his report to the board at Applied Nanotech, there was interest in exploring a potential transaction.

On August 22, 2013, Dr. Rickert and Mr. Vereecken from Nanofilm, Mr. Holmes, from Holmes Hollister & Co, the Nanofilm investment banker (and also a member of the Nanofilm board of managers) spoke in a conference call with Messrs. Ronstadt, Berman, Rocheleau and Westerman, directors of Applied Nanotech. They discussed whether there was mutual interest in setting up a process to determine if the two parties could create a structure to combine their businesses.

There was a follow-up call on August 30, in which Dr. Yaniv and Mr. Baker also participated. As a result of these discussions, the parties agreed to start sharing information and signed a mutual non-disclosure agreement.

On September 5 and 6, the Nanofilm team visited the Applied Nanotech facilities in Austin, to learn about their operations, technologies and personnel and to provide information to the Applied Nanotech team about Nanofilm.

On September 7 Mr. Holmes met with Dr. Ronstadt in New Hampshire to discuss the potential structure and terms for a business combination. A merger in which Applied Nanotech would be the survivor with Nanofilm owners having 75% of the combined company was discussed.

On September 12, Mr. Holmes, Mr. Vereecken, John Hollister from Holmes Hollister & Co and Mr. Baker from Applied Nanotech began sharing and discussing financial information about the two businesses.

On September 13, during a scheduled weekly call, the parties decided to establish teams at both companies to continue to move forward with discussions and diligence for a potential transaction. Work began on setting up a meeting at the Nanofilm facilities in Valley View, Ohio for diligence and negotiations. Messrs. Holmes and Ronstadt met on September 19 to discuss the relative ownership of the combined company.

On September 21, Mr. Holmes met with Dr. Ronstadt to review a proposal for a combination that would result in Nanofilm owners owning 66-2/3% and Applied Nanotech shareholders owning 33-1/3% of the combined companies. Applied Nanotech took that under advisement.

On September 30, the parties, via conference call, started to discuss how the businesses might be structured after a transaction.

A conference call to discuss a variety of issues related to the potential combination was held on September 25. Discussions continued, concerning the ownership split between the two ownership groups, Rickert family control, board membership, potential roles in a combined company for Dr. Yaniv and Mr. Baker, and other concerns of both parties. After negotiations over a draft letter, on October 22 the letter of intent was executed.

On October 9 and 10, Messrs. Ronstadt, Baker, Berman, Rocheleau, Westerman, and Dr. Yaniv visited Nanofilm's offices to learn about its operations, technologies and personnel and for discussions and negotiations with Dr. Rickert, and Messrs. Holmes, Hollister and Vereecken. Dr. Rickert's role as the Chief Executive Officer of the combined company was discussed, as were proposed financial terms for a combination. Dr. Yaniv indicated a willingness to continue in a research and strategic role, and a willingness for Dr. Rickert to take the lead management role. The parties agreed to begin work on the terms of a letter of intent.

Conference calls were held on November 1, 11, 15, and 22 to continue discussion of deal terms to be reflected in the transaction agreement, to answer questions related to ongoing diligence and to confirm that diligence was progressing on both sides. The need for additional capital for Applied Nanotech's continued operations through closing was discussed and Messrs. Holmes and Ronstadt met on the 11<sup>th</sup> to discuss terms for a potential capital raise that would need to occur before a combination could occur.

On December 3, there was a call to discuss which deferred obligations of Applied Nanotech could be satisfied by converting them to equity and which obligations would need to be satisfied with cash. There was also discussion regarding potential nominees for the board of the combined company and terms of service.

On December 11 and 13, the teams met by conference call to discuss financial terms for the combination, potential terms for new capital notes and issues arising from diligence by the parties.

On January 4, Messrs. Ronstadt and Holmes met to discuss terms for the capital notes.

On January 8, the teams discussed the status of discussions with Dr. Yaniv regarding new employment arrangements.

On January 13, Mr. Berman joined Messrs. Ronstadt and Holmes on a conference call to discuss financial terms and the capital raise.

During January and February, regular calls were held weekly and working groups exchanged information and met by phone to develop a model reflecting the information developed in diligence to confirm the financial issues to be addressed. Issues addressed included terms for continued employment for Dr. Yaniv and Mr. Baker, the Zeiss participation in the transaction, the post-closing lock up regarding sale of Applied Nanotech shares for controlling persons, whether Sichuan Yinhee Chemical Co., Ltd would support the transaction, the budget for ongoing operations in Austin, the need for additional capital, use of proceeds from the sale of new notes and the conversion into equity of the outstanding Applied Nanotech debt. The parties also discussed what items needed to be completed as part of the execution of the transaction document, and what would be better accomplished after an agreement was signed.

On February 3, the Applied Nanotech merger committee told Nanofilm that the Merger & Exchange Agreement needed to be finalized by mid-February or the transaction was in jeopardy. By mid-February the Merger & Exchange Agreement was being negotiated, while discussions were continuing about the cash needs of the business, the expenses of the Austin operations and the terms for a capital raise. Negotiations continued with Dr. Yaniv regarding new employment arrangements and settlement of his claims for compensation. Negotiations also continued with Mr. Baker regarding the terms for and the timing of his separation from service and a continued consulting role.

On February 28 the Applied Nanotech Board met and approved the terms of the transaction, delegating to Dr. Ronstadt the authority to resolve open issues. The parties continued to finalize terms with Dr. Yaniv and Mr. Baker.

On March 10 the parties signed the Merger & Exchange Agreement and the Applied Nanotech directors (other than Mr. Li) signed the Voting and Conversion Agreement, and Applied Nanotech signed the agreements with Dr. Yaniv and Mr. Baker. The following week Mr. Li and Sichuan Yinhee Chemical Co., Ltd signed the voting and conversion agreement.

During the following weeks the parties agreed on terms for the bridge financing notes that would automatically convert into shares of PEN Class A common stock after the combination occurred, or that could convert into common stock of Applied Nanotech at the option of the holder if additional Applied Nanotech shares were authorized. During that same time period the parties agreed on terms for amendment of the outstanding notes of Applied Nanotech were convertible at a fixed conversion price.

On March 25 and 26, Mr. Westerman, Dr. Rickert and Messrs. Holmes and Vereecken held meetings in both Dallas and Austin with Applied Nanotech note holders about the conversion of their notes into equity as part of the combination and about the bridge financing. On March 28, Mr. Rocheleau, Dr. Rickert and Mr. Vereecken met in Richmond with an Applied Nanotech note holder and were joined by conference call by other note holders for similar discussions.

On April 2, April 11 and April 23, the teams met by conference call to discuss status and strategy for working with Applied Nanotech note holders regarding conversion of their notes as part of the combination and progress on the bridge financing. Analysis continued as to the cash required to fund operations in Austin through closing and to determine the required transaction costs.

On April 25, the parties discussed the status of agreements with various note holders regarding conversion of their notes and the possibility of changing terms for the bridge financing. Over the weekend the Applied Nanotech team circulated proposed new terms for the bridge financing.

On April 29, the teams met by conference call and discussed significantly downsizing the bridge financing, continuing with that financing on its original terms, and amending the Merger & Exchange Agreement to allow certain notes of Applied Nanotech to remain outstanding as well as strategy for working with other note holders. Discussions continued with note holders to negotiate their agreements to convert their notes in the combination.

On May 5, the teams met by conference call. Dr. Ronstadt reported that all note holders with fixed conversion prices had signed amendments extending the due date of their notes and agreeing to automatic conversion of their notes into shares of PEN Class A common stock at the closing. The parties also determined to reduce the size of the bridge financing to a maximum of \$250,000.

## **Recommendation and Reasons for the Combination**

The Applied Nanotech board unanimously recommends that shareholders vote FOR Proposal 1 to approve the Merger & Exchange Agreement and the combination. .

In evaluating the combination and the Merger & Exchange Agreement, the board established a merger committee that consulted with management and the board's legal advisors. (This is described in more detail in the immediately preceding *section The Combination – Proposal 1, Background of the Combination* starting at page 57.) In reaching its decision at its meeting on February 28, 2014 to approve the combination, the board considered a variety of factors weighing positively and negatively in respect of the combination. These factors were considered in the context of the board's ongoing work to provide increased value to the shareholders. The context for making the recommendation in favor of the combination is described first, followed by a summary of the reasons for recommending the combination.

### ***Context***

The Applied Nanotech board decided in the second quarter of 2013 that it would be necessary to make significant adjustments in executive leadership and for Applied Nanotech redirect its focus. In 2012 the cash flow from research contracts that funded our research work fell dramatically. We had hired salespeople to sell products but there was no evidence that their efforts were producing or would produce sufficient revenue in the near term to help support our research programs that were operating at a loss, or to support the staff and expenses necessary to commercialize our technologies. At the same time, management worked independently and with Woodrock & Company, an investment banking firm based in Houston, to raise capital. We and Woodrock & Company were not successful, and we could not continue our research and development work and sales efforts without additional capital. Even after the announcement of the letter of intent in October of 2013 while negotiating the Merger & Exchange Agreement, management continued to work with Woodrock & Company, but no alternative transaction or sources of funding were identified for us to continue independent operations.

Also during the May-to-October period, management worked with several companies that had previously licensed technology from us in an attempt to raise additional funds through licensing or the sale of intellectual property. However, those efforts also failed to result in additional funding. At the same time we engaged a search firm to find a new chief executive officer, preferably one with access to capital and experience in the nanotechnology space. With the exception of Scott Rickert and Nanofilm, there were no promising prospects from that effort.

We also realized that the sources of financing and terms for loans available to us in 2013 were different from what we had experienced in the past. In prior years we had been able to obtain funding from individuals by issuing promissory notes convertible into stock of Applied Nanotech at a fixed conversion price, typically at the market price of our stock at the time the loan was made. In 2013, those funds were not forthcoming and management turned to institutions that were willing to loan money in exchange for notes that converted into Applied Nanotech stock based on a conversion price that reflected a discount to the market price at the time of conversion. Continuing to finance on those terms was very expensive from the perspective of our shareholders. The board did not want to continue financing that was both dilutive to our shareholders and depressed our stock price. Furthermore, additional convertible debt financing would not be available to us in the future unless we incurred the expense of a shareholders' meeting and asked our shareholders to vote for an increase of our authorized number of shares of common stock.

### ***Reasons for and against the Combination***

It was against this background that the Applied Nanotech board evaluated the terms of the proposed combination with NanoHolding and Zeiss. In light of the number and wide variety of factors considered in connection with its evaluation, the Applied Nanotech board did not consider it practicable to, and did not attempt to, quantify or otherwise assign relative weights to the specific factors it considered in reaching its determination. The Applied Nanotech board made its decision based on all of the information available and the factors presented to and considered by it. Individual directors may have given different weight to different factors.

The reasons in favor of the combination considered by the Applied Nanotech board include, but are not limited to, the following:

- Applied Nanotech shareholders will receive equity consideration in the combination and will have the opportunity to participate in value that PEN can create using the intellectual property of Applied Nanotech. This will allow them, if PEN is successful, to realize value for their investment in Applied Nanotech. Moreover, Dr. Rickert has confirmed that he sees value in the intellectual property that we have in our intellectual property portfolio and he is committed to working to commercialize products from our technology.

- Nanofilm has commercial products based on its nanotechnology and the board believes the NanoHolding team has both the ability and commitment to bring that experience to commercialize and monetize our technology; this is a growth strategy that the board has tried to implement several times and the one that the board believes will create the highest growth and best opportunity for value. The board believes that the sale or licensing of our technology will not realize the profits that we can achieve if the combined company can develop and sell products using our technology.
- The due diligence conducted regarding NanoHolding, its business, assets, financial condition, results of operations and management team, confirmed to the board that NanoHolding will bring a business discipline and focus that utilizes our technology in ways that will enable Applied Nanotech to continue its operations and the commercialization of its intellectual property.
- The NanoHolding management team, and the directors from NanoHolding and Zeiss bring business experience to guide the operations as well as merger and acquisition expertise that we do not presently have. By working with that team through the negotiations and since the execution of the Merger & Exchange Agreement, the board believes the NanoHolding team can help PEN accomplish the acquisitions that are part of its business strategy.
- The conclusion of the Applied Nanotech board is based on their understanding of the business, assets, financial condition, results of operations, current business strategy, projections and prospects of Applied Nanotech. Our conclusion is that no other alternative available to us was likely to provide greater value to the shareholders than the combination with NanoHolding and Zeiss.
- The review by the Applied Nanotech board with its legal advisor included the structure of the combination, the terms of the Merger & Exchange Agreement, including the parties' representations, warranties and covenants, the conditions to closing and the termination provisions, as well as the likelihood of consummation of the combination.

The Applied Nanotech board also considered the following specific aspects of the Merger & Exchange Agreement:

- the closing conditions included in the Merger & Exchange Agreement, including the exceptions to the events that would constitute a material adverse effect with respect to Applied Nanotech or NanoHolding for purposes of the Merger & Exchange Agreement, as well as the likelihood of satisfaction of all conditions to the closing of the combination;
- the conditions related to payment or conversion of our debt into equity as part of the combination that will strengthen the combined company for future operations;
- the provisions regarding the bridge financing to help us to pay off debt, fund operations and pay transaction expenses as well as the controls over expenditures that will also strengthen the combined company, and better position us if the combination does not occur; and
- certain other provisions in the Merger & Exchange Agreement, including the termination provisions. and

The Applied Nanotech board considered the following factors relating to the procedural safeguards that the Applied Nanotech board believed were present to ensure the fairness of the combination to Applied Nanotech shareholders:

- the exchange ratio and post-closing ownership of PEN by former shareholders of Applied Nanotech and the owners of NanoHolding, and the other terms and conditions of the Merger & Exchange Agreement resulted from extensive negotiations between the merger committee of our board and its advisors, on the one hand, and NanoHolding's leadership and its advisors, on the other hand;
- the fact that the Applied Nanotech board was actively involved in the Company's strategic process for many months;
- the ability of the Applied Nanotech shareholders who comply with the required procedures under Texas law to seek appraisal of the "fair value" of the shares;
- the independent members of the Applied Nanotech board, without members of management, met in executive session to consider the terms of the Merger & Exchange Agreement and the combination.

The Applied Nanotech board considered the following factors to be generally negative or unfavorable in its deliberations and making its recommendations:

- the risk that the proposed combination might not be completed in a timely manner or at all;
- the risks and costs to Applied Nanotech if the combination does not close, including the diversion of management and employee attention;
- the fact that the exchange ratio is not adjusted based on changes in our value or stock price, or changes in the value of NanoHolding or Nanofilm, and the lack of a collar or other mechanism to mitigate that risk;
- the transaction costs to be incurred in connection with the combination; and
- the fact that if the proposed combination is not completed, Applied Nanotech will be required to pay its own expenses associated with the negotiation of the Merger & Exchange Agreement, and the transactions contemplated thereby; the business and execution risk associated with the PEN business strategy after the combination is completed.

The Applied Nanotech board believed and continues to believe that these potential risks and drawbacks are outweighed by the potential benefits that our shareholders may realize as a result of the combination.

During its consideration of the combination described above, the Applied Nanotech board was also aware that certain of its directors and executive officers may have interests in the combination that are different from, in addition to or in conflict with, those of Applied Nanotech shareholders generally, as described in the section entitled *The Combination – Proposal 1, Interests of Applied Nanotech’s Directors and Executive Officers in the Combination* beginning on page 74.

### **The Merger & Exchange Agreement**

*The following is a summary of the material terms of the Merger & Exchange Agreement. A copy of the Merger & Exchange Agreement is attached as Annex A to this proxy statement and an amendment to that agreement is attached as Annex C, both of which are incorporated by reference into this proxy statement. All references to the Merger & Exchange Agreement in this proxy statement refer to the agreement as amended. The Merger & Exchange Agreement has been attached to this proxy statement to provide you with information regarding its terms. The summary of the material terms of the Merger & Exchange Agreement below and elsewhere in this proxy statement are qualified in its entirety by reference to the Merger & Exchange Agreement. This summary may not contain all of the information about the Merger & Exchange Agreement that is important to you. We urge you to read carefully the Merger & Exchange Agreement in its entirety as it is the legal document governing the merger.*

### **Form of the Combination: the Mergers & Exchange**

The Merger & Exchange Agreement sets out a combination that involves three parts. The three parts are all interdependent, and if one is closed, all will close. Similarly, if one part is not closed, none of the three will close.

The first part of the combination is the Redomestication Merger. Subject to the terms and conditions of the Merger & Exchange Agreement, Applied Nanotech will merge into PEN Inc., a Delaware corporation and wholly-owned subsidiary of Applied Nanotech that was formed by Applied Nanotech for purposes of the merger. The Merger & Exchange Agreement provides that upon the consummation of the Redomestication Merger the separate existence of Applied Nanotech will cease. PEN will continue as the surviving corporation and will be the parent of the companies that are now subsidiaries of Applied Nanotech.

The second part of the combination is the Nano Merger. Subject to the terms and conditions of the Merger & Exchange Agreement, after the Redomestication Merger, NanoMerger Sub Inc., a Delaware corporation and wholly-owned subsidiary of Applied Nanotech also called acquisition subsidiary and formed by Applied Nanotech for purposes of the merger, will merge with NanoHolding. Acquisition subsidiary will be the survivor in the Nano Merger and will change its name to Nanofilm Holding Inc. The Merger & Exchange Agreement provides that upon the consummation of the Nano Merger the separate existence of NanoHolding will cease. Acquisition subsidiary, under its new name, will continue as a subsidiary of PEN.

The third and final part of the combination is the Exchange with Zeiss. Subject to the terms and conditions of the Merger & Exchange Agreement, after the Nano Merger, Zeiss will exchange its ownership interest in Nanofilm for shares of PEN Class Z common stock.

After completion of the combination, PEN expects its Class A common stock to trade on the OTCQB and will apply for a new trading symbol to reflect the name of the corporation.

### **Effective Time of the Combination**

The Merger & Exchange Agreement requires the parties to consummate the combination after all of the conditions in the Merger & Exchange Agreement are satisfied or waived, including the approval of the Merger & Exchange Agreement by the shareholders of Applied Nanotech. The Redomestication Merger will become effective upon the filing of a certificate of merger with the Secretary of State of the State of Delaware and the Secretary of State of Texas or at such later time as is agreed by Applied Nanotech and NanoHolding and specified in the certificate of merger. The Nano Merger will become effective upon the filing of a certificate of merger with the Secretary of State of the State of Delaware or at such later time as is agreed by Applied Nanotech and NanoHolding and specified in the certificate of merger. The Zeiss exchange will take place immediately after the Nano Merger becomes effective.

Neither Applied Nanotech nor NanoHolding can predict the exact timing of the consummation of the combination. They intend that the closing occur shortly after the approval of the Merger & Exchange Agreement by the shareholders of Applied Nanotech.

### **Consideration to Applied Nanotech Shareholders**

At the effective time of the Redomestication Merger:

- any shares of Applied Nanotech common stock held as treasury stock or held or owned by Applied Nanotech or any of its subsidiaries or acquisition subsidiary will be cancelled and cease to exist and no consideration will be delivered in exchange therefor;
- additional shares of PEN Class A common stock will be issued or reserved as follows:
- to satisfy convertible notes of Applied Nanotech with a fixed conversion price that will automatically convert at the time of the closing;
- to satisfy accrued director fees owed to present and former Applied Nanotech directors in the amount of \$193,908 (through March 31), and the special merger fee owed to members of the merger committee of the board aggregating \$353,700.
- to pay in full the promissory note issued to our former Chief Financial Officer and to reserve shares to be issued to him under his stock grant agreement;
- for shares to be issued at the closing under a restricted stock agreement with Dr. Yaniv, the current Chief Operating Officer and President of Applied Nanotech; and
- each share of Applied Nanotech common stock (excluding shares to be cancelled as described above and shares which are held by Applied Nanotech shareholders who have exercised and not lost appraisal rights or dissenters' rights for such shares in accordance with the DGCL or TBOC, if and to the extent applicable) will be converted solely into one share of PEN Class A common stock.

These shares issued or reserved for issuance will represent approximately 38% of the PEN shares of common stock after the combination has been completed, and they will represent 0.8% of the voting power of the PEN common stock.

### **Consideration to Stockholders of NanoHolding and to Zeiss**

- In the Nano Merger, any shares of NanoHolding common stock held as treasury stock or held or owned by NanoHolding or any of its subsidiaries will be cancelled and cease to exist and no consideration will be delivered in exchange therefor; and
- each share of NanoHolding common stock (excluding shares to be cancelled as described above and shares which are held by NanoHolding stockholders who have exercised and not lost appraisal rights or dissenters' rights for such shares in accordance with the DGCL) will be converted into that number of shares equal to one multiplied by the exchange ratio, with holders of Class A common stock of NanoHolding receiving Class A common stock of PEN and Rickert Family, Limited Partnership, as the only holder of NanoHolding Class B common stock, receiving Class B common stock of PEN.
- In the Exchange, Zeiss will deliver to PEN its Class Z membership units in Nanofilm for that number of shares of Class Z common stock of PEN equal to the number of Class Z membership units, multiplied by the exchange ratio.

The "exchange ratio" means (1) shares outstanding at the time of the Redomestication Merger, plus those reserved as described immediately above, plus any other shares reserved to satisfy any other obligations of Applied Nanotech to issue its shares, but excluding both (a) options to purchase 5,887,714 shares of Applied Nanotech common stock, and (b) shares issuable on the conversion of the capital notes issued in the bridge financing, multiplied by (2) 1.6316, divided by (3) the number of membership units in Nanofilm.

No fractional shares of PEN common stock will be issuable pursuant to the Nano Merger to NanoHolding stockholders or to Zeiss in the Exchange. Instead, each person who would otherwise be entitled to receive a fraction of a share of PEN common stock, after aggregating all fractional shares of PEN common stock issuable to that stockholder, will be entitled to receive one additional share of PEN common stock.

After the Nano Merger and the Exchange, the former stockholders of NanoHolding and Zeiss will own approximately 62% of the common stock of PEN. The Class Z common stock owned by Zeiss is, generally, non-voting but has certain rights described below, including the right to designate a director to serve on the PEN board of directors and the right to convert into Class A common stock at any time. The Class Z common stock also has anti-dilutive rights that, subject to limited exceptions, permit a Class Z holder to purchase on the same terms as are offered to third-parties additional shares or equity rights issued by PEN for the Class Z holder to maintain its economic ownership percentage. The holders of Class Z common stock are also entitled to receive a copy of any notice sent to the holders of Class A common stock or Class B common stock, as and when the notice is sent. Zeiss will own approximately 9% of PEN. The stockholders of NanoHolding other than Rickert Family, Limited Partnership will own Class A common stock representing approximately 0.1% of the voting power of the common stock of PEN. Rickert Family, Limited Partnership will own approximately 48% of the common stock of PEN and its Class B common stock will represent approximately 99% of the voting power of the common stock. The Class B common stock will also be convertible into Class A common stock at any time upon the election of the holders thereof.

#### **Future Dilution from Bridge Financing, Stock Options and Other Equity Issuances**

After signing the Merger & Exchange Agreement, Applied Nanotech privately placed convertible debt securities in an offering we refer to as the bridge financing. As a result of the bridge financing, all stockholders of PEN including former shareholders of Applied Nanotech, former stockholders of NanoHolding and Zeiss, will be subject to future dilution when those notes are automatically converted into PEN common stock. Conversion of the notes issued in the bridge financing will occur on the later of (i) the day that is 180 days after the date the note is issued, (ii) the day that is 60 days after the closing under the Merger & Exchange Agreement, or (iii) October 15, 2014. The conversion price for mandatory conversion is 75% of the average closing price for Class A common stock of PEN for the twenty trading days immediately preceding the conversion date. All the notes sold in the bridge financing will convert into Class A common stock of PEN except for \$20,000 in principal amount that were purchased by Scott Rickert and Jeanne Rickert that will convert into Class B common stock of PEN.

All PEN stockholders will also be diluted by any future exercise of the 5,887,714 options to purchase common stock of Applied Nanotech that are outstanding. In the Redomestication Merger, those options become options to purchase PEN Class A common stock; all other terms, including exercise price and expiration date, remain unchanged. From and after the effective time of the combination each option assumed by PEN may be exercised solely for shares of PEN Class A common stock. Any restriction on the exercise of any option assumed by PEN will continue in full force and effect and the term, exercisability, vesting schedule and other provisions of such option will otherwise remain unchanged. If all the options were exercised before they expire, the dilution would be 0.2% of the shares that are expected to be issued or reserved in the combination.

In addition, as part of the Nano Merger, PEN will assume obligations under the equity credit and stock appreciation rights programs of Nanofilm. Equity credits can be exercised for one membership unit in Nanofilm. Under the exchange ratio, that would entitle each equity credit to approximately 150 shares of PEN Class A common stock. There are an aggregate of 160,150 equity credits that could be exercised. The stock appreciation rights entitle holders to purchase shares of PEN Class A common stock in its first registered offering of common stock. Under the stock appreciation rights plan, The 235,782 stock appreciation rights outstanding represent 1.18% of Nanofilm. After the combination, the outstanding stock appreciation rights will represent 0.73% of PEN. The stock appreciation rights will be satisfied at the time of the first initial public offering as defined in the plan. Under the plan, at the time of the initial public offering, the value of the stock appreciation rights will be stated as a dollar amount based on the pricing of the PEN Class A common stock in the offering and 70% of that value will be used to purchase shares in the offering and the other 30% will be paid in cash to the holders of the stock appreciation rights. Their value will be subject to any dilution for stock issuances that occur after the closing of the combination and before the initial public offering.



<u>Security</u>	<u>Potential Date of Issuance (i)</u>	<u>Market Price 5/21/14</u>	<u>Dilution Formula</u>	<u>Remaining Debt interest thru 6/30/14</u>	<u>Price Per Share</u>	<u>Underlying Shares (thousands)</u>
PEN Class A Common Stock Authorized						1,300,000
Applied Nanotech Common Stock (ii)	Now outstanding		Each APNT share outstanding converts into one share in redomestication merger.			157,054
Fixed Convertible Notes (iii)	Closing		Based on accrued interest through closing date at interest rate of 8.0% annually; conversion to stock at either \$0.05, \$0.08 or \$0.10.	\$ 979,210	\$ 0.05	19,584
				\$ 41,537	\$ 0.08	519
				\$ 1,146,723	\$ 0.10	11,467
Variable Convertible Notes						
JMJ Financial	6/10/14	\$ 0.0547	Note converts based on lesser of \$0.25 off market price or 70% of market price. Example shown based on 5/21/14 closing share price of \$0.0547.	\$ 36,704	\$ 0.038	959
Chief Financial Officer Promissory Note	Closing			\$ 75,000	\$ 0.05	1,500
Chief Financial Officer Stock Grant Agreement	9/1/14					1,200
	Closing + 180 days					1,200
	1/31/15					890
Chief Executive Officer Restricted Stock Agreement (iv)	Date > 180 days after Closing Date; expires Closing + 5 yrs.		When average stock price reaches price threshold during measurement period.		\$ 0.10	1,000
					\$ 0.15	1,000
					\$ 0.20	1,000
					\$ 0.25	1,000
					\$ 0.30	1,000
				\$ 0.35	1,800	
Accrued Director Fees (v)	Closing			\$ 205,316	\$ 0.05	4,106
Special Committee Fees	Closing			\$ 353,700	\$ 0.05	7,074
To NanoHolding Class A shareholders (vi)	Closing Date					29,440
To NanoHolding Class B shareholders (vi)	Closing Date		Shares of Class B/Z common issued at closing require reserve of equivalent number of Class A common for conversion of Class B/Z shares. Class B/Z can be converted at any time at holder's option; are subject to mandatory conversion under certain circumstances.			266,733
To NanoHolding Class Z shareholder (vi)	Closing Date					50,297
Variable Convertible Notes from Bridge Financing	Later of 180 days after the date the Note is issued or 60 days after closing or 10/15/14.	\$ 0.0547	Note converts based on lesser of \$0.25 off market price or 75% of market price; interest compounds at 8.0%. Example shown is estimated amount of Bridge Financing at 5/21/14 market close of \$0.0547.	\$ 125,000	\$ 0.041	3,047
Options	various		See Options Table			5,888
Equity Credits	Registered public offering					5,254
Stock Appreciation Rights (SAR's)	Registered public offering		70% payable in stock; cash payment not reflected			2,866
Remaining authorized shares available						724,123

**Footnotes on above table:**

- (i) First date convertible notes are convertible, restricted stock is non-forfeitable, options are exercisable, etc.
- (ii) Based on shares outstanding on record date.
- (iii) Holder also has option to convert if combination does not occur after Applied Nanotech has sufficient authorized shares.
- (iv) All shares will become non-forfeitable upon a change of control of PEN or the death of Dr. Yaniv, regardless of whether price thresholds have been met.
- (v) Includes present and former directors.
- (vi) Shares included here will all be included as shares outstanding or saved for issuance in calculated the exchange ratio under the merger & exchange agreement and will count as of the 38% issued to the owners of Applied Nanotech.

Assuming all these shares are issued, and after reserving Class A common stock for potential conversion of the Class B and Class Z common stock, PEN will still have approximately 724,000 shares of Class A common stock available for issuance. The PEN business plan contemplates that PEN will make acquisitions. PEN may use shares of its Class A common stock as currency to pay for all or part of one or more acquisition and PEN may also issue shares in public or private placements to provide cash to fund its operations or to pay, in whole or in part, for one or more acquisitions. Holders of PEN Class A common stock will be diluted by future equity issuances authorized by the PEN board of directors.

PEN also has two million shares of preferred stock authorized. The PEN board has the power to set the terms of different series of preferred stock, including dividends rights, liquidation rights and preferences, and voting rights, among other terms. The rights of common stockholders would be junior to the rights of any preferred stock that the board would decide to issue and the ownership represented by the common stock will be diluted by any preferred stock that is issued.

**No Market Price Adjustment to Consideration**

The Merger & Exchange Agreement does not include a price-based termination right. Moreover, there will be no adjustment to the total number of shares of PEN common stock to be issued to Applied Nanotech stockholders in the Redomestication Merger, to the stockholders of NanoHolding in the Nano Merger or to Zeiss in the Exchange based on changes to the market price of Applied Nanotech common stock, the value of NanoHolding or the interests in Nanofilm. Accordingly, the market value of the shares of PEN common stock issued under the Merger & Exchange Agreement will depend on the market value of the shares of Applied Nanotech common stock at the time the merger closes, and could vary significantly from the market value on the date of this proxy statement.

### **Certificates for Applied Nanotech Common Stock**

At the effective time of the Redomestication Merger, holders of certificates representing shares of our common stock that were outstanding immediately prior to the effective time of the Redomestication Merger will cease to have any rights as shareholders of Applied Nanotech. From and after the effective time of the Redomestication Merger, each Applied Nanotech stock certificate will represent only the right to receive shares of PEN Class A common stock.

No certificates for PEN Shares will be issued as a result of the Redomestication Merger, and no holder of record of any Applied Nanotech certificates will be required to surrender any certificate for cancellation to PEN or its transfer agent in exchange for a certificate representing PEN shares. The registered owner on the books and records of Applied Nanotech or its transfer agent will continue as the registered owner on the books and records of PEN or its transfer agent and, as such, will have and be entitled to exercise any voting and other rights with respect to and to receive any dividend and other distributions upon the PEN Shares.

After the Redomestication Merger effective time, a holder of Applied Nanotech certificates may surrender certificates for cancellation. If there has been a transfer of ownership that is not registered on the transfer records, an instrument reflecting the transfer may be issued to the transferee if the certificate is presented to PEN or its transfer agent, accompanied by all documents required to evidence and effect such transfer and to evidence that any applicable stock transfer taxes have been paid.

If any Applied Nanotech certificate has been lost, stolen or destroyed, PEN or its transfer agent will issue documents evidencing ownership only after the owner makes an affidavit of the loss, theft or destruction. PEN may, in its discretion and as a condition precedent to the issuance of documents (or entry on the register of shareholders, as the case may be), require the owner of such lost, stolen or destroyed Applied Nanotech certificates to deliver a bond or indemnity in such sum as it may reasonably direct as indemnity against any claim that may be made against PEN with respect to the Applied Nanotech certificates so alleged to have been lost, stolen or destroyed.

### **Regulatory Approvals**

Neither Applied Nanotech nor NanoHolding is required to make any filings or to obtain approvals or clearances from any antitrust regulatory authorities to consummate the merger. In the United States, Applied Nanotech must comply with applicable federal and state securities laws in connection with the issuance of shares of PEN common stock in the merger, including the filing with the SEC of this proxy statement.

### **OTCQB Trading**

Applied Nanotech's common stock currently is traded on the OTCQB operated by the OTC Market's Group under the symbol "APNT". We intend that PEN will continue to trade on the OTCQB and will apply for a new trading symbol reflecting the PEN name.

### **Appraisal Rights**

Holders of Applied Nanotech common stock are entitled to appraisal rights or dissenters' rights in connection with the merger. These rights, and the procedures to be followed to claim these rights, are set forth in the section *The Combination – Proposal 1, Dissenters Rights of Applied Nanotech Shareholders* that starts on page 84.

### **Amendments to Certificate of Incorporation and Bylaws**

At the effective time of the Redomestication Merger, the amended and restated certificate of incorporation of PEN attached as Exhibit B-1 to the amendment to the Merger & Exchange Agreement will be the certificate of incorporation governing the rights of stockholders in PEN. The parties chose Delaware as the jurisdiction of incorporation rather than Texas because investors and participants in the capital markets are more familiar with Delaware corporate law and because the case law interpreting the DGCL is more extensive, providing more guidance to stockholders and companies.

PEN, like Applied Nanotech, will have authorized shares of preferred stock that can be authorized for issuance by the board. The PEN certificate, like that of Applied Nanotech, permits the board to set the terms of different series of preferred stock, including their dividends rights, liquidation rights and preferences and voting rights, among other terms. The rights of common stockholders would be junior to the rights of any preferred stock that the board would decide to issue. Series preferred stock can provide financing options to PEN.

While Applied Nanotech has only one class of common stock, PEN will have three classes of common stock. The terms of those three classes recreate the rights held by the Class A, Class B and Class Z unit holders in Nanofilm, and in the Class A and Class B common stock of NanoHolding. The stockholders of NanoHolding and Zeiss required that those rights be preserved in the PEN capital structure as part of the terms of the combination.

The PEN certificate of incorporation also has a larger number of authorized shares than are required to complete the combination. The balance of the authorized number of PEN shares, less those reserved or otherwise subject to issuance commitment, will be available for issuance without stockholder approval (unless approval is otherwise required by applicable law, regulation, agreement or other arrangements).

In addition, at the effective time of the Redomestication Merger, the Bylaws of PEN will be amended and restated in its entirety to read identically to the Bylaws as set forth in Exhibit B-2 of the amendment to the Merger & Exchange Agreement.

A chart comparing your rights as a common shareholder of Applied Nanotech with your rights as a holder of PEN Class A common Stock can be found in the section *The Combination – Proposal 1, Comparison of Shareholder’s Rights* that starts on page 77.

### **Conditions to the Completion of the Combination**

Applied Nanotech and NanoHolding are each obligated to complete the combination only if certain conditions are satisfied or, to the extent permitted by applicable law, waived in writing by each of them, at or prior to the combination, which include the following:

- All representations and warranties of the other party in the Merger & Exchange Agreement must be true and correct on the closing date of the combination, when read without any qualifications relating to “materiality,” or “Material Adverse Effect”, except in each case where the failure to be true and correct has not had, and would not reasonably be expected to have, a material adverse effect on the party making the representations and warranties;
- Each of the parties shall have performed and complied in all material respects with all covenants and agreements required by the Merger & Exchange Agreement to be performed by it prior to the closing;
- No action, suit or proceeding shall have been instituted before any court or governmental or regulatory body or instituted by any governmental authority to restrain, modify or prevent the carrying out of the combination, to seek material damages or a discovery order in connection with the combination, and there shall exist no injunction or other order issued by any governmental authority or court of competent jurisdiction which prohibits the consummation of any part of the combination;
- There shall not have been any occurrence, event, incident, action, failure to act, or transaction since September 30, 2013 which has had or is reasonably likely to cause a “material adverse effect” on Applied Nanotech or NanoHolding;
- Shareholders of Applied Nanotech must have approved the Merger & Exchange Agreement and the combination; and
- Applied Nanotech and NanoHolding shall have timely obtained from each governmental authority all approvals, waivers and consents, if any, necessary for consummation of or in connection with the Merger & Exchange Agreement and the combination.

“Material adverse effect ” means any event, change or effect that is materially adverse to the condition (financial or otherwise), properties, assets, liabilities, business, operations or results of operations of either party (together with its subsidiaries, taken as a whole). However, material adverse effect does not include events caused by (A) changes in general economic conditions or capital or credit markets, except to the extent that the same disproportionately impact either party as compared to other others similarly situated; (B) changes to the economic conditions affecting the industries in which a party operates, except to the extent that the same disproportionately impact either party as compared to others in its industry; (C) changes related to or arising from the execution, announcement or performance of, or compliance with, the Merger & Exchange Agreement or the consummation of the combination; (D) changes in accounting requirements or principles or any change in applicable legal requirements or the interpretation thereof; (E) the failure to meet any projections.

In addition, NanoHolding's obligation to complete the Nano Merger is further subject to confirmation that Applied Nanotech has met the conditions under the Merger & Exchange Agreement including the following:

- Applied Nanotech shall have filed all reports and other documents required to be filed by it under the U.S. federal securities laws through the closing;
- Applied Nanotech will have closed on the bridge financing and applied the proceeds as the parties mutually agree;
- Applied Nanotech has followed in all material respects the revised operating budget from March 10, 2014 until the closing with only those changes to the budget, if any, that were approved by NanoHolding; and
- all debts or other obligations of Applied Nanotech which are convertible into equity securities of Applied Nanotech that are outstanding on the closing date (other than any securities issued as part of the Bridge Financing) have been paid in full or converted into Applied Nanotech stock.

Finally, each party must have delivered and received certain certificates and other documents required under the Merger & Exchange Agreement for the closing of the merger, including, without limitation, certificates of good standing and written resignations executed by the other party's directors and officers who will not be officers or directors of the combined company upon the closing of the combination.

#### **No Solicitation by Applied Nanotech**

Under the Merger & Exchange Agreement, except as described below, Applied Nanotech will not take, and will not authorize or permit any investment banker, financial advisor, attorney, accountant or other person retained by or acting for or on behalf of Applied Nanotech, directly or indirectly, to take:

- (i) any action to initiate, assist, solicit, negotiate, or encourage any offer, inquiry or proposal from any person relating to any acquisition of that person or Applied Nanotech (regardless of the structure of any such acquisition) or
- (ii) any other action that has the primary effect of avoiding the closing under the Merger & Exchange Agreement .

The Merger & Exchange Agreement allows the board of directors of Applied Nanotech to engage in discussions with any person who has made an unsolicited bona fide written proposal relating to an acquisition if the board determines in good faith that the proposal is, or could reasonably be expected to result in, a "superior proposal." The discussions that are allowed under the Merger & Exchange Agreement may not limit, affect or impair the enforceability of the Merger & Exchange Agreement against Applied Nanotech prior to the termination of Merger & Exchange Agreement. A "superior proposal" is any bona fide (i) proposal or offer for a merger, consolidation, dissolution, recapitalization or other business combination involving Applied Nanotech, (ii) proposal for the issuance by Applied Nanotech of over 50% of its common stock as consideration for the assets or securities of another person or (iii) proposal or offer (including a merger, tender offer or exchange offer) to acquire in any manner, directly or indirectly, over 50% of the common stock or consolidated total assets of Applied Nanotech, made by a third party that the Applied Nanotech board or any committee thereof determines in its reasonable judgment (after consultation with financial advisors) to be more favorable to holders of Applied Nanotech common stock than the combination.

Applied Nanotech is required promptly to notify NanoHolding if Applied Nanotech receives any proposal or inquiry regarding a transaction that would be a superior proposal and provide NanoHolding with the significant terms and conditions of the proposal including the identity of the party making the proposal.

#### **Meeting of Applied Nanotech's Stockholders and NanoHolding Stockholder Approval**

Applied Nanotech is obligated under the Merger & Exchange Agreement to call, give notice of and hold a meeting of its shareholders to vote on the Merger & Exchange Agreement. In connection with the Stockholders' Meeting, APNT (a) will use commercially reasonable efforts to file with the SEC as promptly as practicable the Proxy Statement, which shall serve as a proxy statement pursuant to Section 14(a), Regulation 14A, and Schedule 14A under the Exchange Act and all other proxy materials for such meeting, (b) upon receipt of approval from the SEC, will mail to its stockholders the Proxy Statement and other proxy materials, (c) will use commercially reasonable efforts to obtain the necessary approvals by its stockholders of this Agreement and the Transactions contemplated hereby under applicable Legal Requirements (the "**Stockholder Approval**"), and (d) will otherwise comply with all Legal Requirements applicable to the Stockholders' Meeting.

NanoHolding is obligated under the Merger & Exchange Agreement to obtain its stockholders' approval of the Merger & Exchange Agreement. On May 28, 2014, NanoHolding obtained written consents of its stockholders sufficient to adopt the Merger & Exchange Agreement and approve the combination.

## Directors and Officers Following the Combination

After the combination, PEN will initially have a seven member board of directors. The initial directors of PEN will be three continuing directors of Applied Nanotech: Ronald J. Berman, Dr. Robert Ronstadt and Howard Westerman; and four individuals nominated by NanoHolding: Douglas Q. Holmes, Jeanne M. Rickert, Scott E. Rickert, and James Sharp. Mr. Sharp is the Zeiss designee. Each of these will serve until their respective successors are duly elected or appointed and qualified or their earlier death, resignation or removal. In addition, until one year after the closing, PEN will permit a board observer to attend all meetings of the PEN board of directors in a nonvoting, observer capacity. That observer is another current director of Applied Nanotech, Paul Rocheleau. Subject to certain limitations, the observer is entitled to attend all PEN board meetings and to receive the information PEN provides to its directors.

Dr. Robert Ronstadt has been a director since January 2003, and Chairman of the Board since May 2009. Currently he is the co-owner of “ *The Journal of Print World*”, a newspaper devoted to works of fine art on paper. As an author, he has written a number of books and articles over the last six years on the high cost of higher education. He holds a doctorate in international business and the management of technology. Prior to retiring in 2006, Dr. Ronstadt was Vice President of Technology Commercialization for Boston University and Director of Boston University’s Technology Commercialization Institute. For seven years, he was CEO and Chairman of Lord Publishing, Inc., a small privately held software and book publishing company, which he cofounded. He’s also held senior academic and administrative positions at the University of Texas in Austin where he was Director of IC<sup>2</sup> Institute and the J. Marion West Chair of Constructive Capitalism; at Pepperdine University where he was professor of entrepreneurship; and at Babson College in Wellesley Massachusetts where he was a tenured associate professor and recipient of the Leavey Award for Excellence in Private Enterprise Education. Mr. Ronstadt is 72 years old.

Ronald J. Berman has been a director since May 1996. After graduating law school with honors, Mr. Berman went into the private practice of law from 1980-1987. Mr. Berman co-founded Rock Financial (now Quicken Loans) in 1985 and was a member of its Board of Directors. Mr. Berman cofounded BEG Enterprises and served as its President from 1989 to 1998. Mr. Berman is currently President of R.J. Berman Enterprises, Ltd., a real estate investment company, and practicing law as a sole practitioner. Mr. Berman is a licensed attorney in both the states of Michigan and Florida. Mr. Berman filed for personal bankruptcy in 2011. He is 57 years old.

Howard Westerman has been a director since 2007. He is the Chief Executive Officer of JW Energy Company, a privately held energy development and energy services company headquartered in Dallas, Texas. Mr. Westerman joined JW Energy Company in 1978 and became CEO in 1999. Under his leadership as CEO, the JW Energy Company’s revenues increased from approximately \$70 million to \$1 billion. Mr. Westerman is also a member of the Board of Directors of Peerless Manufacturing Company, a global provider of environmental and separation filtration products, listed on the NASDAQ Global Market Exchange. Mr. Westerman is 61 years old and serves on numerous charitable and community boards.

Mr. Holmes is a nominee for the PEN board. He is also an investment banker and Member of Holmes Hollister & Co., having offices in Cleveland and New York City. Mr. Holmes has been an investment banker since 1978. He has been an investment banker in New York and Chicago for Lazard Freres & Co., The First Boston Corporation and Kidder, Peabody & Co. before starting two private investment banks, Carleton McCreary Holmes & Co., which was merged with Key Corp., and subsequently, Holmes Hollister & Co. Mr. Holmes has been a founding partner of a private equity firm, Full Circle Investments, and a mezzanine fund, Key Mezzanine Partners, and has been a principal and board member in several companies as a financial investor. Mr. Holmes has a wide range of merger and acquisition experience, advising both domestic and international corporations on both buying and selling companies, structuring joint ventures, providing fairness opinions and starting new businesses. His corporate finance experience includes public equity and debt offerings, structuring new asset based securities with complex tax structures and privately placing all forms of capital. Industry experience includes automotive/truck, specialty materials, consumer, healthcare, and natural resources. Mr. Holmes received a B.A. from Kenyon College and an M.B.A. from Tuck at Dartmouth College. He is 56 years old.

Jeanne Rickert is a nominee for the PEN board. She has served as the General Counsel of Nanofilm since January, 2014. Before that she was a lawyer with the Cleveland office of the international law firm of Jones Day, as Of Counsel in 2013, and as a partner of the firm for the 25 preceding years. Her practice focused on mergers and acquisitions, joint ventures and general corporate and commercial matters. Her undergraduate degree is from Cornell University and her law degree from Case Western Reserve University. She is 61 years old and married to Dr. Rickert.

Scott Rickert is the Chief Executive Officer of Nanofilm and of NanoHolding, and a nominee for the PEN board. He founded Nanofilm in 1985, leaving a tenured position as a professor of Macromolecular Science to start his business career. He has a B.S. Chem E. from Cornell University and an M.S. and PhD. From Case Western Reserve University. He did post-doctoral work at the University of Pennsylvania. He is 60 years old and he is married to Jeanne Rickert.

James Sharp is the initial Zeiss designee to the PEN board. He is President and CEO of Zeiss and he is also President of Carl Zeiss Microscopy. Mr. Sharp began his career 40 years ago as a Zeiss service technician with an undergraduate degree in electrical engineering. Mr. Sharp has served Zeiss in North America as well as in Germany, supervising operations in both light and electron microscopy. Over the years he has held a number of regional and national managerial positions, becoming President of the Microscope Division in 1991. After spending four years at Carl Zeiss Jena GmbH in Germany as Senior Vice President and General Manager of the Microscopy Business Unit, Mr. Sharp returned to the U.S. as head of Carl Zeiss MicroImaging. He is currently a board member of Nanofilm, and a trustee of the Marine Biological Laboratories. He also serves on the board of several Carl Zeiss companies. Mr. Sharp is 59 years old.

The observer, Paul F. Rocheleau has served as a director of Applied Nanotech since May 2009, and as Vice Chairman of the Board since October 2009. He is Chairman of the Board and Chief Investment Officer of Virginia Life Science Investments, LLC. Prior to that he was a managing director at Cary Street Partners, a regional investment banking firm based in Richmond, Virginia. Mr. Rocheleau also serves on the Board of Directors of four specialty materials and medical device companies, and the advisory Board of Apex Systems, an IT staffing company. He is 60 years old.

After the combination, the officers of PEN will be:

<b>Name</b>	<b>Position with the Combined Company</b>	<b>Current Position</b>
Scott E Rickert, PhD.	Chairman of the Board, Chief Executive Officer	Chief Executive Officer of NanoHolding & Nanofilm
Bruce Vereecken	Chief Financial Officer	Chief Financial Officer of NanoHolding & Nanofilm
Jeanne M Rickert	Chief Legal Officer, General Counsel	General Counsel of NanoHolding & Nanofilm

#### **Officers and Directors Insurance for Applied Nanotech Board**

The Merger & Exchange Agreement provides that, for a period of at least one year after the effective time of the merger, PEN will maintain a directors' and officers' liability insurance policy, with coverage containing terms and conditions at least as favorable as the coverage under the presently existing policies maintained by Applied Nanotech. PEN is not, however, required to pay for this insurance coverage more than an amount equal to the current premiums paid by Applied Nanotech for its existing policy.

#### **Covenants; Conduct of Business Pending the Combination**

During the period commencing on March 10, 2014 and ending at the earlier of the date of termination of the Merger & Exchange Agreement and the effective time of the merger, NanoHolding agreed that it will conduct its business in the ordinary course in accordance with past practices and in compliance with all applicable laws, rules, regulations, and to take other agreed-upon actions, including, without limitation, preserving intact its current business organization and providing Applied Nanotech prompt notice upon the occurrence of certain events or discovery of certain conditions, facts or circumstances. During the same period, Applied Nanotech also agreed that it will conduct its business in the ordinary course within the financial parameters set forth in the operating budget approved by NanoHolding and to take other agreed-upon actions, including, without limitation, providing NanoHolding prompt notice upon the occurrence of certain events or discovery of certain conditions, facts or circumstances.

Applied Nanotech and NanoHolding also agreed that prior to the effective time of the combination, subject to certain limited exceptions set forth in the Merger & Exchange Agreement, without the consent of the other party, each of Applied Nanotech and NanoHolding would not, and would not cause or permit any of their subsidiaries to:

- amend its certificate of incorporation, bylaws or other charter or organizational documents;
- change accounting policies;
- for Applied Nanotech, fail to file or furnish to the SEC all documents required to be so filed or furnished;
- subject to certain limited exceptions, declare, accrue, set aside or pay any dividend or made any other distribution in respect of any shares of capital stock; or repurchase, redeem or otherwise reacquire any shares of capital stock or other securities, or, in the case of Applied Nanotech, make any other changes in its capital structure;
- enter into a material contract or violate, modify or waive any existing material contract;
- except for the bridge financing, sell, issue or grant, or authorize the issuance of: (i) any capital stock or other security (except in the case of Applied Nanotech, Applied Nanotech common stock issued upon the exercise of outstanding options to purchase or conversion of outstanding notes in accordance with their terms); (ii) any option, warrant or right to acquire any capital stock or any other security; or (iii) any instrument convertible into or exchangeable for any capital stock or other security;
- transfer or license any intellectual property rights or waive or enter into any agreement, or violate, modify or waive terms of agreements related to intellectual property;
- in the case of NanoHolding, sell, lease or otherwise dispose of or encumber tangible assets or properties that are material (individually or in the aggregate) to the business and, in the case of Applied Technology, sell, lease or otherwise dispose of or encumber any properties or material assets;
- issue or sell debt securities, guaranty debt securities of others or incur indebtedness for borrowed money (in each case other than the Bridge Financing);
- NanoHolding will not pay or discharge claims or obligations other than in the ordinary course of business, for liabilities reflected or reserved on the relevant balance sheet, or incurred in connection with the combination; and Applied Nanotech will pay or discharge only those liabilities or obligations as provided in the Applied Nanotech operating budget or expenses of the combination as the parties agree;
- make capital expenditures except, in the case of NanoHolding, in the ordinary course of business that do not exceed \$5,000 or, in the case of Applied Nanotech, as set forth in its Applied Nanotech operating budget;
- acquire any other business or material assets or the equity interests in any other business;
- adopt, terminate or change any employee benefits plans or employment agreements, increase compensation or grant or pay bonuses to employees, officers or directors, amend or accelerate vesting of benefits, grant any awards under any benefits plan or otherwise;
- open or close any facility except, in the case of NanoHolding, in the ordinary course of business;
- make, change or revoke any material tax election; adopt or change any accounting method in respect of taxes; change any annual tax accounting period; file any tax return or amendment; enter into any closing agreement with respect to any tax; settle or compromise any claim or assessment in respect of taxes; or consent to any extension or waiver of the limitation period applicable to any tax claim or assessment;
- initiate, compromise or settle any material litigation or arbitration proceeding, except, in the case of NanoHolding, relating to an amount less than or equal to \$5,000;
- make any loans, advances or capital contributions except for advances for travel and other normal business expenses to officers and employees in accordance with policies and procedures already in effect;
- in the case of NanoHolding, make any payments to any of its officers, directors, employees, shareholders or other equity interest holders, except as required pursuant to any binding agreement already in effect or, for Applied Nanotech, any payment not contemplated in the agreed operating budget; and enter into arrangements with affiliates..



The parties also agreed to allow each other access to information for preparation of this proxy statement, to use commercially reasonable efforts to try to fulfill all conditions precedent to the merger, to seek any required governmental or third party consents to permit the combination, to file tax returns and pay any required taxes, and for each to notify the other of any event or development that would have a material adverse effect on the party giving notice or would require an amendment to this proxy statement.

### **Termination**

The Merger & Exchange Agreement may be terminated at any time before the completion of the merger, whether before or after the required shareholder approvals to complete the merger have been obtained, as set forth below:

- by mutual written consent of each of NanoHolding and Applied Nanotech;
- by NanoHolding or Applied Nanotech if the combination has not been completed by July 31, 2014 or such later date as Applied Nanotech and NanoHolding may agree, except that this right to terminate the Merger & Exchange Agreement will not be available to any party whose failure to comply with any provision of the Merger & Exchange Agreement has been the cause of the failure of the combination to be completed by such date;
- by either Applied Nanotech or Nano if a court of competent jurisdiction or other governmental authority shall have issued an order or injunction or taken any other action (which order, injunction or action the parties will use their use their commercially reasonable efforts to lift) permanently restraining, enjoining or otherwise prohibiting the combination or any part of the transactions under the Merger & Exchange Agreement and such order or action shall have become final and nonappealable;
- by NanoHolding or Applied Nanotech if the shareholders of Applied Nanotech have not given the requisite approval to the Merger & Exchange Agreement;
- by NanoHolding or Applied Nanotech if the other party has breached any of its representations, warranties, covenants or agreements contained in the Merger & Exchange Agreement or if any representation or warranty of the other party has become inaccurate, in either case has prevented the satisfaction of the conditions to the closing of the combination; and such violation or breach has not been waived by or cured by within thirty (30) days after written notice thereof. Merger & Exchange Agreement

NanoHolding agreed that it would not exercise its termination rights set forth above or terminate the Merger & Exchange Agreement without the prior written approval of Zeiss (such approval not to be unreasonably withheld, conditioned or delayed).

### **No Termination Fee**

All fees and expenses incurred in connection with the Merger & Exchange Agreement and the transactions contemplated thereby will be paid by the party incurring such expenses, whether or not the merger is consummated. No termination fee is payable by or to either Applied Nanotech or NanoHolding if the combination does not occur.

### **Representations and Warranties**

The Merger & Exchange Agreement contains customary representations and warranties of Applied Nanotech, NanoHolding and the other parties. The representations and warranties of Applied Nanotech and NanoHolding are qualified by their respective disclosure schedules and, in some cases, by Applied Nanotech's SEC reports. NanoHolding's representations and warranties are qualified by its disclosure schedules. The representations and warranties in the Merger & Exchange Agreement relate to, among other things:

- Capital structure
- Organization and Standing
- Authority; Execution and Delivery; Enforceability
- Subsidiaries; Equity Interests
- No Conflicts
- Consents and Approvals
- Financial Statements
- Absence of Certain Changes or Events
- Undisclosed Liabilities

- Litigation
- Intellectual Property
- Taxes
- Transactions With Affiliates and Employees.
- Material Contracts
- Compliance with Applicable Laws.
- Foreign Corrupt Practices
- Brokers and Finders' Fees
- Investment Company
- SEC Documents; Financial Statements
- Internal Accounting Controls
- Sarbanes-Oxley
- Minute Books
- Board Approval
- Required Vote
- OTC Markets
- Permits
- Properties
- Employment Matters
- Benefit Plans
- Labor Matters
- Officers
- OFAC
- Environmental Matters
- Restrictions on Business Activities
- Insurance

The representations and warranties are, in many respects, qualified by materiality and knowledge, and will not survive the merger. Their accuracy (subject to customary materiality qualifiers and other customary exceptions) is one of the conditions to the obligations of NanoHolding and Applied Nanotech to complete the merger.

#### **Amendment**

The Merger & Exchange Agreement may be amended by an instrument in writing signed on behalf of each of Applied Nanotech, NanoHolding and Zeiss. However, after the Merger & Exchange Agreement has been adopted by the stockholders of NanoHolding or Applied Nanotech, no amendment that, by law, requires further approval by the stockholders of NanoHolding or Applied Nanotech, as the case may be, can be made without the required approval.

#### **Other Agreements Related to the Combination**

##### **Voting and Conversion Agreement**

In connection with the execution of the Merger & Exchange Agreement, the directors of Applied Nanotech and its single largest stockholder, Sichuan Yinhee Chemical Co., Ltd., entered into a voting and conversion agreement that requires each of them to vote in favor of the combination and the Merger & Exchange Agreement and to vote against proposals that oppose, compete with, or that would unreasonably impede, interfere with, delay, postpone, discourage or adversely affect the Merger & Exchange Agreement or the combination. Share transfers are permitted, but any transferee must agree to the voting restrictions that apply to the transferor. In that agreement the directors also agree to take Class A common stock of PEN as payment for their accrued director fees on the basis of a share price of \$0.05 per share. As of March 10, 2014, when that agreement was executed, the shareholders of Applied Nanotech that were bound by the voting and conversion agreement owned in the aggregate approximately 5% of the outstanding common stock of Applied Nanotech.

## Lock-Up Agreements

The three directors of Applied Nanotech who will serve as directors of PEN and the observer who will have the right to attend PEN board meetings will sign, at the closing, lock-up agreements under which they agree not to sell or dispose of any PEN stock during the six-month period after the closing of the combination. However, shares of PEN Class A common stock that these individuals own as a result of conversion of notes sold to them in the bridge financing are not subject to these restrictions. The lock-up agreements also permit gifts to family members, to family controlled entities and testamentary transfers.

## Interests of Applied Nanotech's Directors and Executive Officers in the Combination

In considering the recommendation of the Applied Nanotech board to approve the combination, shareholders should be aware that our directors and executive officers have certain interests in the combination that may be different from, in addition to, or in conflict with, the interests of our shareholders generally. These interests include, but are not limited to, the payment of accrued obligations in our stock in connection with the combination, the treatment of convertible notes and equity awards held by these executive officers and directors, and revised compensation arrangements with Dr. Yaniv. The new arrangements with Dr. Yaniv are described under *The Advisory (Non-Binding) Vote on Certain Compensation -- Proposal 3* that begins on page 87.

**Change of Control Provisions.** Other than the compensation arrangements with Dr. Yaniv as set forth in the March 10, 2014 Letter Agreement he entered into with Applied Nanotech and discussed below, there are no change of control provisions in any employment arrangement or stock options that are triggered by the combination. Our equity compensation plans include provisions that would vest all outstanding options upon a change of control, but all options awarded under the plans are already vested, so no options will become vested under the change of control provisions. Similarly, Dr. Yaniv's employment agreement contains a change of control provision, but as part of the new arrangements with Dr. Yaniv, that agreement is being terminated. Therefore the cash payment that would otherwise be due will not be owed to him.

**Amended Employment Arrangement with Dr. Yaniv.** On March 10, 2014 in connection with the Merger Agreement Applied Nanotech and Dr. Yaniv entered into a letter agreement setting forth amended compensation arrangements and the terms of his continued employment with PEN after the Merger. At the time of the Merger, Dr. Yaniv will become Director of Strategic Innovation for the Company reporting to Dr. Rickert and will resign as a director and all other positions he holds with Applied Nanotech and its subsidiaries. This amendment will include mutual releases and a grant of 6,800,000 shares of PEN's Class A Common Stock subject to vesting as discussed below. The new arrangements terminate the previous employment agreement and include mutual releases of claims through the closing date. Dr. Yaniv's compensation on an annualized basis is now \$153,000. After the closing it will increase to \$175,000. The 6,800,000 shares of PEN's Class A common stock vest and will not be subject to forfeiture on the earlier of a change of control of PEN, Dr. Yaniv's death, or if more than 180 days after closing the average trading price of the shares during a measurement period of ten consecutive trading days reaches certain price thresholds. At a \$0.10 price, one million of the shares vest, with additional tranches of one million shares vesting if the price reaches \$0.15, \$0.20, \$0.25 and \$0.30. The last 1.8 million shares vest at a \$0.35 price threshold. Any shares that have not vested five years after the closing will be forfeited. Dr. Yaniv will also be entitled to piggyback registration rights that will allow him, subject to other customary terms and conditions, to register the recently awarded shares when they are no longer subject to forfeiture if PEN is registering its stock.

**Obligations Converted to Equity.** Accrued director fees aggregating \$205,315 through June 2014, plus accruals through the date of closing, that are payable to our present and former directors will be paid in our common stock in connection with the combination. The special fee to the members of the board's merger committee aggregating \$353,700 will also be paid in common stock in connection with the closing of the combination. The fee breaks down \$168,300 to Dr. Ronstadt, \$92,700 to Mr. Berman, \$36,000 to Mr. Westerman and \$56,700 to Mr. Rocheleau. These obligations will all be converted to equity on the basis of a \$0.05 share price. Dr. Yaniv, Dr. Fink and Mr. Baker, our former Chief Financial Officer, also agreed to convert convertible promissory notes of Applied Nanotech in connection with the closing of the combination. The principal of Mr. Baker's note is \$100,000, Dr. Yaniv's is \$65,000 and Dr. Fink's \$30,000. These notes, plus accrued interest, will be converted into Class A common stock of PEN at a per share price of \$0.10.

**Bridge Financing.** Several of our continuing directors and several director nominees purchased notes in the bridge financing. Dr. Ronstadt and Mr. Westerman invested \$20,000 each, Mr. Berman \$10,000, and Scott and Jeanne Rickert \$5,000 each. Those notes will convert on the same terms as the other notes issued in the bridge financing.

**Stock Options.** Options held by our executive officers and directors, will receive the same treatment as other outstanding options of Applied Nanotech and will become exercisable on a share for share basis for Class A common stock of PEN. The other terms of each option will remain unchanged. All options are fully vested, so there is no vesting as a result of the combination.

The following table summarizes information about stock options outstanding, some of which may not ultimately vest, and options currently exercisable under the option plan at May 27, 2014:

Range of Exercise Prices	Options Outstanding			Options Exercisable		
	Number Outstanding at 5/27/2014	Wgtd. Avg. Remaining Contractual Life	Wgtd. Avg. Exercise Price	Number Exercisable at 5/27/2014	Wgtd. Avg. Remaining Contractual Life	Wgtd. Avg. Exercise Price
\$0.00 - \$0.25	1,022,866	5.9 Years	\$0.19	1,022,866	5.9 Years	\$0.19
\$0.26 - \$0.50	3,531,061	4.9 Years	\$0.37	3,531,061	4.9 Years	\$0.37
\$0.51 - \$1.00	172,748	4.9 Years	\$0.56	172,748	4.9 Years	\$0.56
\$1.01 - \$2.00	588,396	2.6 Years	\$1.32	588,396	2.6 Years	\$1.32
\$2.01 - \$3.00	563,243	0.8 Years	\$2.16	563,243	0.8 Years	\$2.16
Total	5,877,714	4.8 Years	\$0.61	5,877,714	4.8 Years	\$0.61
Aggregate intrinsic value		\$0.00			\$0.00	

**Indemnification; Directors and Officers Insurance.** Generally our directors and executive officers are entitled to be indemnified by Applied Nanotech only if a determination is made that there should be indemnification in that instance. If that determination is made, they can be indemnified for any loss or expense incurred in connection with claims or proceedings brought against them as a result of their service as a director or officer of Applied Nanotech. These rights are further described in the Applied Nanotech column under the heading “Indemnification of Directors and Officers” in the section *The Combination – Proposal 1, Comparison of Shareholders’ Rights* that is found on page 77. Under the Merger & Exchange Agreement, for a period of at least one year after the closing, PEN will maintain a directors' and officers' liability insurance policy with coverage containing terms and conditions at least as favorable as the coverage under the presently existing policies maintained by Applied Nanotech. PEN is not, however, required to pay for this insurance coverage more than an amount equal to the current premiums paid by Applied Nanotech for its existing policy.

#### Continued Board Service

Directors Berman, Ronstadt and Westerman will be continuing as directors on the PEN board of directors.

#### Interests of NanoHolding’s Director Nominees in the Combination

Dr. Rickert and Messrs. Holmes and Sharp are on the board of Nanofilm and upon closing of the combination they will become directors of PEN.

Holmes Hollister & Co., the investment banking firm in which Mr. Holmes is a member, was retained by Nanofilm in 2011 for advisory services and assistance in sourcing and considering potential transactions. For those services the firm was paid fees of \$100,000 in 2012, and it was reimbursed for expenses in 2011 and 2012 in the amounts of \$2,240.43 and \$2,786.02 for those two years. In 2013 the firm was reimbursed \$18,320 in expenses and paid fees aggregating \$87,514 for services associated with valuation and assistance negotiating Nanofilm’s repurchase of a majority in number of its members at the end of 2012. Holmes Hollister & Co was also engaged by Nanofilm in 2013 to assist with the potential transaction with Applied Nanotech. If the combination with Applied Nanotech closes, the firm will earn a fee of \$100,000. Through March 31, 2014 the firm has been paid approximately \$67,000 in fees and expenses in 2014. As with each of the prior engagements, Nanofilm is obligated to indemnify and hold Holmes Hollister & Co, its members and employees harmless against any loss or liability arising out of the engagement, including attorney’s fees and expenses except to the extent that a court determines that that the loss or liability results from the gross negligence or fraud of any indemnified party. This contractual indemnity is in addition to any right the indemnified parties may have under law or otherwise.

Dr. Rickert will become the Chairman of the Board and Chief Executive Officer of PEN if the combination closes. He will also be its controlling stockholder as the sole general partner of Rickert Family, Limited Partnership that will own substantially all the Class B common stock of PEN, representing approximately 48% of the economics of the PEN common stock and approximately 99% of the voting power of PEN’s common stock. His wife will also be employed by PEN and will be an officer and director of PEN. Dr. Rickert’s annual compensation is \$205,000. It will be unchanged if the combination closes.

Jeanne Rickert is Dr. Rickert's wife. If he is incapacitated, she will become the sole general partner of Rickert Family, Limited Partnership and will, therefore, control the Class B common stock. She receives annual compensation of \$75,000, which will not change as result of the closing. Likewise, the annual compensation of \$200,000 paid to Mr. Vereecken, the Chief Financial Officer of PEN will not change if the combination occurs. None of the executive officers of NanoHoldings has an employment contract, and there will be no employment agreements at PEN.

James Sharp is the Zeiss designee to the PEN board. Zeiss will own all the Class Z common stock issued in the Exchange that is part of the combination. Zeiss buys products from NanoHolding on arm's length terms. Sales to Zeiss were \$362,494 in 2012, \$209,170 in 2013, and \$83,000 during the first quarter of 2014. In addition, as the Zeiss designee, Mr. Sharp is the beneficiary of the provision in the PEN certificate of incorporation that exculpates the Zeiss designee from liability for corporate opportunity except for a corporate business opportunity is first presented to him by PEN in good faith in connection with PEN's strategic activities, or is expressly offered to him in writing solely in his capacity as a director of PEN. Further, Delaware law permits corporations to adopt provisions renouncing any interests or expectancy in certain opportunities that are presented to the corporation or its officers, directors or stockholders. In its certificate of incorporation PEN, on its behalf and on behalf of its subsidiaries, renounces and waives any interest or expectancy in, or in being offered an opportunity to participate in, and Zeiss and Mr. Sharp will have no obligation to offer PEN an opportunity to participate in, business opportunities presented to Zeiss or its controlled affiliates, or its designee on the board of directors of PEN even if the opportunity is one that PEN might reasonably have pursued, and no such person will be liable for breach of any duty by reason of the fact that such person pursues or acquires such corporate opportunity, directs such corporate opportunity to another person or fails to present such corporate opportunity, or information regarding such corporate opportunity, to PEN or its subsidiaries, except in the limited circumstances described in the previous sentence.

### **Material U.S. Federal Income Tax Consequences to Applied Nanotech Shareholders**

Applied Nanotech and NanoHolding intend the Redomestication Merger qualify as a reorganization within the meaning of Section 368 of the Code. That means that Applied Nanotech shareholders, Applied Nanotech, and its successor, PEN will not recognize any gain or loss for federal income tax purposes as a result of the Redomestication Merger. Therefore, there will be no material U.S. federal income tax consequences of the combination for Applied Nanotech shareholders. Generally, the tax basis of an Applied Nanotech shareholder its stock of Applied Nanotech will be carried over and be that shareholder's basis in its PEN stock.

The foregoing discussion is for general information purposes only and is not intended to be a complete analysis or description of all potential U.S. federal income tax consequences of the combination. The Nano Merger is also intended to qualify as a reorganization under Section 368 of the Code. If the Nano Merger is not treated as a reorganization, it is not expected to affect the treatment of the Redomestication Merger, so it should not directly affect shareholders of Applied Nanotech and the tax consequences to them, but it could result in a significant tax liability for PEN.

The discussion does not address tax consequences which may vary with, or are contingent on, your individual circumstances. The discussion does not address any non-income tax or any foreign, state or local tax consequences of the combination. Accordingly, you are strongly encouraged to consult with your own tax advisor as to the tax consequences of the combination in your particular circumstances, including the applicability and effect of the alternative minimum tax and any state, local or foreign and other tax laws and of changes in those laws.

**TAX MATTERS ARE VERY COMPLICATED, AND THE TAX CONSEQUENCES TO HOLDERS WILL DEPEND UPON THE FACTS OF THEIR PARTICULAR SITUATION. BECAUSE INDIVIDUAL CIRCUMSTANCES MAY DIFFER, HOLDERS SHOULD CONSULT THEIR TAX ADVISORS REGARDING THE APPLICABILITY TO THEM OF THE RULES DISCUSSED ABOVE AND THE PARTICULAR TAX EFFECTS TO THEM OF THE COMBINATION, INCLUDING THE APPLICATION OF STATE, LOCAL AND FOREIGN TAX LAWS.**

## COMPARISON OF SHAREHOLDERS' RIGHTS

If the combination is completed, Applied Nanotech stockholders will receive shares of PEN Class A common stock in the Redomestication Merger. Applied Nanotech is organized under the laws of the State of Texas, and PEN is organized under the laws of the State of Delaware. The following is a summary of the material differences between (i) the current rights of holders of Applied Nanotech common stock under the Texas Business Organizations Code (“**TBOC**”) and Applied Nanotech’s amended and restated articles of incorporation and amended and restated bylaws and (ii) the rights of holders of PEN Class A common stock under the DGCL and PEN’s amended and restated certificate of incorporation and amended and restated bylaws that will become effective at the time of the Redomestication Merger.

The following summary is not a complete statement of the rights of stockholders of the two companies or a complete description of the specific provisions referred to below. This summary is qualified in its entirety by reference to the TBOC and the DGCL and Applied Nanotech’s and PEN’s governing documents, which we urge you to read carefully and in their entirety. Copies of Applied Nanotech’s governing documents have been filed with the SEC and those for PEN are exhibits to amendment to the Merger & Exchange Agreement that is [Annex C](#) to this proxy statement. To find out where copies of the Applied Nanotech documents can be obtained, see the section entitled *Where You Can Find More Information* beginning on page 92.

### APPLIED NANOTECH

### PEN

#### Authorized Capital Stock

Applied Nanotech is authorized to issue up to 162,000,000 shares, 160,000,000 shares of common stock, par value \$0.001 per share and 2,000,000 shares of preferred stock, par value \$1.00 per share. As of the record date, there were \_\_\_ shares of Applied Nanotech common stock outstanding and no shares of Applied Nanotech preferred stock outstanding.

PEN is authorized to issue up to a total of 1,820,000,000 shares of capital stock, consisting of 20,000,000 shares of Preferred Stock, par value \$0.0001 per share (“**preferred stock**”), 1,300,000,000 shares of Class A Common Stock, par value \$0.0001 per share (“**Class A common stock**”), 400,000,000 shares of Class B Common Stock, par value \$0.0001 per share (“**Class B common stock**”), and 100,000,000 shares of Class Z Common Stock, par value \$0.0001 per share (“**Class Z common stock**”).

The rights of each share of Class A common stock, each share of Class B common stock and each share of Class Z common stock are the same with respect to dividends, distributions and rights upon liquidation. The different classes of common stock have different voting rights as described below, and shares of Class B common stock and shares of Class Z common stock will be or may be converted into Class A common stock as described below.

#### Conversion Rights of Class B Common Stock

Applied Nanotech has only one class of common stock and no conversion rights.

Shares of Class B common stock can be converted, one-for-one, into shares of Class A common stock at any time at the option of the holder. Shares of Class B common stock will automatically be converted into shares of Class A common stock if the shares of Class B common stock are not owned by Scott Rickert, his spouse, or their descendants and their spouses, or by entities or trusts wholly-owned by them. Since shares of Class A common stock are economically equivalent to shares of Class B common stock, conversion of Class B into Class A common stock will not change the economic participation of Class A stockholders. Because shares of Class B common stock have 100 votes per share while Class A common stock has one vote per share, conversion of Class B common stock into Class A common stock will result in an increase in the voting power of the Class A stockholders.

## APPLIED NANOTECH

## PEN

### Conversion Rights of Class Z Common Stock

Applied Nanotech has only one class of common stock and no conversion rights.

Shares of Class Z common stock can be converted, one-for-one, into shares of Class A common stock at any time at the option of the holder. Shares of Class Z common stock will automatically be converted into shares of Class A common stock if the shares of Class Z common stock are not owned by Zeiss or an entity wholly owned by the ultimate parent of Zeiss. In addition, if Zeiss and other permitted holders of shares of Class Z common stock sell or convert more than one-half of the shares of Class Z common stock that are received in the Exchange that is part of the combination, all shares of Class Z common stock will automatically convert into Class A common stock. As stated above, shares of Class A common stock are economically equivalent to shares of Class Z common stock, so conversion of Class Z into Class A common stock will not change the economic participation of Class A stockholders. Because shares of Class Z common stock are non-voting, conversion of Class Z common stock into Class A common stock will dilute the voting power of the Class A stockholders.

### Size of Board of Directors

Applied Nanotech's board of directors must be not less than three and not more than nine. There are currently six directors of Applied Nanotech.

PEN's board of directors shall consist of a number of directors to be fixed from time to time by the board of directors by vote of a majority of the total number of directors then in office; provided, that, PEN must have at least 3 directors so long as the holders of Class Z common stock have the right to designate a director. Immediately after the combination, PEN's board of directors will consist of 7 directors.

### Voting Rights, Cumulative Voting

Each holder of Applied Nanotech common stock is entitled to one vote per share.

Applied Nanotech stockholders are not entitled to cumulative voting rights in the election of directors.

Holders of PEN Class A common stock are entitled to one vote per share in the election of directors and other matters submitted to a vote of the stockholders. Holders of PEN Class B common stock are entitled to 100 votes per share in the election of directors and other matters submitted to a vote of the stockholders. Holders of PEN Class Z common stock do not vote in the election of directors or otherwise, but they do have the right to designate a director to the PEN Board, have anti-dilution rights described below and have consent rights with respect to certain amendments to PEN's certificate of incorporation as described below.

PEN stockholders are not entitled to cumulative voting in the election of directors.

### Classes of Directors

Applied Nanotech's board of directors consists of one class of directors, each serving a one-year term expiring at the annual meeting of stockholders in each year.

Except for the director designated by the holders of Class Z common stock, PEN's board of directors consists of one class of directors, each serving a one-year term expiring at the annual meeting of stockholders in each year.

### Removal of Directors

Applied Nanotech's directors may be removed for cause by the affirmative vote of the holders of a majority of the voting power of shares of Applied Nanotech common stock then entitled to vote at an election of directors. Directors may also be removed without cause if there is a vote for removal by both (i) 60% of the directors then in office and (ii) 60% of the voting power of shares of Applied Nanotech common stock then entitled to vote at an election of directors. Cause for removal of a director exists only if (a) the Director whose removal is proposed has been convicted, or where a Director is granted immunity to testify where another has been convicted, of a felony by a court of competent jurisdiction and such conviction is no longer subject to direct appeal; (b) such Director has been found by the affirmative vote of at least 60% of all Directors then in office to have been negligent or guilty of misconduct in the performance of his duties in a matter of substantial importance to Applied Nanotech; or (c) such Director has been adjudicated by a court of competent jurisdiction to be mentally incompetent, directly affecting his ability as a Director. If a shareholder proposes the removal of a director, there are additional procedures to be completed in advance of the meeting at which the proposal will be considered.

Directors, other than the director designated by the Class Z common stock holders, may be removed at any time, without cause, by majority vote at a meeting at which a quorum is present. Directors can also be removed for cause if, for example, the individual has been declared of unsound mind, has failed to attend at least 75% of the meetings of the board in a twelve month period.

The director designated by the Class Z common stock holders may only be removed (with or without cause) by the Class Z common stock holders.





## APPLIED NANOTECH

## PEN

### Filling Vacancies on the Board of Directors

Vacancies on the Applied Nanotech Board of Directors may be filled by the affirmative vote of a majority of the remaining directors, whether or not a quorum, for the unexpired term of the departed director. A director position created by an increase in the number of directors may be filled by the board of directors for a term continuing only until the next election of one or more directors by the stockholders. The Applied Nanotech board of directors may not fill more than two such directorships during the period between any two successive annual meetings of stockholders.

A vacancy on PEN's board of directors may be filled by the affirmative vote of a majority of the remaining PEN board of directors, except that only Class Z holders can replace the director they designate or fill any vacancy in such position. Each director filling a vacancy shall remain in office until the next annual meeting of shareholders.

### Qualifications for Director Candidates

Directors must be at least 21 years of age.

Subject to certain limited exceptions, no person can serve as a Director if he or she is a party to any compensatory, payment or other financial agreement, arrangement or understanding with any person or entity other than PEN, or has received any compensation or other payment from any person or entity other than PEN, in connection with candidacy or service as a PEN director.

### Nomination of Director Candidates by Stockholders

A shareholder can only nominate a director candidate by giving written notice to the Secretary of the Corporation that is delivered to or mailed and received at the principal executive offices of the Corporation not less than 60 days nor more than 90 days prior to the meeting; except, that if less than 70 days' notice or prior public disclosure of the date of the meeting is given or made to shareholders, notice must be so received not later than the close of business on the 10th day following the date on which such notice of the date of the meeting was mailed or such public disclosure was made. The Board of Director's shareholder's notice shall set forth (i) as to each person whom the shareholder proposes to nominate for election or re-election as a Director, (A) the name, age, business address and residence address of such person, (B) the principal occupation or employment of such person, (C) the class and number of shares of the Corporation which are beneficially owned by such person, and (D) any other information relating to such person that is required to be disclosed in solicitations of proxies for election of Directors, or is otherwise required, in each case pursuant to Regulation 14A under the Securities Exchange Act of 1934, as amended (including without limitation such person's written consent to being named in the proxy statement as a nominee and to serving as a Director if elected); and (ii) as to the shareholder giving the notice, (1) the name and address, as they appear on the Corporation's books, of such shareholder and (2) the class and number of shares of the Corporation which are beneficially owned by such shareholder.

Any stockholder holding at least \$2,000 in value of shares entitled to vote in the election of directors may nominate one or more directors by delivering notice to PEN's corporate secretary not less than 60 days nor more than 90 days prior to the meeting of stockholders at which the directors are to be elected, but if less than 75 days' notice or prior public disclosure of the date of the meeting is given or made to stockholders, notice is due not more than 10 days following the day on which notice of the date of the meeting was mailed or public disclosure was made, whichever is first. The notice must set forth, among other things, (i) the name and address of the shareholder making the nomination; (ii) the name, age, principal occupation or employment, business address and residence address of each person to be nominated; (iii) the class and number of shares of stock held of record, owned beneficially and represented by proxy by such shareholder or any person directly or indirectly controlling, controlled by, under common control with or acting in concert with such shareholder, which we refer to as a shareholder associated person, and by each person to be nominated as of the record date for the meeting and of the date of such notice; (iv) a description of all contracts, arrangements, understandings or relationships between (a) the shareholder making the nomination and any shareholder associated person that relate to the nomination, (b) the shareholder making the nomination and the proposed nominee and (c) the shareholder making the nomination, the proposed nominee or any shareholder associated person and any other person or persons that relate to the nomination; (v) such other information regarding each nominee that would be required to be disclosed in a proxy statement; and (vi) the consent of each nominee to serve as a director of the corporation if elected.

### Calling Special Meetings of Stockholders

A special meeting of stockholders may be called by the Board of Directors, by the Chairman, the President or by holders of not less than 10% of all of the outstanding shares entitled to vote at the meeting.

A special meeting of stockholders may be called by PEN's Chief Executive Officer, its Chairman of the board of directors, by the board of directors, or at the written request of stockholders representing at least 25% of the voting power in the election of directors.

## APPLIED NANOTECH

## PEN

### Quorum; Vote Required

A majority of the outstanding shares of Applied Nanotech entitled to vote, and represented in person or by proxy, is a quorum at any meeting of Applied Nanotech stockholders. If a quorum is not present, a majority of the stockholders represented may adjourn the meeting until a quorum is obtained.

The vote required to approve any matter for which the TBCA specifies a specific percentage vote (including amendment of the articles or a merger) is the affirmative vote of a majority of shares entitled to vote, except that directors are elected by a plurality vote.

The holders of at least one-third of the voting power in the election of directors, and represented in person or by proxy, are a quorum for a meeting of stockholders. If a quorum is not present, the stockholders represented may adjourn the meeting until a quorum is obtained.

The vote required is a majority of a quorum or, for the election of directors, a plurality vote.

### Shareholder Proposals

A shareholder may present a proposal at a stockholders meeting if the holder gives written notice to the Secretary of the Corporation received at the principal executive offices of the Corporation not less than 60 days nor more than 90 days prior to the meeting; except, that if less than 70 days' notice or prior to public disclosure of the date of the meeting is given or made to shareholders, notice by the shareholder must be so received not later than the close of business on the 10th day following the day on which such notice of the date of the annual meeting was mailed or such public disclosure was made. A shareholder's notice shall set forth as to each matter the shareholder proposes to bring before the annual meeting (i) a brief description of the business desired to be brought before the annual meeting and the reasons for conducting such business at the annual meeting, (ii) the name and address, as they appear on Applied Nanotech's books, of the shareholder proposing such business, (iii) the class and number of shares beneficially owned by the shareholder, and (iv) any material interest of the shareholder in such business.

A stockholder holding at least \$2,000 in value of shares entitled to vote in the election of directors may present a proposal at a meeting of stockholders if the shareholder gives written notice to the corporate secretary received not less than 60 days nor more than 90 days prior to the meeting, but if less than 75 days' notice or prior public disclosure of the date of the meeting is given or made to stockholders, notice is due not later than the close of business on the 10th day following the day on which notice of the date of the meeting was mailed or public disclosure was made, whichever was first. Each notice must set forth as to each matter the shareholder proposes to bring before the meeting: (i) a description of each proposed item of business and the reasons for conducting that business at the annual meeting; (ii) any material interest in that business of that shareholder and any shareholder associated person, including any anticipated benefit to the shareholder or any shareholder associated person; (iii) the name and record address of the shareholder proposing to bring that item of business before the meeting; (iv) the class and number of shares of stock held of record, owned beneficially and represented by proxy by that shareholder or any shareholder associated person as of the record date for the meeting and as of the date of the notice; (v) whether and the extent to which any derivative instrument, hedging or other transaction or transactions has been entered into by or on behalf of, or any other agreement or understanding has been made to increase or decrease economic interest in PEN's stock or manage the risk or benefit of share price changes for, or to increase or decrease the voting power of, that shareholder or any shareholder associated persons with respect to PEN's stock; (vi) a description of all contracts, arrangements, understandings or relationships between that shareholder and any shareholder associated persons or between that shareholder or any shareholder associated persons and any other person or persons that relate to the proposal of that business by that shareholder; and (vii) all other information which would be required to be included in a proxy statement.

### Notice of Shareholder Meetings

Applied Nanotech must give written notice not less than 10 and not more than 60 days before a shareholders meeting to each shareholder entitled to vote at such a meeting. The notice shall state the place, day and hour and, if a special meeting, the purpose of the meeting.

PEN must give written notice not less than 10 and not more than 60 days before any stockholders meeting to each shareholder entitled to vote at such a meeting. The notice shall state the place, date and hour, and, if a special meeting, the purpose of the meeting.

The holders of Class Z common stock are entitled to receive a copy of any notice sent to the holders of Class A common stock or Class B common stock, as and when the notice is sent to such holders.

## APPLIED NANOTECH

## PEN

### Anti-Takeover Provisions and Other Shareholder Protections

TBOC § 21.606 prohibits a Texas corporation from engaging in a “business combination” (as defined in the TBOC) with a person owning 20% or more of a corporation’s voting stock for three years following the time that person becomes a 20% shareholder, with certain exceptions. Applied Nanotech has not opted out of § 21.606 and is therefore governed by the default terms of this provision of the TBOC.

DGCL § 203 prohibits a Delaware corporation from engaging in a “business combination” (as defined in the DGCL) with a person owning 15% or more of a corporation’s voting stock for three years following the time that person becomes a 15% shareholder, with certain exceptions. PEN has not opted out of § 203 and is therefore governed by the default terms of this provision of the DGCL.

### Limitation of Personal Liability of Directors

No director of Applied Nanotech will be liable for monetary damages for an act or omission (or an alleged act or omission), except to the extent the director is found liable for: (1) a breach of a director's duty of loyalty; (2) an act or omission not in good faith which constitutes a breach of duty of the director to the corporation, or an act or omission which involves intentional misconduct or a knowing violation of the law; (3) a transaction from which a director received an improper benefit, whether or not the benefit resulted from an action taken within the scope of the director's office; (4) an act or omission for which the liability of a director is expressly provided for by an applicable statute; or (5) an act related to an unlawful stock repurchase or payment of a dividend.

If the TBOC or any other applicable law is amended or adopted to authorize action further eliminating or limiting the personal liability of directors, then the liability of a director of the Corporation shall be eliminated or limited to the fullest extent permitted by such law(s), as so amended or adopted.

A director of PEN shall not be personally liable to PEN or its stockholders for monetary damages for breach of fiduciary duty as a director, except to the extent required by the DGCL.

In addition to the general exculpation provisions, any director designated by Zeiss as the holder of Class Z common stock is protected by a specific exculpation provision relating to corporate opportunity. Specifically, unless a corporate business opportunity that would otherwise be required to be submitted to PEN is first presented to the Zeiss board designee by PEN in good faith in connection with PEN’s strategic activities, or is expressly offered to the Zeiss board designee in writing solely in that person’s capacity as a director of PEN, PEN renounces any expectation in that business opportunity.

### Waiver of Corporate Opportunities Presented to Zeiss

Applied Nanotech does not have any provisions with respect to waiver of corporate opportunity.

PEN, on its behalf and on behalf of its subsidiaries, renounces and waives any interest or expectancy in, or in being offered an opportunity to participate in, and Zeiss and the Zeiss designee to the board of directors will have no obligation to offer PEN an opportunity to participate in, business opportunities presented to Zeiss or its controlled affiliates, or its designee to the board of directors, even if the opportunity is one that PEN or its subsidiaries might reasonably have pursued, and no such person will be liable for breach of any duty by reason of the fact that such person pursues or acquires such corporate opportunity, directs such corporate opportunity to another person or fails to present such corporate opportunity, or information regarding such corporate opportunity, to PEN or its subsidiaries, except in the limited circumstances where such corporate business opportunity is one that would otherwise be required to be submitted to PEN and which is either first presented to the Zeiss board designee by PEN in good faith in connection with PEN’s strategic activities, or is expressly offered to the Zeiss board designee in writing solely in that person’s capacity as a director of PEN.

## APPLIED NANOTECH

## PEN

### Indemnification of Directors and Officers

Applied Nanotech' will only indemnify officers and directors if ordered by a court or in a specific case upon a determination that indemnification is proper under the circumstances because the person acted in good faith and in a manner reasonably believed to be in, or not opposed to, the best interests of the Company, or with respect to a criminal proceeding if the individual had no reasonable cause to believe his conduct was unlawful. The determination can be made (i) by the Board of Directors by a majority vote of a quorum consisting of Directors who were not parties to the action or proceeding, or (ii) if a quorum of disinterested Directors so directs, by independent legal counsel in written opinion, or (iii) by the shareholders.

A director or officer cannot receive reimbursement or advancement of expenses incurred in advance of the final disposition of an action or proceeding unless Applied Nanotech has received a written undertaking to repay the amounts advanced if it is subsequently be determined that the officer or director was not entitled to indemnification.

Applied Nanotech may purchase insurance on behalf of its directors and officers against any liability asserted them in those capacities.

PEN's amended and restated bylaws provide that PEN shall indemnify each of its directors and officers against all expense, liability and loss (including attorneys' fees, judgments, fines, Employee Retirement Income Security Act of 1974 (or comparable non-U.S. law) excise taxes or penalties and amounts paid in settlement) incurred in an action, suit or proceeding by reason of service as a director, officer or administrator or fiduciary with respect to any employee benefit plan.

A director or officer is also entitled to advancement of expenses incurred in defending any proceeding in advance of its final disposition, except that, if the DGCL so requires, advancement will only occur after delivery of an undertaking to repay all amounts advanced if it is ultimately be determined by final judicial decision from which there is no further right to appeal that the beneficiary is not entitled to be indemnified.

PEN may purchase insurance for its directors and officer regardless whether the corporation would have the right to indemnify the person.

### Amendments to Articles/Certificate of Incorporation and By-laws

To amend the articles of incorporation requires the affirmative vote of a majority of shares entitled to vote.

Applied Nanotech' bylaws may be amended, altered or repealed, and new bylaws may be approved, by the board of directors. For shareholders to amend the bylaws it requires the vote of holders of not less than 60% of the outstanding shares entitled to vote in the election of directors.

The vote of at least a majority of a quorum, voting together as a single class, is required to amend or repeal the PEN Certificate of Incorporation. In addition, the vote of at least 50% of the outstanding shares of Class Z common stock is required to change: (i) the provisions regarding the appointment or removal of the director designated by the Class Z holders; (ii) the distribution provisions related to common stock; (iii) the provisions regarding transfer or issuance of Class Z common stock, the anti-dilution rights of the Class Z common stock, the conversion rights of the Class Z common stock and the notice rights of the holders of Class Z common stock; (iv) the waiver of corporate opportunities presented to Zeiss and the related exculpatory provisions; or (v) to create other differences under the Amended and Restated Certificate to the rights, powers, duties or restrictions applicable to the Class Z common stock and either the Class A common stock or the Class B common stock.

The Board or the stockholders may make, amend and repeal the PEN bylaws.

### Action by Written Consent

An action that could be taken at a meeting of stockholders may be taken without a meeting if a consent in writing, setting forth the action so taken, shall be signed by all of the stockholders entitled to vote.

Any action required or permitted to be taken at a meeting of stockholders can be accomplished by a written consent signed by those who would be entitled to vote at a meeting who have the voting power necessary to authorize or take the action at a meeting at which all shares entitled to vote were present and voted.

## APPLIED NANOTECH

## PEN

### Anti-Dilutive and Preemptive Rights

No holder of Applied Nanotech stock has preemptive or anti-dilutive rights.

No PEN stockholder has preemptive rights.

Holders of shares of Class Z common stock are entitled to maintain their economic ownership percentage by purchasing the securities being sold if PEN issues additional shares or equity rights that are the economic equivalent of the Class A common stock, the Class B common stock or the Class Z common stock or that have the right to subscribe for, purchase or acquire, convert into, be exchangeable or exercisable for or otherwise participate in distributions (whether interim or liquidating) with the Class A common stock, the Class B common stock or the Class Z common stock (such shares, together with the Class A common stock, Class B common stock and Class Z common stock, “**Common Equivalents**”). The purchase price paid by a holder of Class Z common stock will be equal to the price for which PEN issues the Common Equivalents to others. These anti-dilutive rights do not apply to (i) the issuance of Class A common stock and Class B common stock up to 10% of the Common Equivalents in connection with employee compensation programs approved by the board, or (ii) the issuance of Common Equivalents that do not reduce the outstanding shares of Class Z common stock below 8% of the Common Equivalents. Further, PEN may not permit any of its subsidiaries to take any action that would circumvent or frustrate the anti-dilutive rights of the holders of Class Z common stock by issuing equity of any subsidiary without offering the holders of Class Z common stock the right to purchase their pro-rata share thereof on the terms described above.

### Rights of Dissenting Stockholders

Under the TBOC, a shareholder generally has the right to dissent from any merger to which the corporation is a party, from any sale of all or substantially all assets of the corporation, or from any plan of exchange and to receive fair value for his or her shares. However, rights of dissent and appraisal are not available for a merger in which there is a single surviving corporation, or with respect to an exchange, if: (1) the shares held by the shareholder are part of a class or series that are, on the record date set for the vote, (a) listed on a national securities exchange, (b) designated as a national market security on an interdealer quotation system by the National Association of Securities Dealers, Inc. or (c) held of record by not less than 2,000 holders on the record date; (2) the shareholder is not required to accept for the shareholder’s shares any consideration that is different than the consideration (other than cash in lieu of fractional shares) to be provided to any other holder of shares of the same class or series held by such shareholder; and (3) the shareholder is not required to accept for his or her shares any consideration other than (a) shares of a corporation that, immediately after the effective time of the merger or exchange, will be part of a class or series of shares that are (i) listed, or authorized for listing upon official notice of issuance, on a national securities exchange, (ii) approved for quotation as a national market security on an interdealer quotation system by the National Association of Securities Dealers, Inc., or (iii) held of record by not less than 2,000 holders and (b) cash in lieu of fractional shares otherwise entitled to be received.

The appraisal rights of Applied Nanotech shareholders are governed by the TBOC.

The DGCL provides that appraisal rights are available to dissenting stockholders in connection with certain mergers or consolidations. The DGCL does not provide for appraisal rights if: (1) the shares of the corporation are (a) listed on a national securities exchange or (b) held of record by more than 2,000 stockholders; or (2) the corporation is the surviving corporation and no vote of its stockholders is required for the merger. However, appraisal rights will be available if the stockholders are required by the terms of a merger agreement to accept anything except: (i) shares of stock of the corporation surviving or resulting from such merger or consolidation, or depository receipts in respect thereof; (ii) shares of stock of any other corporation, or depository receipts in respect thereof, which shares of stock (or depository receipts in respect thereof) or depository receipts at the effective date of the merger or consolidation will be either listed on a national securities exchange or held of record by more than 2,000 holders; (iii) cash in lieu of fractional shares or fractional depository receipts; or (iv) any combination of the shares of stock, depository receipts and cash in lieu of fractional shares or fractional depository receipts as described above. The DGCL does not provide appraisal rights to shareholders with respect to the sale of all or substantially all of a corporation’s assets or an amendment to a corporation’s certificate of incorporation. Among other procedural requirements to exercise appraisal rights, a shareholder’s written demand for appraisal must be received before the vote on the matter giving rise to appraisal rights, when the matter is voted on at a meeting of shareholders.

The appraisal rights of PEN stockholders are governed by the DGCL.

### Forum for Disputes and Derivative Actions

Claims involving Applied Nanotech and its officers and directors are not restricted to any particular forum.

State or federal courts in Delaware are the sole and exclusive forum for actions against PEN or its officers or directors that are derivative actions, claims for breach of fiduciary duty, claims arising under the DGCL or claims governed by the internal affairs doctrine.

## DISSENTERS' RIGHTS OF APPLIED NANOTECH STOCKHOLDERS

*General.* If you hold one or more shares of Applied Nanotech common stock, you are entitled to dissenters' rights under Texas law which means you have the right to dissent from the merger and have the appraised fair value of your shares of Applied Nanotech common stock paid to you in cash. The appraised fair value may be more or less than the value of the PEN stock to be issued in the Redomestication Merger. If you are contemplating exercising your right to dissent, we urge you to read carefully the provisions of Chapter 10, Subchapter H of the TBOC, which are attached to this proxy statement/prospectus as **Annex D**, and consult with your legal counsel before electing or attempting to exercise these rights. The following discussion describes the steps you must take if you want to exercise your right to dissent. You should read this summary and the full text of the law carefully.

*How to Exercise and Perfect Your Right to Dissent.* To be eligible to exercise your right to dissent to the merger:

- you must, prior to the special meeting, provide Applied Nanotech with a written objection to the merger that states that you intend to exercise your right to dissent if the proposal to approve the Merger & Exchange Agreement is approved and the merger is completed and that provides an address to which PEN may send a notice if the merger is completed;
- you must vote your shares against approval of the proposal to approve the Merger & Exchange Agreement at the special meeting.
- you must, not later than the 20<sup>th</sup> day after PEN sends you notice that the merger was completed, provide PEN with (i) a written demand for payment that states the number and class of shares of Applied Nanotech common stock you own, your estimate of the fair value of that stock and an address to which a notice relating to the dissent and appraisal procedures may be sent and (ii) (x) if your shares are certificated, your certificates representing the shares and (y) if your shares are uncertificated, signed assignments of the ownership interests in the shares; and
- you must continuously hold your shares of Applied Nanotech common stock from the record date through the completion of the merger.

If you intend to dissent from the merger, you should send the notice to:

Applied Nanotech Holdings, Inc.  
3006 Longhorn Boulevard, Suite 107  
Austin, TX 78758  
Attention: Corporate Secretary

If you fail to vote your shares at the meeting against the proposal to approve the Merger & Exchange Agreement, or otherwise fail to comply with any of these conditions and the merger is completed, you will lose your right to dissent from the merger and will instead receive shares of PEN Class A common stock. If you comply with the items set forth in the first two bullet points above and the merger is completed, PEN will send you a written notice advising you that the merger has been completed. PEN must deliver this notice to you within 10 days after the merger is completed. A proxy card which is signed and does not contain voting instructions will, unless revoked, be voted "**FOR**" the proposal to approve the Merger & Exchange Agreement, will constitute a waiver of your dissenters' rights, and will nullify any previous written demand for appraisal.

*Your Demand for Payment.* If you wish to receive the fair value of your shares of Applied Nanotech common stock in cash, you must, within 20 days of the date the notice was delivered or mailed to you by PEN, send a written demand to PEN for payment of the fair value of your shares of Applied Nanotech common stock. The fair value of your shares of Applied Nanotech common stock will be the value of the shares on the day immediately preceding the merger, excluding any appreciation or depreciation in anticipation of the merger. Your written demand and any notice addressed to PEN must be sent to:

PEN Inc.  
c/o NanoHolding Inc.  
10111 Sweet Valley Drive  
Valley View, Ohio 44125  
Attention: Jeanne M. Rickert, Secretary

Your written demand must state how many shares of Applied Nanotech common stock you own and your estimate of the fair value of your shares of Applied Nanotech common stock. If you fail to send this written demand to PEN within 20 days of PEN's delivery or mailing of your notice, you will be bound by the merger and you will not be entitled to receive a cash payment representing the fair value of your shares of Applied Nanotech common stock. Instead, you will receive shares of PEN Class A common stock.

*PEN's Actions Upon Receipt of Your Demand for Payment.* Within 20 days after PEN receives your demand for payment and your estimate of the fair value of your shares of Applied Nanotech common stock, PEN must send you written notice stating whether or not it accepts your estimate of the fair value of your shares.

If PEN accepts your estimate, PEN will notify you that it will pay the amount of your estimated fair value within 90 days of the merger being completed. PEN will make this payment to you only if you have surrendered the share certificates or the signed assignments of ownership in non-certificated shares, as applicable, representing your shares of Applied Nanotech common stock, duly endorsed for transfer, to PEN.

If PEN does not accept your estimate, PEN will notify you of this fact and will make an offer of an alternative estimate of the fair value of your shares that it is willing to pay you within 120 days of the merger being completed, which you may accept within 90 days or decline.

*Payment of the Fair Value of Your Shares of Applied Nanotech Upon Agreement of an Estimate.* If you and PEN have reached an agreement on the fair value of your shares of Applied Nanotech common stock within 90 days after the merger is completed, and if you have surrendered to PEN the duly endorsed share certificates or the signed assignments of ownership in non-certificated shares, as applicable, representing your shares of Applied Nanotech common stock, PEN must pay you the agreed amount within 120 days after the merger is completed.

*Commencement of Legal Proceedings if a Demand for Payment Remains Unsettled .* If you and PEN have not reached an agreement as to the fair value of your shares of Applied Nanotech common stock within 90 days after the merger is completed, you or PEN may, within 60 days after the expiration of the 90-day period, commence proceedings in Travis County, Texas, asking the court to determine the fair value of your shares of Applied Nanotech common stock. The court will determine if you have complied with the dissent provisions and if you have become entitled to a valuation of and payment for your shares of Applied Nanotech common stock. The court will appoint one or more qualified persons to act as appraisers to determine the fair value of your shares. The appraisers will determine the fair value of your shares and will report this value to the court. The court will consider the report, and both you and PEN may address the court about the report. The court will determine the fair value of your shares and direct PEN to pay that amount, plus interest, which will begin to accrue 91 days after the merger is completed.

*Rights as a Shareholder.* If you have made a written demand on PEN for payment of the fair value of your shares of Applied Nanotech common stock, you will not thereafter be entitled to vote or exercise any other rights as a shareholder except the right to receive payment for your shares as described herein and the right to maintain an appropriate action to obtain relief on the ground that the merger would be or was fraudulent. In the absence of fraud in the merger, your right under the dissent provisions described herein is the exclusive remedy for the recovery of the value of your shares or money damages with respect to the merger.

*Withdrawal of Demand.* If you have made a written demand on PEN for payment of the fair value of your Applied Nanotech common stock, you may withdraw such demand at any time before payment for your shares has been made or before a petition has been filed with a court for determination of the fair value of your shares. If you withdraw your demand or are otherwise unsuccessful in asserting your dissenters' rights, you will be bound by the terms of the merger and your status as a shareholder of PEN will be restored without prejudice to any corporate proceedings, dividends or distributions which may have occurred during the interim.

*Income Tax Consequences.* If you dissent from the merger the income tax consequences to you will be different. Please consult your tax advisor to understand the federal, state or local income tax consequences of your action if you elect to dissent from the merger.

## THE SHARE INCREASE – PROPOSAL 2

Our amended and restated articles of incorporation currently authorize up to 162 million shares of capital stock, of which 160 million are shares of our common stock and the remaining 2 million can be shares of preferred stock. As of the record date we have approximately 157 million shares of common stock issued and outstanding leaving approximately 3 million shares of common stock available for future issuances. We have outstanding various convertible debt instruments, stock options and a restricted stock award summarized in the table below that in the aggregate would require the issuance of approximately 49.8 million shares of our common stock. These commitments exceed our shares of common stock available for issuance by approximately 46.8 million.

Description	Remaining Debt	Conversion Price Per Share	Shares Required for Future Issuances
Fixed Convertible Notes due on demand	\$ 979,210 <sup>(1)</sup>	\$ 0.05	19,584,000
Fixed Convertible Notes due on demand	\$ 41,537 <sup>(2)</sup>	\$ 0.08	519,000
Fixed Convertible Notes due on demand	\$ 1,146,723 <sup>(3)</sup>	\$ 0.10	11,467,000
Variable Conversion Rate Convertible Note	\$ 36,704	\$ 0.038 <sup>(4)</sup>	959,000
Chief Financial Officer Promissory Note	\$ 75,000	\$ 0.05	1,500,000 <sup>(5)</sup>
Chief Financial Officer Stock Grant Agreement			3,290,000
Variable Convertible Notes from Bridge Financing	\$ 125,000	\$ 0.041 <sup>(6)</sup>	3,047,000
Stock Options			5,888,714 <sup>(7)</sup>
<b>Total Shares Required for Future Issuances</b>			<b>46,254,714</b>

- (1) Reflects principal and accrued interest at the rate of 8.0% per annum on a proforma basis as of June 30, 2014. Debt is convertible at the holder's option.
- (2) Reflects principal and accrued interest at the rate of 8.0% per annum on a proforma basis as of June 30, 2014. Debt is convertible at the holder's option.
- (3) Reflects principal and accrued interest at the rate of 8.0% per annum on a proforma basis as of June 30, 2014. Debt is convertible at the holder's option.
- (4) Convertible at the lesser of \$0.25 off market price or 70% of market price. Conversion rate is estimated based on the closing price of our common stock on May 21, 2014 at \$0.0547 per share.
- (5) Shares are issuable 180 days following the closing date of the combination.
- (6) Convertible at the lesser of \$0.25 off market price or 75% of market price; interest accrues at the rate of 8.0% per annum. Conversion rate is estimated based on the closing price of our common stock on May 21, 2014 at \$0.0547 per share.
- (7) See "Other Agreements Related to the Combination – Stock Options" on Page 75.



The board believes it is important for us to have additional shares of our common stock available to meet our existing commitments discussed above and for future issuance. A significant additional factor is our need for future working capital needs. For the past ten years, with the exception of 2010 when we had net income of \$411,304, our expenditures have exceeded our revenues and we have recorded losses of several million dollars each of the other nine years. While the board and management have significantly reduced expenses for 2014 and proposals have been submitted for additional research contracts to attempt to increase our revenue, we will require additional financing in order to continue our operations if the combination does not occur. Without additional authorized shares of common stock financing using convertible debt or equity will not be possible.

Additional authorized common stock will allow the board to issue common stock as an incentive to employees or new executives if the combination does not occur and we determine to work to create commercial products using our intellectual property. Additional common stock will also allow the board to use stock to acquire assets or businesses or to participate in joint ventures that may allow us to commercialize our intellectual property and increase the value of our business.

For these reasons the board has unanimously recommended that the shareholders vote **FOR** an increase in our authorized capital stock from 162 million to 502 million shares, of which 2 million would remain preferred stock and the rest, 500 million shares would be shares of common stock. As described above, our 157 million outstanding shares of common stock and the approximate 46 million reserved for issuance total approximately 203 million shares. Of the increased number of shares if Proposal 2 is approved, approximately 297 million would be available for future issuance as the board determines.

### **ADVISORY (NON-BINDING) VOTE ON CERTAIN EXECUTIVE COMPENSATION – PROPOSAL 3**

Under SEC rules that now apply to us, our shareholders have the right to vote to inform the board of directors whether the shareholders approve or disapprove of certain compensation, called “golden parachute compensation”, that would be payable to our executive officers if their employment is terminated after the combination closes.

The only executive officer whose compensation will be changed as a result of the combination is Dr. Yaniv. The terms for Mr. Baker, our former Chief Financial officer were entered into on or about the date of the Merger & Exchange Agreement, but those terms will not be affected, regardless whether the combination closes or the Merger & Exchange Agreement is terminated. Dr. Fink and Ms. Soptick have no employment agreements, and there are no plans or programs that will result in any payments or any change in their compensation or benefits as a result of the closing of the combination, their continued employment, or a separation from service except for severance policies applicable to all employees. Both Dr. Fink and Ms. Soptick hold options to purchase Applied Nanotech shares, 383,318 and 89,061, respectively. These options have already vested, so the change of control as a result of the combination has no effect, and they will be assumed by PEN as will all other options of Applied Nanotech.

If the combination occurs, at that time the employment arrangement with Dr. Yaniv will change. He will cease being our Chief Operating Officer and President and will resign all director positions with Applied Nanotech and its subsidiaries. At the time of the closing, he will become the Director of Strategic Innovation of PEN, reporting to Dr. Rickert. He will have no employment agreement with PEN. The new arrangements terminate the previous employment agreement and include mutual releases of claims through the closing date. There will also be a Restricted Stock Agreement that grants Dr. Yaniv 6,800,000 shares of PEN’s Class A common stock, subject to forfeiture. All these shares become vested and not subject to forfeiture on the earlier of a change of control of PEN, Dr. Yaniv’s death, or if more than 180 days after closing the average trading price of the shares during a measurement period of ten consecutive trading days reaches certain price thresholds. At a \$0.10 price, one million of the shares vest, with additional tranches of one million shares vesting if the price reaches \$0.15, \$0.20, \$0.25 and \$0.30. The last 1.8 million shares vest at a \$0.35 price threshold. Any shares that have not vested five years after the closing will be forfeited. Dr. Yaniv will also be entitled to piggyback registration rights that will allow him, subject to other customary terms and conditions, to register the recently awarded shares when they are no longer subject to forfeiture if PEN is registering its stock.

#### ***Quantification of Payments to Our Named Executive Officers***

The information set forth below is intended to comply with Item 402(t) of Regulation S-K, which requires disclosure of information about certain compensation for our named executive officers that is based on or otherwise relates to the Combination.

The table below sets forth the amount of compensation payable to Zvi Yaniv, an executive officer of Applied Nanotech in connection with the Combination. For additional details regarding the terms of the payment described below, see *Interests of Applied Nanotech's Directors and Executive Officers in the Combination* at page 74, and *Certain Beneficial Owners of Applied Nanotech Common Stock* at page 88.

#### Golden Parachute Compensation

<u>Named Executive Officers</u>	<u>Cash(\$)</u>	<u>Equity<sup>(1)</sup>(\$)</u>	<u>Pension/ NQDCP</u>	<u>Perquisites/ Benefits(\$)</u>	<u>Tax Reimbursement(\$)</u>	<u>Other(\$)</u>	<u>Total(\$)</u>
Dr. Zvi Yaniv President and Chief Operating Officer	–	467,160	–	–	–	–	467,160

- (1) The amount in this column represents the average closing market price of Applied Nanotech common stock over the first five business days following the March 11, 2014 public announcement of the proposed grant of 6,800,000 shares of PEN's Class A common stock as provided for in the March 10, 2014 Restricted Stock Agreement that Applied Nanotech entered into with Dr. Yaniv as part of his amended compensation arrangements set forth in a March 10, 2014 letter agreement as discussed above. The grant of shares is subject to certain vesting requirements discussed above.

#### VALIDITY OF COMMON STOCK

The validity of the shares of PEN Class A common stock to be issued in the Redomestication Merger and the Nano Merger will be passed upon by Donald T. Locke.

#### CERTAIN BENEFICIAL OWNERS OF APPLIED NANOTECH COMMON STOCK

No persons or entities are known to be the beneficial owner of 5% or more of the outstanding voting stock of the common stock of Applied Nanotech Holdings, Inc. stock as of February 20, 2014. This information is based on public filings as of May 28, 2014. For the purposes of this Proxy Statement, beneficial ownership of securities is defined in accordance with the rules of the SEC to mean generally the power to vote or dispose of securities, regardless of any economic interest therein.

Set forth below is certain information with respect to beneficial ownership of Applied Nanotech Holdings' common stock as of May 27, 2014, by each Director, each Named Executive Officer, and by the directors and executive officers as a group. Unless otherwise indicated, each person or member of the group listed has sole voting and investment power with respect to the shares of common stock listed.

	Shares Owned	Balance 5/27/14		6/30/2014 Convertible Notes	Total Vested 5/27/2014	Percentage of Ownership of Securities
		Total Options Held	Vested (1) Options			
<b>Doug Baker (officer through 3/15/14)</b>						
Shares	100,000				100,000	
Convertible notes				2,846,740	2,846,740	
Options		786,100	786,100		786,100	
<b>Total</b>	<b>100,000</b>	<b>786,100</b>	<b>786,100</b>	<b>2,846,740</b>	<b>3,732,840</b>	<b>2.32%</b>
<b>Zvi Yaniv</b>						
Shares	160,000				160,000	
Convertible notes				875,380	875,380	
Options		805,600	805,600		805,600	
<b>Total</b>	<b>160,000</b>	<b>805,600</b>	<b>805,600</b>	<b>875,380</b>	<b>1,840,980</b>	<b>1.16%</b>
<b>Jacque Soptick (officer effective 4/15/14)</b>						
Shares	344,582				344,582	
Options		89,061	89,061		89,061	
<b>Total</b>	<b>344,582</b>	<b>89,061</b>	<b>89,061</b>	<b>–</b>	<b>433,643</b>	<b>0.28%</b>
<b>Ron Berman</b>						
Shares	318,619				318,619	
Convertible notes		–	–	246,146	246,146	
Options		312,965	312,965		312,965	
<b>Total</b>	<b>318,619</b>	<b>312,965</b>	<b>312,965</b>	<b>246,146</b>	<b>877,730</b>	<b>0.56%</b>
<b>Howard Westerman</b>						
Shares	374,707				374,707	
Convertible notes				496,561	496,561	
Options		202,500	202,500	–	202,500	
<b>Total</b>	<b>374,707</b>	<b>202,500</b>	<b>202,500</b>	<b>496,561</b>	<b>1,073,768</b>	<b>0.68%</b>

	Shares Owned	Balance 5/27/14		6/30/2014 Convertible Notes	Total Vested 5/27/2014	Percentage of Ownership of Securities
		Total Options Held	Vested (1) Options			
Dr. Robert Rontstadt	235,773	–	–	–	235,773	
Convertible notes		–	–	496,463	496,463	
Options		372,500	372,500	–	372,500	
Total	235,773	372,500	372,500	496,463	1,104,736	0.70%
David Li					–	
Shares (YHCC)	6,578,948	–	–	–	6,578,948	
Convertible notes		–	–	–	–	
Options		123,750	123,750	–	123,750	
Total	6,578,948	123,750	123,750	–	6,702,698	4.09%
Dick Fink					–	
Convertible notes	–	–	–	404,020	404,020	
Options		403,199	383,318	–	383,318	
Total	–	403,199	383,318	404,020	787,338	0.50%
Paul Rocheleau						
Shares	201,667	–	–	–	201,667	
Options		212,500	212,500	–	212,500	
Total	201,667	212,500	212,500	–	414,167	0.26%
Grand Total	8,314,296	3,308,175	3,288,294	5,365,310	16,967,900	10.24%

	<u>Note Date</u>	<u>Principal</u>	<u>Interest Rate</u>	<u>Interest thru 06/30/14</u>	<u>Total Principal &amp; Interest</u>	<u>Conversion Price (1)</u>	<u>Shares</u>
Zvi Yaniv	03/01/10	65,000	8%	22,538	87,538	0.1000	875,380
Dick Fink	03/01/10	30,000	8%	10,402	40,402	0.1000	404,020
Doug Baker	03/01/10	100,000	8%	34,674	134,674	0.1000	1,346,740
Doug Baker	03/10/14	75,000					1,500,000
Bob Ronstadt	04/10/14	20,000	8%	355	20,355	0.0410	496,463
Howard Westerman	04/09/14	20,000	8%	359	20,359	0.0410	496,561
Ron Berman	05/19/14	10,000	8%	92	10,092	0.0410	<u>246,146</u>
							<u>5,365,310</u>

(1) Floating price of \$0.041 based on 25% discount to approximate average. Actual will change daily.

The Company determines Director Independence based on the rules as set forth by the NASDAQ. For 2013, Directors Ronstadt, Berman, Li, Rocheleau, and Westerman all qualified as independent. If the proposed merger is completed under the terms contemplated, Director Ronstadt, and possibly Director Berman, will no longer qualify as Independent Directors under NASDAQ rules. Directors Berman, Rocheleau, and Westerman will no longer qualify as independent for audit committee purposes, but may still qualify as independent for other purposes.

#### HOUSEHOLDING OF PROXY MATERIALS

Some banks, brokerage firms or other nominees may be participating in the practice of “householding” proxy statements. This means that only one copy of this proxy statement may have been sent to multiple Applied Nanotech shareholders sharing the same address. Applied Nanotech will promptly deliver a separate copy of this proxy statement to you if you direct your request to Corporate Secretary, Applied Nanotech Holdings, Inc., 3006 Longhorn Boulevard, Suite 107, Austin Texas 78758, or call 512-339-5020. If you want to receive separate copies of a proxy statement in the future, or if you are receiving multiple copies and would like to receive only one copy for your household, you should contact your bank, brokerage firm or other nominee, or you may contact Applied Nanotech at the above address and telephone number.

## **FUTURE SHAREHOLDER PROPOSALS**

We have not scheduled an annual meeting of our shareholders for fiscal 2013 and did not have an annual meeting of shareholders for fiscal 2012. All shareholder proposals to be considered for inclusion in our proxy statement for the Company's next annual or special meeting of shareholders may not be received later than ten days following the day on which public announcement of the date of such meeting is made. The submitted proposals must be in compliance with applicable laws and regulations and follow the procedures prescribed in the SEC's Rule 14a-8 to be considered for possible inclusion in the proxy materials. Proposals must be submitted in writing to:

Applied Nanotech Holdings, Inc.  
3006 Longhorn Boulevard  
Suite 107  
Austin, Texas 78758  
Attn: Chief Executive Officer

## **WHERE YOU CAN FIND MORE INFORMATION**

Applied Nanotech files annual, quarterly and current reports, proxy statements and other information with the SEC. You may read and copy any documents filed by Applied Nanotech at the SEC public reference room located at 100 F Street, N.E., Room 1580, Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the public reference room. The SEC filings of Applied Nanotech also are available to the public at the SEC website at [www.sec.gov](http://www.sec.gov). In addition, you may obtain free copies of the documents Applied Nanotech files with the SEC by going to [http://www.appliednanotech.net/investors/investor\\_information.php](http://www.appliednanotech.net/investors/investor_information.php). The SEC filings, other than this proxy statement and the documents incorporated by reference is and are not part of this proxy statement and is not incorporated by reference.

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## REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholders  
Applied Nanotech Holdings, Inc.  
Austin, Texas

We have audited the accompanying consolidated balance sheets of Applied Nanotech Holdings, Inc. and Subsidiaries as of December 31, 2013 and 2012, and the related consolidated statements of operations, shareholders' equity (deficit), and cash flows for the years in the three-year period ended December 31, 2013. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Applied Nanotech Holdings, Inc. and Subsidiaries as of December 31, 2013 and 2012, and the results of their operations and their cash flows for each of the years in the three-year period ended December 31, 2013, in conformity with U.S. generally accepted accounting principles.

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in note 1 to the consolidated financial statements, the Company has experienced recurring losses from operations and negative cash flow from operations. This raises substantial doubt about the Company's ability to continue as a going concern. Management's plan in regard to these matters is also described in note 1 to the consolidated financial statements. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

/s/ Padgett, Stratemann & Co, LLP

Padgett, Stratemann & Co, LLP  
San Antonio, Texas  
February 25, 2014



**APPLIED NANOTECH HOLDINGS, INC. AND SUBSIDIARIES**  
**CONSOLIDATED BALANCE SHEETS**

**ASSETS**

	December 31,	
	2013	2012
Current assets:		
Cash and cash equivalents	\$ 119,551	\$ 331,579
Accounts receivable, trade – net of allowance for doubtful accounts	462,964	369,409
Prepaid expenses and other current assets	85,499	692,541
Total current assets	668,014	1,393,529
Property and equipment, net	157,772	270,693
Other assets	27,114	28,591
Total assets	\$ 852,900	\$ 1,692,813
<b>LIABILITIES AND SHAREHOLDERS' DEFICIT</b>		
Current liabilities:		
Accounts payable	\$ 642,486	\$ 813,505
Convertible notes payable, net of discount of \$50,211 and \$45,000	1,859,912	755,800
Obligations under capital lease	10,427	56,680
Accrued liabilities	1,580,194	855,264
Deferred revenue	143,323	103,370
Total current liabilities	4,236,342	2,584,619
Obligations under capital lease, long-term	–	10,480
Convertible notes payable, net of discount of \$0 and \$133,186	–	1,631,072
Total long-term liabilities	–	1,641,552
Total liabilities	4,236,342	4,226,171
Commitments and contingencies	–	–
Shareholders' deficit :		
Preferred stock, \$1.00 par value, 2,000,000 shares authorized; no shares issued and outstanding	–	–
Common stock, 160,000,000 shares authorized, \$.001 par value, 147,825,202 and 119,699,286 shares issued and outstanding, respectively	147,825	119,699
Additional paid-in capital	117,595,024	115,332,346
Accumulated deficit	(121,126,291)	(117,985,403)
Total shareholders' deficit	(3,383,442)	(2,533,358)
Total liabilities and shareholders' deficit	\$ 852,900	\$ 1,692,813

See notes to consolidated financial statements.

**APPLIED NANOTECH HOLDINGS, INC. AND SUBSIDIARIES**  
**CONSOLIDATED STATEMENTS OF OPERATIONS**

	Year ended December 31,		
	2013	2012	2011
<b>Revenues</b>			
Contract research	\$ 1,054,305	\$ 309,274	\$ 1,102,428
Government contracts	2,048,840	1,733,728	2,956,717
License fees and royalties	488,936	1,183,453	1,999,638
Product sales	286,622	228,200	186,267
Other	39,659	138,713	242,411
<b>Total revenues</b>	<b>3,918,362</b>	<b>3,593,368</b>	<b>6,487,461</b>
<b>Operating costs</b>			
Research and development	3,324,195	4,471,208	5,517,937
Selling, general and administrative expenses	2,517,036	3,800,296	3,172,394
<b>Total operating costs</b>	<b>5,841,231</b>	<b>8,271,504</b>	<b>8,690,331</b>
Gain on sale of assets	800	-	-
<b>Loss from operations</b>	<b>(1,922,069)</b>	<b>(4,678,136)</b>	<b>(2,202,870)</b>
<b>Other income (expense):</b>			
Interest income	3,803	1,587	16,714
Interest expense	(1,222,622)	(452,601)	(384,092)
<b>Total other income (expense)</b>	<b>(1,218,819)</b>	<b>(451,014)</b>	<b>(367,378)</b>
<b>Loss before taxes</b>	<b>(3,140,888)</b>	<b>(5,129,150)</b>	<b>(2,570,248)</b>
Provision for taxes	-	-	-
<b>Net loss applicable to common shareholders</b>	<b>\$ (3,140,888)</b>	<b>\$ (5,129,150)</b>	<b>\$ (2,570,248)</b>
<b>Loss per share</b>			
Basic and diluted	\$ (0.02)	\$ (0.04)	\$ (0.02)
<b>Weighted average common shares outstanding</b>			
Basic	131,744,328	119,311,519	116,851,588
Diluted	131,744,328	119,311,519	116,851,588

See notes to consolidated financial statements.

**APPLIED NANOTECH HOLDINGS, INC. AND SUBSIDIARIES**  
**CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY (DEFICIT)**

	Preferred		Common		Additional Paid-In Capital	Accumulated Deficit	Total
	Shares	Amount	Shares	Amount			
Balance December 31, 2010	–	\$ –	109,967,628	\$ 109,968	\$ 110,986,117	\$ (110,286,005)	\$ 810,080
Issuance of common stock options as compensation	–	–	–	–	462,431	–	462,431
Employee restricted stock, including committed to be released shares	–	–	103,772	104	185,177	–	185,281
Issuance of shares upon conversion of accounts payable	–	–	300,752	301	119,699	–	120,000
Issuance of common shares for cash	–	–	6,578,948	6,579	2,493,421	–	2,500,000
Issuance of common stock as the result of the exercise of employee stock options	–	–	200,454	200	51,551	–	51,751
Conversion of notes	–	–	1,764,144	1,764	355,630	–	357,394
Net loss	–	–	–	–	–	(2,570,248)	(2,570,248)
<b>Balance December 31, 2011</b>	<b>–</b>	<b>\$ –</b>	<b>118,915,698</b>	<b>\$ 118,916</b>	<b>\$ 114,654,026</b>	<b>\$ (112,856,253)</b>	<b>\$ 1,916,689</b>
Issuance of shares upon conversion of accounts payable	–	–	494,949	495	119,505	–	120,000
Issuance of common stock options as compensation	–	–	–	–	223,025	–	223,025
Conversion rights associated with issuance of convertible notes	–	–	–	–	288,475	–	288,475
Employee restricted stock, including committed to be released shares	–	–	143,333	143	24,211	–	24,354
Conversion of notes	–	–	145,306	145	23,104	–	23,249
Net loss	–	–	–	–	–	(5,129,150)	(5,129,150)
<b>Balance December 31, 2012</b>	<b>–</b>	<b>\$ –</b>	<b>119,699,286</b>	<b>\$ 119,699</b>	<b>\$ 115,332,346</b>	<b>\$ (117,985,403)</b>	<b>\$ (2,533,358)</b>
Issuance of shares upon conversion of accounts payable	–	–	2,600,000	2,600	107,400	–	110,000
Issuance of common stock options as compensation	–	–	–	–	46,606	–	46,606
Conversion of notes	–	–	24,182,866	24,183	1,257,098	–	1,281,281
Conversion rights associated with issuance of convertible notes	–	–	–	–	777,209	–	777,209
Issuance and exercise of warrants	–	–	470,085	470	55,946	–	56,416
Employee restricted stock, including committed to be released shares	–	–	872,965	873	18,419	–	19,292
Net loss	–	–	–	–	–	(3,140,888)	(3,140,888)
<b>Balance December 31, 2013</b>	<b>–</b>	<b>\$ –</b>	<b>147,825,202</b>	<b>\$ 147,825</b>	<b>\$ 117,595,024</b>	<b>\$ (121,126,291)</b>	<b>\$ (3,383,442)</b>

See notes to consolidated financial statements.

**APPLIED NANOTECH HOLDINGS, INC. AND SUBSIDIARIES**  
**CONSOLIDATED STATEMENTS OF CASH FLOWS**

	Year Ended December 31,		
	2013	2012	2011
Cash flows from operating activities:			
Net loss	\$ (3,140,888)	\$ (5,129,150)	\$ (2,570,248)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization expense	95,721	111,327	75,741
Gain on sale of equipment	(800)	—	—
Stock and options issued for services	65,898	247,379	647,712
Amortization of discount on debt	1,022,100	253,779	241,939
Changes in assets and liabilities:			
Accounts receivable, trade	(93,555)	470,454	(82,356)
Prepaid expenses and other assets	608,519	(539,366)	(42,749)
Accounts payable	(61,019)	609,172	(101,640)
Accrued expenses	848,201	508,196	(155,554)
Deferred revenue and other current liabilities	39,953	(96,630)	(120,000)
Total adjustments	<u>2,525,018</u>	<u>1,564,311</u>	<u>463,093</u>
Net cash used in operating activities	<u>(615,870)</u>	<u>(3,564,839)</u>	<u>(2,107,155)</u>
Cash flows from investing activities:			
Proceeds from sale of equipment	18,000	—	—
Capital expenditures	—	(50,398)	(78,138)
Net cash provided by (used in) investing activities	<u>18,000</u>	<u>(50,398)</u>	<u>(78,138)</u>
Cash flows from financing activities:			
Proceeds from issuance of common stock	—	—	2,551,751
Proceeds of long term debt	513,375	935,700	—
Repayment of capital lease obligations and long term debt	(127,533)	(60,667)	(27,245)
Net cash provided by financing activities	<u>385,842</u>	<u>875,033</u>	<u>2,524,506</u>
Net increase (decrease) in cash and cash equivalents	<u>(212,028)</u>	<u>(2,740,204)</u>	<u>339,213</u>
Cash and cash equivalents, beginning of year	<u>331,579</u>	<u>3,071,783</u>	<u>2,732,570</u>
Cash and cash equivalents, end of year	<u>\$ 119,551</u>	<u>\$ 331,579</u>	<u>\$ 3,071,783</u>

See notes to consolidated financial statements.

**APPLIED NANOTECH HOLDINGS, INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**1. Organization, Operations, and Liquidity:**

Applied Nanotech Holdings, Inc. and its subsidiaries (“the Company”) are engaged in using nanotechnology to develop products for applications in the thermal management, nanomaterials, nanosensors, and nanoelectronics areas, as well as the performance of significant research in those areas. We intend to obtain development revenues for applying our technology to specific applications for our development partners, to obtain royalty revenues from licensing this technology to those partners and others, and to sell products using this technology.

We incurred an operating loss in 2013, but expect to at least breakeven in 2014; however, unless we are able to operate profitably on a continuous basis as a result of revenues from either reimbursed research or license agreements, we likely will be required to seek additional funds through the equity markets, or raise funds through debt instruments to allow us to maintain operations. There is no assurance that additional license agreements will be signed, that commercialization of our technology and products will result in income from operations, or that funds will be available in the equity or debt markets, if needed. Management believes it will be able to operate at breakeven and if not, be able to secure additional funding, if needed.

The principal source of our liquidity since the time of our initial public offering in 1993 has been from the funds received from exempt offerings of common stock, preferred stock, and convertible debt securities, as well as license and development revenues. We may receive additional funds from the exercise of employee stock options. We may also seek to increase our liquidity through bank borrowings or other financings, although this is not likely. There can be no assurance that any of these financing alternatives can be arranged on commercially acceptable terms. We believe that our success in reaching sustained profitability will depend on the viability of our technology and products using that technology, their acceptance in the marketplace, and our ability to obtain additional debt or equity financings in the future, if needed.

A portion of our research and development has been funded by others. To the extent that other funding is not available, research and development may be internally funded by us or curtailed. Our primary objective is to focus our resources on projects for which we receive funding and we have significantly curtailed our research in each of the last two years.

The Company has a history of net losses and negative cash flow from operations. We have had losses in each of the last three years, but we have a plan to reach at least breakeven in 2014. We have also signed a letter of intent to merge with Nanofilm, Ltd., a privately held nanotechnology company. The accompanying financial statements have been prepared in conformity with generally accepted accounting principles, which contemplate continuation of the Company as a going concern, and do not include any adjustments that may be required if it were unable to continue as a going concern. Management believes that actions currently being taken will allow the Company to achieve profitability and allow the Company to continue as a going concern. These actions include both cutting expenses and merging with Nanofilm, which will allow for further expense cuts.

**2. Summary of Significant Accounting Policies:**

Principles of consolidation

The accompanying consolidated financial statements include the accounts of the Company and its subsidiaries, Applied Nanotech, Inc. (“ANI”), EZDiagnostix, Inc. (“EZDX”), after the elimination of all significant intercompany accounts and transactions. ANI is primarily involved in developing products for applications using the Company’s proprietary nanocomposites, nanosensors, nanoelectronics, thermal management, and field emission technologies. EZDX was focused on commercializing the Company’s sensor technology, but ceased operations in 2013.

**APPLIED NANOTECH HOLDINGS, INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**  
**(CONTINUED)**

**2. Summary of Significant Accounting Policies (continued) :**

Management's estimates

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues, and expenses, as well as the disclosure of contingent assets and liabilities. Actual results could differ from those estimates. Significant estimates include deferred tax asset reserves, bad debt reserves, assumptions used in calculating share based compensation, and depreciation.

Revenue recognition

Our revenues include reimbursements under agreements to perform research and development for government agencies and others. We do not perform research contracts that are contingent upon successful results. Larger projects are sometimes broken down in phases to allow the customer to determine at the end of each phase if they wish to move to the next phase. The agreements with federal government agencies generally provide that, upon completion of a technology development program, the funding agency is granted a royalty-free license to use any technology developed during the course of the program for its own purposes, but not any preexisting technology that we use in connection with the program. We retain all other rights to use, develop, and commercialize the technology and recognize revenue when it is earned pursuant to the terms of the contract. Agreements with nongovernmental entities generally allow the entity the first opportunity to license the technology from us upon completion of the project.

The Company's revenues also include royalties from licensing its technology, revenue from the sale of products, and other miscellaneous revenues. Many of the Company's projects may involve a combination of these types of revenues. Revenues are recognized as follows:

**Government Contracts** - Revenue from government contracts is recognized when it is earned pursuant to the terms of the contract. Long-term projects, such as SBIR Phase II grants that usually range from \$500,000 to \$1,000,000 in total and usually extend for a period of approximately two years, are generally based on reimbursement of costs. These projects are usually billed monthly based on costs, hours, or some other measure of activity during the month. As a general rule, we recognize revenue on these contracts based on the activity level of the contract during the period as compared with total estimated activity. This generally would be a measure of proportional performance on the contract, such as cost incurred compared with total expected cost. The recognition of revenue may not correspond with the billings allowable under the contract. To the extent that billings exceed revenue earned, a portion of the revenue is deferred until such time as it is earned. Short-term projects, such as SBIR Phase I grants that usually are less than \$100,000 and usually extend for a period of approximately 6 months, are billed at periodic intervals as specified in the contract.

**Other Research Contracts** - Revenue from nongovernmental contracts is recognized when it is earned pursuant to the terms of the contract. Each contract is unique and tailored to the needs of the customer and goals of the project. Some contracts may call for a monthly payment for a fixed period of time. Other contracts may be for a fixed dollar amount with an unspecified time period, although there is frequently a targeted completion date. These contracts generally involve some sort of up-front payment. Some contracts may call for the delivery of samples, or may call for the transfer of equipment or other items developed during the project to the customer. As a general rule, we recognize revenue on long term contracts based on the activity level of the contract during the period as compared with total estimated activity. This generally would be a measure of proportional performance on the contract, such as cost incurred compared with total expected cost. However, to the extent there are other significant contract provisions such as the delivery of more than a nominal amount of samples or delivery of equipment, we would modify this as appropriate. For other short term contracts, generally less than \$50,000, we recognize revenue when it is billed under the terms of the contract.

**Royalty Revenue** - The Company recognizes royalty revenues based on the shipment of products by a licensee at the time the underlying product upon which the royalty is based is shipped by the entity paying the royalty, if that is able to be ascertained at the time. For minimum royalty payments paid by a licensee that are required for the licensee to maintain exclusivity, royalty revenue is recognized at the time the minimum royalty payment is due, which normally corresponds somewhat with the time that the payment is received. The Company recognizes license fees due at the time of the signing of a royalty agreement when the licensee has an enforceable commitment to pay. This normally corresponds with, or is reasonably close to, the time of receipt of the payment.

**APPLIED NANOTECH HOLDINGS, INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**  
**(CONTINUED)**

**2. Summary of Significant Accounting Policies (continued) :**

Product Sales - Revenue from product sales is recognized at the time the product shipped. The Company's primary business is research and development and the licensing of its technology, not the sale of products. Product sales are generally insignificant in number, and are usually limited to the sale of samples, proofs of concepts, prototypes, or other items resulting from its research.

Other Revenue - Other miscellaneous revenue is recognized as deemed appropriate given the facts of the situation and is generally not material.

Cash and cash equivalents

The Company considers all highly liquid investments purchased with an original maturity of three months or less to be cash equivalents.

Accounts receivable

The Company occasionally provides services or sells products to others on credit; however most services or sales are to large financially stable companies, or the U.S. Federal government. It is the Company's policy to record reserves for potential credit losses. Since inception, the Company has experienced minimal credit losses. The Company considered no reserves to be necessary for any of the years presented.

Property and equipment

Property and equipment are recorded at cost, net of accumulated depreciation and amortization. Depreciation is provided on the straight-line method over the estimated useful lives of the assets, which range from three to seven years, or the remaining lease term for leasehold improvements, if less. Expenses for major renewals and betterments that extend the original estimated economic useful lives of the applicable assets are capitalized. Expenses for normal repairs and maintenance are charged to operations as incurred. The cost and related accumulated depreciation of assets sold or otherwise disposed of are removed from the accounts, and any gain or loss is included in income.

Impairment

At each balance sheet date, the Company evaluates the carrying amount and the amortization period for its long-lived assets. If an indicator of impairment exists, it is recorded at that time. There have been no impairment charges recorded in any of the years presented in these consolidated financial statements.

Income taxes

The Company accounts for income taxes using the asset and liability method. Under this method, deferred income taxes are recorded to reflect the tax consequences on future years of temporary differences between the tax basis of the assets and liabilities and their financial amounts at year-end. The Company provides a valuation allowance to reduce deferred tax assets to their net realizable value. The Company has determined that no reserve for uncertain tax positions is required; however, tax years 2010 through 2013 remain open for examination by the taxing authorities.

Research and development expenses

Costs of research and development for Company-sponsored projects are expensed as incurred.

**APPLIED NANOTECH HOLDINGS, INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**  
**(CONTINUED)**

**2. Summary of Significant Accounting Policies (continued) :**

Disclosures about fair value of financial instruments

The following methods and assumptions were used to estimate the fair value of each class of certain financial instruments for which it is practicable to estimate that fair value. For cash equivalents and accounts receivable, the carrying amount approximates fair value because of the short-term nature of these instruments. The fair value of the Company's capital lease obligations and notes payable is estimated based on the quoted market prices for the same, or similar issues, or on the current rates offered to the Company for obligations of the same remaining maturities with similar collateral requirements. For all years presented, the fair value of the Company's capital lease obligations and notes payable approximate their carrying values.

Income (loss) per common share

Basic per share amounts are computed, generally, by dividing net income or loss by the weighted average number of common shares outstanding. Diluted per-share amounts assume the conversion, exercise, or issuance of all potential common stock instruments unless the effect is anti-dilutive, thereby reducing the loss or increasing the income per common share. As described in Notes 8, 9 and 10, the Company had options and warrants outstanding as indicated in the table below. In addition, the Company has convertible notes payable, which if converted, would have resulted in additional shares outstanding as indicated in the table below.

However, because of the interest expense associated with the notes payable, inclusion of the notes payable in the calculation of diluted earnings per share would have an anti-dilutive effect. In addition, since the Company incurred losses in all years, the inclusion of any potential common shares in the calculation of diluted loss per-share would have an anti-dilutive effect in those years. Basic and diluted per-share amounts are the same in all years presented.

	2013	2012	2011
Options	5,967,339	6,447,254	6,378,495
Warrants	-	181,524	181,524
Weighted average exercise price	\$0.62	\$0.80	\$0.82
Convertible notes payable	23,283,932	16,469,961	9,079,530

Recently issued accounting pronouncements

There are no recently issued accounting pronouncements which have not been implemented in our consolidated financial statements that would have a material impact on our financial statements.



**APPLIED NANOTECH HOLDINGS, INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**  
**(CONTINUED)**

**2. Summary of Significant Accounting Policies (continued) :**

Share-based payments

The Company has a stock based compensation plan described in greater detail in Note 9 to these financial statements. The Company uses the fair value method to account for stock-based compensation. The fair value of each award is estimated on the date of each grant. For restricted stock the fair market value is based on the market value of the stock granted on the date of the grant. For options, it is estimated using the Black Scholes option pricing model that uses the assumptions noted in the following table. Estimated volatilities are based on the historical volatility of the Company's stock over the same period as the expected term of the options. The expected term of options granted represents the period of time that options granted are expected to be outstanding. The Company uses historical data to estimate option exercise behavior and to determine this term. The risk free rate used is based on the U.S. Treasury yield curve in effect at the time of the grant using a time period equal to the expected option term. The Company has never paid dividends and does not expect to pay any dividends in the future.

	2013	2012	2011
Expected dividend yield	0%	0%	0%
Risk free interest rate	0.39%-0.51%	0.39%-0.51%	0.35%-1.28%
Expected option term (in years)	3.5	3.5 – 5.0	3.5 – 5.0
Turnover/forfeiture rate	0%	0%	0%
Expected volatility	94% - 101%	94% - 100%	93% - 99%
Weighted-average volatility	96%	96%	96%

The Black-Scholes option valuation model and other existing models were developed for use in estimating the fair value of traded options that have no vesting restrictions and are fully transferable. These option valuation models require the input of, and are highly sensitive to, subjective assumptions including the expected stock price volatility. Applied Nanotech Holdings' stock options have characteristics significantly different from those of traded options, and changes in the subjective input assumptions could materially affect the fair value estimate.

**3. Operating Lease Obligations :**

The Company leases various facilities and equipment under operating lease agreements having terms expiring at various dates through 2019. Rental expense was \$281,449; \$274,538; and \$251,566 for the years ended December 31, 2013, 2012, and 2011, respectively.

Future minimum lease payments under operating leases that have initial or remaining noncancellable lease terms of one year or more at December 31, 2013, were as follows:

2014	220,896
2015	200,424
2016	199,742
2017	186,804
2018	191,744
2019	32,122
<b>Total future minimum lease payments</b>	<b>\$ 1,031,732</b>

**APPLIED NANOTECH HOLDINGS, INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**  
**(CONTINUED)**

**4. Convertible Notes Payable:**

	<b>2013</b>	<b>2012</b>
Notes payable to shareholders, convertible to common stock, along with accrued interest, at fixed rates ranging from \$0.08 to \$0.25 per share. In both years, three notes totaling \$500,000 are secured by all assets of the Company, with the remainder of the notes unsecured. The notes bear interest at a rate of 8%. A total of \$420,000 of the notes are demand notes, and \$1,293,058 of the notes are due in January 2014. The notes due in January 2014 have been extended to March 2014.	\$ 1,713,058	\$ 2,455,058
Unsecured notes payable, convertible to common stock, along with accrued interest, at variable rates at a discount to market at the time of conversion under five separate note agreements. Discounts range from 30% to 50% from market as defined by the specific note agreement. Market is defined based on a trailing average or specific price covering the preceding 5-15 days at the time of conversion. Notes can be prepaid in cash with prepayment penalties ranging from 0-50% of principal outstanding at the time of payment. The notes bear interest at rates ranging from 5% to 8%. The notes are due at various dates in 2014.	197,065	110,000
Total face amount of notes payable	1,910,123	2,565,058
Less unamortized discount	50,211	178,186
Net notes payable	1,859,912	2,386,872
Less current portion	1,859,912	755,800
Long-term notes payable	\$ —	\$ 1,631,072

The convertible notes above were issued from 2009 through 2013. At the time of issuance, the value of the conversion rights were recorded as a discount to the note and amortized over the term of the notes. In addition, during 2013, the company lowered the conversion price of certain notes to below market prices to induce conversion. The value of this reduced conversion rate was recognized as an expense at the time of conversion. The following table shows the notes issues, converted, discount recorded, and discount amortized for each of the last years, as well as the unamortized discount at the end of each year.

	<b>Year Ended December 31,</b>		
	<b>2013</b>	<b>2012</b>	<b>2011</b>
Face amount of notes issued	\$ 553,875	\$ 945,700	\$ —
Discount recorded at time of issuance	\$ 409,577	\$ 298,475	\$ —
Discount recorded at time of conversion	\$ 428,132	\$ —	\$ —
Discount amortized to interest expense	\$ 1,022,100	\$ 253,779	\$ 241,939
Face amount of notes converted to common stock	\$ 1,148,010	\$ 19,200	\$ 326,000
Unamortized discount at December 31	\$ 50,211	\$ 178,186	\$ 133,490

**APPLIED NANOTECH HOLDINGS, INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**  
**(CONTINUED)**

**5. Capital Lease Obligations:**

Capital leases payable at December 31, 2013 and 2012 consisted of the following:

	<u>2013</u>	<u>2012</u>
Capital lease equipment due in monthly installments of \$3,322 through February 2014. The equipment value and lease obligation was determined using a discount rate of 12.35%. The equipment is included in property and equipment at December 31, 2013 at a cost of \$118,700 and with accumulated amortization of \$58,150.	\$ 6,644	\$ 46,508
Capital lease equipment due in monthly installments of \$816 through July 2013. The equipment value and lease obligation was determined using a discount rate of 14.08%. Ownership of the equipment transferred to the Company in July 2013.	\$ —	\$ 5,712
Capital lease equipment due in monthly installments of \$1,338 through March 2014. The equipment value and lease obligation was determined using a discount rate of 11.46%. The equipment is included in property and equipment at December 31, 2013 at a cost of \$33,177, with accumulated amortization of \$11,612.	4,014	20,070
Total capital leases	10,658	72,290
Less interest	231	5,130
Less current portion	10,427	56,680
Capital lease obligations, long-term	<u>\$ —</u>	<u>\$ 10,480</u>

These leases result in minimum payments of \$10,658 in 2014.

**APPLIED NANOTECH HOLDINGS, INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**  
**(CONTINUED)**

**6. Details of Certain Balance Sheet Accounts:**

Additional information regarding certain balance sheet accounts at December 31, 2013 and 2012 is as follows:

	<b>December 31,</b>	
	<b>2013</b>	<b>2012</b>
Property and equipment:		
Plant and equipment	\$ 656,072	\$ 822,273
Furniture and office equipment	106,821	110,534
Leasehold improvements	41,627	41,627
Total carrying cost	804,520	974,434
Less accumulated depreciation	(646,748)	(703,741)
	<u>\$ 157,772</u>	<u>\$ 270,693</u>
Accrued liabilities:		
Payroll and related accruals	\$ 1,120,045	\$ 468,441
Other (primarily interest)	460,149	386,823
Total	<u>\$ 1,580,194</u>	<u>\$ 855,264</u>

Depreciation and amortization for the years ended December 31, 2013, 2012, and 2011 was \$95,721; \$111,327; and \$75,741, respectively. Equipment held under capital leases and accumulated amortization on that equipment is included in these totals.

**7. Income Taxes:**

The components of deferred tax assets (liabilities) at December 31, 2013 and 2012, were as follows:

	<b>December 31,</b>	
	<b>2013</b>	<b>2012</b>
Deferred tax assets:		
Net operating loss carry forwards	\$ 22,974,000	\$ 22,173,000
Stock based compensation	2,244,000	2,228,000
Partnership asset	39,000	39,000
Capitalized intangible assets	8,000	14,000
Difference in tax basis of assets	18,000	6,000
Foreign tax credit	619,000	619,000
Accrued expenses not deductible until paid	448,000	202,000
Total deferred tax assets	<u>26,350,000</u>	<u>25,281,000</u>
Deferred tax liabilities:	—	—
Net deferred tax assets before valuation allowance	26,350,000	25,281,000
Valuation allowance	<u>(26,350,000)</u>	<u>(25,281,000)</u>
Net deferred tax asset	<u>\$ —</u>	<u>\$ —</u>

**APPLIED NANOTECH HOLDINGS, INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**  
**(CONTINUED)**

**7. Income Taxes (continued):**

The following is a reconciliation of the amount of the income tax expense (benefit) that would result from applying the statutory federal income tax rates to pretax income (loss) and the reported amount of income tax expense (benefit) for the periods ended December 31, 2013, 2012, and 2011.

	<b>December 31,</b>		
	<b>2013</b>	<b>2012</b>	<b>2011</b>
Expected income tax expense (benefit)	\$ (1,068,000)	\$ (1,744,000)	\$ (874,000)
Non-deductible expenses and miscellaneous	(1,000)	13,000	12,000
Expiration of tax credit carryforwards	–	–	61,000
Expiration of NOL carryforwards	–	2,142,000	4,055,000
Increase (decrease) in valuation allowance	1,069,000	(411,000)	(3,254,000)
Total tax	<u>\$ –</u>	<u>\$ –</u>	<u>\$ –</u>

As of December 31, 2013, the Company had net operating loss carry forwards of approximately \$68 million that expire from 2017 through 2032, that are available to offset future taxable income. Additionally, the Company has tax credit carry forwards related to foreign taxes of \$619,000 that expire in 2019.

Under certain circumstances issuance of common shares can result in an ownership change under Internal Revenue Code Section 382 which limits the Company's ability to utilize carry forwards from prior to the ownership change. Any such ownership change resulting from stock issuances could limit the Company's ability to utilize any net operating loss carry forwards or credits generated before this change in ownership. These limitations can limit both the timing of usage of these laws, as well as the loss of the ability to use these net operating losses. If the Company completes its contemplated merger, it is likely the ability to use these losses will be limited.

**8. Capital Stock:**

Preferred stock

The Company has authorization for the issuance of 2,000,000 shares of \$1.00 par value preferred stock. There were no shares of preferred stock outstanding for any of the years presented.

Common stock

The Company has authorization for the issuance of 160,000,000 shares of \$0.001 par value common stock.

No shares were issued in private placements in 2012 or 2013; however, during 2011, the Company issued shares of its common stock in a private placement in an exempt offering under Regulation D of the Securities Act of 1933. The 2011 shares were issued at the market price at the time of the offering and have not been registered for sale. A total of 6,578,948 shares were issued and proceeds of \$2.5 million were received.

Committed to be released common shares

As discussed in Note 9, the Company awards restricted stock to employees as compensation. Shares awarded, but not yet issued and outstanding are accounted for as committed to be released shares.

At December 31, 2013, common stock was reserved for the following reasons:

Conversion of notes payable and accrued interest	23,283,932
Exercise and future grants of stock options	<u>10,049,746</u>
Total shares reserved	<u><u>33,333,678</u></u>

**APPLIED NANOTECH HOLDINGS, INC. AND SUBSIDIARIES**  
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**(CONTINUED)**

**8. Capital Stock (continued):**

The shares reserved exceed the shares available for issuance under the current authorized shares. However; the majority of shares issuable upon conversion of the convertible notes are convertible at prices well in excess of the current market price of the stock and are unlikely to be converted. As of December 31, 2013, there are no options with exercise prices at or below the current market price of the stock and options are unlikely to be exercised. The Company intends to request an increase in the number of its authorized shares at its next shareholder meeting.

**9. Stock Options:**

The Company sponsors a stock-based incentive compensation plan, the 2012 Equity Compensation Plan (the "Plan"), which was established by the Board of Directors of the Company in April 2012. A total of 5,000,000 shares were initially reserved for issuance under the plan. A total of 4,082,407 shares remain available for grant under this plan at December 31, 2013. This plan replaced the 2002 Equity Compensation Plan, which expired in March 2012. The compensation cost that has been charged against income for both plans for the years ended December 31, 2013, 2012, and 2011 was \$65,898; \$247,379; and \$647,712, respectively. No income tax benefit was recognized in the income statement and no compensation was capitalized in any of the years presented.

The plan allows the Company to grant incentive stock options, non-qualified stock options, or restricted stock. The incentive stock options are exercisable for up to ten years, at an option price per share not less than the fair market value on the date the option is granted. The incentive stock options are limited to persons who have been regular full-time employees of the Company or its present and future subsidiaries for more than one (1) year and at the date of the grant of any option are in the employ of the Company or its present and future subsidiaries. Historically, the Company has not granted incentive stock options. Non-qualified options may be granted to any person, including, but not limited to, employees, independent agents, consultants and attorneys, who the Company's Compensation Committee believes have contributed, or will contribute, to the success of the Company. Non-qualified options may be issued at option prices of less than fair market value on the date of grant and are exercisable for up to ten years from date of grant. The option vesting schedule for options granted is determined by the Compensation Committee of the Board of Directors at the time of the grant. The Plan provides for accelerated vesting of unvested options if there is a change in control, as defined in the plan.

The company issues new shares for all options exercised. It does not expect to repurchase any shares to facilitate future option exercises. The following table summarizes information about stock options outstanding, some of which may not ultimately vest, and options currently exercisable under the option plan at December 31, 2013:

Range of Exercise Prices	Options Outstanding			Options Exercisable		
	Number Outstanding at 12/31/13	Wgtd. Avg. Remaining Contractual Life	Wgtd. Avg. Exercise Price	Number Exercisable at 12/31/13	Wgtd. Avg. Remaining Contractual Life	Wgtd. Avg. Exercise Price
\$0.00 - \$0.25	1,054,349	6.1 Years	\$0.19	1,054,349	6.1 Years	\$0.19
\$0.26 - \$0.50	3,546,805	5.3 Years	\$0.37	3,546,805	5.3 Years	\$0.37
\$0.51 - \$1.00	182,748	5.0 Years	\$0.56	182,748	5.0 Years	\$0.56
\$1.01 - \$2.00	588,396	3.0 Years	\$1.32	588,396	3.0 Years	\$1.32
\$2.01 - \$3.00	595,041	1.1 Years	\$2.18	595,041	1.1 Years	\$2.18
Total	5,967,339	4.8 Years	\$0.62	5,967,339	4.8 Years	\$0.62
Aggregate intrinsic value		\$0.00			\$0.00	

**APPLIED NANOTECH HOLDINGS, INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**  
**(CONTINUED)**

**9. Stock Options (continued):**

The following is a summary of stock option plan activity:

	Number of Shares	Wgtd. Ave. Exercise Price
Options outstanding at December 31, 2010	6,222,972	\$0.86
Granted	1,303,498	\$0.43
Exercised	(200,454)	\$0.26
Cancelled	(947,521)	\$0.68
Options outstanding at December 31, 2011	6,378,495	\$0.82
Granted	325,000	\$0.30
Exercised	—	\$0.00
Cancelled	(256,241)	\$0.53
Options outstanding at December 31, 2012	6,447,254	\$0.80
Granted	475,000	\$0.13
Exercised	—	\$0.00
Cancelled	(954,915)	\$1.62
Options outstanding at December 31, 2013	5,967,339	\$0.62

The weighted-average grant-date fair value of options granted during the years ended December 31, 2013, 2012, and 2011 was \$0.05, \$0.19, and \$0.28, respectively. The total intrinsic value of options exercised during the years ended December 31, 2011 was \$59,635. No options were exercised in the years ended December 31, 2012 or 2013. As of December 31, 2013, there was no unrecognized compensation cost related any non-vested options granted under the plan. The fair value of shares vested during the years ended December 31, 2013, 2012, and 2011 was \$46,606; \$223,025; and \$462,431, respectively.

The 2012 Equity Compensation Plan also allows the issuance of restricted shares of common stock and we granted restricted stock to non-officer employees as part of their compensation. We granted a total of 443,544 shares with a value of \$185,281 in 2011, a total of 125,577 shares with a value of \$24,354 in 2012, and 244,830 shares with a value of \$19,292 in 2013, which represents the market price at the date of grant. Shares are not necessarily issued at the time of the grant. A total of 103,772 shares, 143,333 shares, and 872,965 shares were issued to employees in 2011, 2012, and 2013, respectively, and are included in issued and outstanding shares at the end of each of the respective years. All shares granted have been issued as of December 31, 2013, and there are no remaining committed to be released shares at December 31, 2013.

**10. Stock Warrants:**

Common stock warrants

In 2007, we issued 1,304,353 warrants in connection with a private placement of the Company's stock. These warrants enabled the holder to purchase shares of the Company's common stock at a price of \$2.50 per share through the earlier of April 2013, or the date that the shares acquired in the private placement were sold by the shareholder. None of the warrants issued were ever exercised and all expired. In January 2013, we issued 1,692,307 warrants in connection with the issuance of a convertible note payable. These warrants enabled the holder to purchase shares of the Company's common stock at a price of \$0.13 per share through January 2018. These warrants were exercised in a cashless transaction in January 2013 whereby 470,085 shares of restricted common stock were issued in full satisfaction of the warrants.

**APPLIED NANOTECH HOLDINGS, INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**  
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**11. Supplemental Cash Flow Information:**

Cash paid for interest was \$46,025; \$6,274; and \$5,764 for 2013, 2012, and 2011, respectively. The following non-cash transactions have been excluded from the accompanying consolidated statement of cash flows:

	2013	2012	2011
Non-cash financing activities:			
Issuance of common shares in payment of accounts payable	\$ 110,000	\$ 120,000	\$ 120,000
Issuance of note payable in payment of accrued interest	\$ 10,000	\$ 32,558	\$ —
Conversion of notes payable and accrued interest	\$ 1,281,281	\$ 23,249	\$ 357,394
Capital lease transactions	\$ —	\$ 28,567	\$ 85,369

**12. Retirement Plan:**

The Company sponsors a defined contribution 401(k) profit sharing plan. Company contributions are discretionary and no company contributions were made in any of the years presented.

**13. Commitments and Contingencies:**

Till Keesmann Agreement

In May 2000, we licensed the rights, including the exclusive right to sublicense, to 6 carbon nanotube patents from Till Keesmann. The agreement was amended in 2008 and in May 2010, the sublicensing rights to the patent reverted to Mr. Keesmann. We will receive 50% of any licensing revenue received by Mr. Keesmann up to a maximum of \$1.2 million of revenue to us. In 2008, we also sold a portion of our potential future royalty stream related to the Keesmann patents to IP Verwertungs GmbH (“IPV”) for \$1.4 million. A total of \$1.226 million has been received and the remaining \$174,000 will be offset against future royalties due IPV. IPV will receive 25% of our portion of the Keesmann royalties, if any are received. If we received the maximum potential amount of \$1.2 million from Mr. Keesmann, we would be obligated to pay IPV \$126,000. We believe it is extremely unlikely that we will receive any licensing revenue, or pay any royalties under these agreements.

Research and development commitments

As of December 31, 2013, the Company had several research contracts pending and in process. The total amount of those contracts is \$5,771,084. Of that total, \$2,959,191 has been recognized as revenue and \$2,811,893 will be recognized in the future. The revenue to be recognized from these research contracts in 2014 is expected to exceed the cost of this research during this period.

Government contracts

Governmental contractors are subject to many levels of audit and investigation. Among United States agencies that oversee contract performance are: the Defense Contract Audit Agency, the Inspector General, the Defense Criminal Investigative Service, the General Accounting Office, the Department of Commerce, the Department of Justice and Congressional Committees. The Company’s management believes that an audit or investigation, if any, as a result of such oversight would not have any material adverse effect upon the Company’s financial condition or results of operations.

Legal proceedings

From time to time the Company and its subsidiaries are also defendants in various lawsuits that may arise related to minor matters. It is expected that all such lawsuits will be settled for an amount no greater than the liability recorded in the financial statements for such matters. If resolution of any of these suits results in a liability greater than that recorded, it could have a material impact on the Company.



**APPLIED NANOTECH HOLDINGS, INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**  
**(CONTINUED)**

**13. Commitments and Contingencies (continued):**

Authorized shares

The Company has potential commitments to issue shares in excess of its current authorized share limit. It intends to increase its authorized shares at the next shareholder meeting, however; if its share price increases significantly prior to an increase in the authorized limit, the Company may be liable to convertible note holders or optionees for damages equal to their lost profits if it is unable to deliver shares in accordance with its existing agreements.

**14. Research and Development Contracts:**

The Company makes significant expenditures for research and development. We seek funding for our research and development costs to reduce the cost of such expenditures to the Company. We only seek funding for projects that fit within our strategic vision. A substantial portion of our funded research has been from government contracts. Under government contracts, the government has the right to utilize the results for its purposes, and we have the right to utilize the technology for commercial purposes. Generally, when we contract with other entities, the entity is also conducting its own internal research related to application of our technology to its products and such expenditures by the entity frequently exceeds the amount of funding provided to the Company. Usually the entity has the first opportunity to license the technology at the conclusion of the project, if they desire. The costs of a particular research program may exceed the funding received; however, since the goal of the research is to ultimately lead to a license, our willingness to share part of the development cost is evaluated on a case by case basis.

The following schedule summarizes certain information with respect to research and development contracts:

	2013	2012	2011
Contract research revenues	\$ 3,103,145	\$ 2,043,002	\$ 4,059,145
Direct costs incurred included in research and development expense	\$ 1,303,401	\$ 1,421,542	\$ 2,338,863
Amount of additional funding commitments at December 31	\$ 2,811,893	\$ 2,929,281	\$ 2,268,173

**15. Significant Customers:**

Applied Nanotech, Inc. received research and development revenues from the U.S. Government in the three years as disclosed on the income statement. In addition to the U.S. Government, the Company had three customers from which it has received in excess of 10% of its consolidated revenues in one or more of the past three years as set forth in the following table.

Customer	Year ended December 31		
	2013	2012	2011
Sichuan Anxian Yinhee Construction and Chemical Company	\$ 260,000	\$ 750,000	\$ 1,500,000
Northeast Gas Association	\$ 567,357	\$ 56,732	\$ 734,428
California Citrus Research Board	\$ 463,448	\$ —	\$ —

The Company does not have any significant receivables from these customers at December 31, of the years presented

**APPLIED NANOTECH HOLDINGS, INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**  
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**16. Concentrations of Credit Risk:**

The Company's financial instruments that are exposed to concentrations of credit risk consist of cash and cash equivalents and receivables. The Company places its cash and cash equivalents with high credit quality financial institutions; however for periods of time during the year, bank balances on deposit were in excess of the Federal Deposit Insurance Corporation insurance limit. There were no funds in excess of the FDIC limit at December 31, 2012 or 2013. There were no funds in excess of the SIPC limit at December 31, 2012 or 2013.

The Company's receivables are uncollateralized and result primarily from its research and development projects performed primarily for U.S. Federal Government Agencies, services performed for large U.S. and multinational corporations, and royalties from large U.S. and multinational corporations. The Company has not incurred any material losses on these receivables.

**17. Related Party Transactions:**

As of December 31, 2013 and 2012, \$195,000 of the convertible notes payable were payable to Officers of the Company. These notes are convertible at a rate of \$0.25 per share.

**18. Quarterly Financial Information (Unaudited):**

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total Year
<b>2013</b>					
Revenues	\$ 948,710	\$ 1,066,772	\$ 1,175,214	\$ 727,666	\$ 3,918,362
Operating income (loss)	(666,743)	(480,403)	(217,775)	(557,948)	(1,922,869)
Net (loss)	(1,374,940)	(643,918)	(396,650)	(725,380)	(3,140,888)
Earnings (loss) per share					
Basic and Diluted	(0.01)	(0.00)	(0.00)	(0.01)	(0.02)
<b>2012</b>					
Revenues	\$ 777,136	\$ 1,129,951	\$ 705,505	\$ 980,776	\$ 3,593,368
Operating income (loss)	(1,518,134)	(1,453,482)	(1,114,252)	(592,268)	(4,678,136)
Net (loss)	(1,607,199)	(1,550,805)	(1,245,809)	(725,337)	(5,129,150)
Earnings (loss) per share					
Basic and Diluted	(0.01)	(0.01)	(0.01)	(0.01)	(0.04)
<b>2011</b>					
Revenues	\$ 1,936,981	\$ 1,662,534	\$ 2,249,019	\$ 638,927	\$ 6,487,461
Operating income (loss)	(482,308)	(367,513)	22,350	(1,375,399)	(2,202,870)
Net (loss)	(613,797)	(433,119)	(62,066)	(1,461,266)	(2,570,248)
Earnings (loss) per share					
Basic and Diluted	(0.01)	(0.00)	(0.00)	(0.01)	(0.02)

Annual earnings (loss) per share may not equal the sum of the four quarterly amounts due to rounding.

**19. Subsequent Events:**

From January 1, 2014 through February 26, 2014, we issued 1.2 million shares of common stock to our patent attorney in payment of an accounts payable of \$30,000 under a longstanding agreement where a portion of the fees are paid in common stock. In addition, we issued 7,492,610 shares of common stock upon conversion of a notes payable with face amounts totaling \$150,815 and accrued interest totaling \$4,016.

In 2014, we received additional funding in the amount of \$55,000 under convertible notes payable.

**APPLIED NANOTECH HOLDINGS, INC. AND SUBSIDIARIES**  
**CONSOLIDATED BALANCE SHEETS**

	(Unaudited) March 31, 2014	December 31, 2013
<b>ASSETS</b>		
Current assets:		
Cash and cash equivalents	\$ 159,039	\$ 119,551
Accounts receivable, trade – net of allowance for doubtful accounts	327,177	462,964
Prepaid expenses and other current assets	78,401	85,499
<b>Total current assets</b>	<b>564,617</b>	<b>668,014</b>
Property and equipment, net	141,692	157,772
Other assets	27,114	27,114
<b>Total assets</b>	<b>\$ 733,423</b>	<b>\$ 852,900</b>
<b>LIABILITIES AND STOCKHOLDERS' DEFICIT</b>		
Current liabilities:		
Accounts payable	\$ 704,002	\$ 642,486
Convertible notes payable	1,823,729	1,859,912
Obligations under capital lease	–	10,427
Accrued liabilities	1,376,981	1,580,194
Deposits and deferred revenue	194,355	143,323
<b>Total current liabilities</b>	<b>4,099,067</b>	<b>4,236,342</b>
<b>Total liabilities</b>	<b>4,099,067</b>	<b>4,236,342</b>
Commitments and contingencies	–	–
Stockholders' equity (deficit):		
Preferred stock, \$1.00 par value, 2,000,000 shares authorized; No shares issued and outstanding	–	–
Common stock, \$.001 par value, 160,000,000 shares authorized, 157,053,526 and 147,825,202 shares issued and outstanding at March 31, 2014 and December 31, 2013, respectively	157,054	147,825
Additional paid-in capital	118,045,073	117,595,024
Accumulated deficit	(121,567,771)	(121,126,291)
<b>Total stockholders' deficit</b>	<b>(3,365,644)</b>	<b>(3,383,442)</b>
<b>Total liabilities and stockholders' deficit</b>	<b>\$ 733,423</b>	<b>\$ 852,900</b>

See notes to consolidated financial statements.

**APPLIED NANOTECH HOLDINGS, INC. AND SUBSIDIARIES**  
**CONSOLIDATED STATEMENTS OF OPERATIONS**  
(UNAUDITED)

	<b>For the Three Months Ended</b>	
	<b>March 31,</b>	
	<b>2014</b>	<b>2013</b>
Revenues		
Government contracts	\$ 719,298	\$ 478,826
Contract research	139,300	312,051
Product sales	23,634	72,701
License fees and royalties	—	56,073
Other	200	29,059
Total revenues	<u>882,432</u>	<u>948,710</u>
Research and development	626,355	867,672
Selling, general and administrative expenses	<u>601,688</u>	<u>747,781</u>
Operating costs and expenses	1,228,043	1,615,453
Gain on sale of property and equipment	<u>2,555</u>	<u>—</u>
Loss from operations	(343,056)	(666,743)
Other income (expense), net		
Interest expense	(98,454)	(708,202)
Interest income	<u>30</u>	<u>5</u>
Loss before taxes	(441,480)	(1,374,940)
Provision for taxes	<u>—</u>	<u>—</u>
Net loss	<u>\$ (441,480)</u>	<u>\$ (1,374,940)</u>
Loss per share		
Basic and Diluted	<u>\$ (0.00)</u>	<u>\$ (0.01)</u>
Weighted average shares outstanding		
Basic and Diluted	<u>154,425,018</u>	<u>123,137,188</u>

See notes to consolidated financial statements.

**APPLIED NANOTECH HOLDINGS, INC. AND SUBSIDIARIES**  
**CONSOLIDATED STATEMENTS OF CASH FLOWS**  
**(UNAUDITED)**

	<b>For the Three Months Ended</b>	
	<b>March 31,</b>	
	<b>2014</b>	<b>2013</b>
Cash flows from operating activities:		
Net loss	\$ (441,480)	\$ (1,374,940)
Adjustments to reconcile net loss to net cash provided by (used in) operating activities:		
Depreciation and amortization expense	16,080	27,454
Amortization of discount on debt	59,953	637,296
Stock based compensation expense	197,376	33,414
Gain on disposal of property and equipment	(2,555)	—
Changes in assets and liabilities:		
Accounts receivable, trade	135,787	(82,122)
Prepaid expenses and other assets	7,098	603,514
Accounts payable	91,516	(82,703)
Accrued liabilities	(123,197)	227,907
Deposits and deferred revenue	51,032	96,630
Total adjustments	433,090	1,461,390
Net cash provided by (used in) operating activities	(8,390)	86,450
Cash flows from investing activities:		
Proceeds from the sale of fixed assets	2,555	—
Net cash provided by investing activities	2,555	—
Cash flows from financing activities:		
Proceeds from issuance of convertible notes payable	55,750	318,000
Repayment of capital lease obligations and notes payable	(10,427)	(85,290)
Net cash provided by financing activities	45,323	232,710
Net increase in cash and cash equivalents	39,488	319,160
Cash and cash equivalents, beginning of period	119,551	331,579
Cash and cash equivalents, end of period	\$ 159,039	\$ 650,739

See notes to consolidated financial statements.

**APPLIED NANOTECH HOLDINGS, INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**  
**(UNAUDITED)**

1. Basis of Presentation

The consolidated financial statements of the Company for the three-month periods ended March 31, 2014 and 2013, have been prepared by the Company without audit pursuant to the rules and regulations of the Securities and Exchange Commission. In the opinion of the Company's management, all adjustments necessary to present fairly the financial position, results of operations, and cash flows of the Company as of March 31, 2014 and 2013, and for the periods then ended, have been made. Those adjustments consist of normal and recurring adjustments. The consolidated balance sheet of the Company as of December 31, 2013, has been derived from the audited consolidated balance sheet of the Company as of that date.

Certain information and note disclosures normally included in the Company's annual financial statements prepared in accordance with generally accepted accounting principles have been condensed or omitted. These consolidated financial statements should be read in conjunction with a reading of the financial statements and notes thereto included in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2013, as filed with the Securities and Exchange Commission.

The results of operations for the three-month period ended March 31, 2014, are not necessarily indicative of the results to be expected for the full year. Certain reclassifications have been made in the prior period's consolidated financial statements to conform to the current period's presentation.

The Company has a history of net losses and negative cash flow from operations. We have had losses in each of the last three years, but we have a plan to achieve positive cashflow from operations for 2014, prior to interest expense and expenses associated with the business combination discussed in Note 6. The accompanying financial statements have been prepared in conformity with generally accepted accounting principles, which contemplate continuation of the Company as a going concern, and do not include any adjustments that may be required if it were unable to continue as a going concern. Management and the Board believe that the actions taken to date in 2014 and currently being taken will allow the Company to achieve positive cashflow from operations for 2014, prior to interest expense and expenses associated with the business combination discussed in Note 6, and to achieve profitability in future years. These actions include both significant expense cuts and the business combination with NanoHolding as discussed in Note 6.

2. Supplemental Cash Flow Information

Cash paid for interest for the three months ended March 31, 2014 and 2013, was \$653 and \$8,796, respectively. During the three months ended March 31, 2014 and 2013, the Company had non-cash transactions related to share based payments described in greater detail in Note 5, non-cash transactions related to the conversion of accounts payable into common stock described in greater detail in Note 4, and non-cash transactions related to both the issuance of notes and the conversion of notes payable and related accrued interest into common stock that are described in greater detail in Notes 3 and 4.

3. Notes Payable and Long-Term Debt

As described in detail in our Form 10-K for the year ended December 31, 2013 we issued convertible notes from 2009 through 2013. Additional convertible notes with a face amount of \$136,250 were issued in the quarter ended March 31, 2014. One of these notes in the amount of \$75,000 was issued to the Company's former chief financial officer in a noncash transaction in connection with an overall release and settlement agreement related to the termination of employment. The note is due the earlier of December 31, 2014, or upon completion of the Company's proposed business combination (as discussed further in Note 6) and is payable in cash or with 1.5 million shares of stock in the new entity, at the option of the Company.

As of March 31, 2014, there are notes with a total face amount of \$1,883,058 outstanding. These notes are due at dates throughout 2014 and through February 2015. As of March 31, 2014, notes totaling \$1,713,058 of these notes were past due and considered demand notes. These notes bear interest at rates ranging from less than 1% to 8%, and \$95,000 of the notes outstanding included a 10% original issuance discount. The notes are convertible at fixed rates ranging from \$0.08 to \$0.25 per share and \$95,000 of the face amount of the notes are convertible at a floating discounts of 30% to the market price of our common stock at the date of conversion.

At the time of issuance, the value of the beneficial conversion feature of these notes is calculated, recorded as a discount to the note, and amortized to expense over the term of the note. If the notes are converted before maturity, any unamortized expense at the time of conversion is expensed at the time of conversion. As of March 31, 2014, there is \$59,329 of unamortized discount remaining to be amortized in future periods during 2014. A total of \$59,953 and \$637,296 of discount was amortized to interest expense during the three month periods ending March 31, 2014 and 2013, respectively.

**APPLIED NANOTECH HOLDINGS, INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**  
**(UNAUDITED)**

4. Stockholders' Equity

During the three months ended March 31, 2014, we issued 8,028,324 shares of common stock as the result of the conversion of notes payable and related accrued interest in the amount of \$168,331. During the three months ended March 31, 2013, we issued 8,275,461 shares of common stock as the result of the conversion of notes payable and related accrued interest in the amount of \$824,437. We also issued 470,085 shares in connection with a cashless exercise of 1,692,307 warrants issued in January 2013 in connection with the issuance of convertible notes.

During the three months ended March 31, 2014 and 2013, respectively, we issued 1,200,000 and 600,000 shares, respectively, of common stock related to the payment of \$30,000 and \$60,000, respectively, of trade payables in exempt offerings under Regulation D of the Securities Act of 1933. We also issued 12,948 shares of common stock in connection with restricted stock payments to employees during the period ended March 31, 2013.

5. Share-Based Payments

We use the fair value method to account for stock based compensation. We recorded \$197,376 and \$33,414 in compensation expense in the periods ended March 31, 2014 and 2013, respectively, related to options issued under our stock-based incentive compensation plans and commitments to issue restricted stock. This includes expense related to both options issued and committed, as well as unissued restricted stock during the period ended, March 31, 2013, but only unissued restricted stock in the current period. The fair value of options was calculated using the Black-Scholes option pricing model. Information related to the assumptions used in this model is set forth in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2013. The value of restricted stock grants is based upon the market price of the Company's stock on the date of the grant.

6. Contingencies

*Proposed Business Combination*

On March 10, 2014, we entered into an agreement for a proposed business combination between the Company and NanoHolding, Inc., a privately held company with a leading market position for specialty optical coatings, cleaners, and nano-composite products. The specific mechanics of the proposed transaction are included in an 8-K dated March 11, 2014, but the business combination, if approved by stockholders, will result in a combined entity with the Company and NanoHolding, Inc., operating under the name PEN, Inc.

If the Company's stockholders approve the proposed business combination and the business combination is completed, the Company will be obligated to issue 7,074,000 shares of restricted common stock to all outside Directors of the Company, except for Director David Li, as compensation for management functions assumed by those Directors in 2013 and 2014 that went beyond their role as Directors, as well as the role that they played in facilitating the business combination. No liability for the issuance of these shares is recorded in the financial statements as of March 31, 2014 as the Company has no obligation to issue these shares unless the business combination is completed.

In addition, all of the outside Directors have been deferring a portion of their normal monthly compensation. As of March 31, 2014, the financial statements reflect a liability of approximately \$194,000 for these deferred fees. If the business combination is completed, the Directors have agreed to accept payment of these fees in the stock of PEN, Inc. based on a price of \$0.05 per share. If the stock of PEN, Inc. is trading above \$0.05 per share at the time of payment, that will result in additional expense beyond that currently reflected in the financial statements, based on the difference between the price at the time and \$0.05 per share.

**APPLIED NANOTECH HOLDINGS, INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**  
**(UNAUDITED)**

6. Contingencies (cont.)

If the stockholders approve the proposed business combination and the business combination is completed, the Company will be obligated to issue up to 6.8 million shares of restricted common stock to the Company's Chief Operating Officer ("COO") as part of an amended compensation package. These restricted stock grants will vest based on achievement of certain price targets for the stock of new entity. No liability is recorded in the financial statements as of March 31, 2014 for this potential grant, since the Company has no obligation to issue this grant unless the business combination is completed. The Company does have a liability of \$215,427 recorded for unpaid compensation due to the COO. The previously described restricted stock grant will supersede and replace any amounts due to the COO, including accrued compensation, or any severance due to the COO upon termination of employment.

*Litigation*

The Company is a defendant in minor lawsuits described in greater detail in its 2013 Annual Report on Form 10-K. The Company expects any potential eventual payment to have no material effect on the financial statements.

*Authorized shares*

As discussed in the Annual Report on Form 10-K for the fiscal year ended December 31, 2013, the Company has potential commitments to issue shares in excess of its current authorized share limit. It intends to increase its authorized shares at the next shareholder meeting, however; if its share price increases significantly prior to an increase in the authorized limit, the Company may be liable to convertible note holders or optionees for damages equal to their lost profits if it is unable to deliver shares in accordance with its existing agreements. As discussed in note 7 below, in April and May 2014, the Company amended the majority of its notes payable to lower the conversion price. These lowered conversion prices increase the amount of shares the Company is committed to release, as the conversion price was lowered to below the existing market price of common stock on a significant amount of the notes.

7. Subsequent Events

During the Period from April 1, 2014 through May 8, 2014, the Company issued \$65,000 of convertible notes payable. These notes are due July 15, 2015, bear interest at a rate of 8%, and are convertible into common stock at a discount of 25% from the market price of the common stock at the time of conversion. If the proposed business combination occurs, the notes will be automatically convertible into common stock of the merged entity under the same terms. A total of \$40,000 of these notes were issued to existing Directors of the Company and a total of \$10,000 were issued to proposed Directors of the new merged entity that are not currently Directors of the Company.

During the Period from April 1, 2014 through May 8, 2014, the Company retired a total of \$27,500 in notes payable that were issued in January 2014 by making cash payments.

During the Period from April 1, 2014 through May 8, 2014, the Company amended notes payable with a total face amount of \$1,713,058 that were past due at March 31, 2014 to extend the due date to August 15, 2014, provide for automatic conversion if the business combination is completed, and lower the conversion price in most instances. The conversion price for \$760,000 of these notes was lowered to \$0.05 per share, to \$0.10 per share for \$915,058 of these notes, and the conversion price remained unchanged at \$0.08 per share for the remaining \$38,000 of notes.



# NANOHOLDING INC. AND SUBSIDIARY

## CONSOLIDATED FINANCIAL STATEMENTS

FOR THE  
YEARS ENDED DECEMBER 31, 2013 AND 2012

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FOR THE  
THREE MONTHS ENDED MARCH 31, 2014 AND 2013  
(Unaudited)

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Report of Independent Registered Public Accounting Firm

To the Shareholders of:  
Nanoholding Inc. and Subsidiary  
Valley View, Ohio

We have audited the accompanying consolidated balance sheets of Nanoholding Inc. and Subsidiary as of December 31, 2013 and 2012, and the related consolidated statements of operations, changes in equity, and cash flows for each of the two years in the period ended December 31, 2013. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the consolidated financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall consolidated financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of Nanoholding Inc. and Subsidiary as of December 31, 2013 and 2012, and the results of their operations and their cash flows, for each of the two years in the period ended December 31, 2013, in conformity with accounting principles generally accepted in the United States of America.

/s/ Salberg & Company, P.A.

SALBERG & COMPANY, P.A.  
Boca Raton, Florida

April 3, 2014 (except for Notes 1 and 15 "Reorganization" as to which the date is May 7, 2014)

**NANOHOLDING INC. AND SUBSIDIARY  
CONSOLIDATED BALANCE SHEETS**

ASSETS	December 31,	
	2013	2012
<b>CURRENT ASSETS:</b>		
Cash and cash equivalents	\$ 100,367	\$ 1,540,581
Accounts receivable, net	1,524,303	1,053,329
Accounts receivable, related party	17,224	88,378
Inventory	1,484,456	1,274,978
Prepaid expenses	107,718	110,081
<b>TOTAL CURRENT ASSETS</b>	<b>3,234,068</b>	<b>4,067,347</b>
PROPERTY AND EQUIPMENT, net	672,704	806,769
OTHER ASSETS	73,504	56,331
<b>TOTAL ASSETS</b>	<b>\$ 3,980,276</b>	<b>\$ 4,930,447</b>
<b>LIABILITIES AND EQUITY</b>		
<b>CURRENT LIABILITIES:</b>		
Accounts payable	\$ 721,860	\$ 290,931
Accrued expenses	344,271	293,346
Current portion of notes payable	–	870,787
Current portion of bank term loan	60,000	–
Bank revolving line of credit	199,919	–
<b>TOTAL CURRENT LIABILITIES</b>	<b>1,326,050</b>	<b>1,455,064</b>
<b>LONG-TERM LIABILITIES:</b>		
Accrued compensation - stock appreciation rights Plan A	58,999	65,677
Deferred lease incentives	43,836	56,666
Equity credits issued	25,079	59,111
Notes payable, net of current portion	–	1,064,297
Bank term loan, net of current portion	515,000	–
<b>TOTAL LONG-TERM LIABILITIES</b>	<b>642,914</b>	<b>1,245,751</b>
<b>TOTAL LIABILITIES</b>	<b>1,968,964</b>	<b>2,700,815</b>
Commitments (Note 8)		
<b>EQUITY (DEFICIT):</b>		
Class A common stock: \$.0001 par value, 2,600,000 shares authorized; 195,834 and 1,970,134 issued and outstanding at December 31, 2013 and 2012, respectively	20	197
Class B common stock: \$.0001 par value, 2,000,000 shares authorized; 1,774,300 and 0 issued and outstanding at December 31, 2013 and 2012, respectively	177	–
Accumulated deficit	(1,104,665)	(918,039)
Total Nanoholding Inc. stockholders' deficit	(1,104,468)	(917,842)
Non-controlling interest	3,115,780	3,147,474
<b>TOTAL EQUITY</b>	<b>2,011,312</b>	<b>2,229,632</b>
<b>TOTAL LIABILITIES AND EQUITY</b>	<b>\$ 3,980,276</b>	<b>\$ 4,930,447</b>

See accompanying notes to consolidated financial statements.

**NANOHOLDING INC, AND SUBSIDIARY  
CONSOLIDATED STATEMENTS OF OPERATIONS**

	<b>FOR THE YEARS ENDED DECEMBER 31,</b>	
	<u><b>2013</b></u>	<u><b>2012</b></u>
<b>SALES:</b>		
Third parties	\$ 8,866,178	\$ 10,237,785
Related party	209,170	362,494
<b>Total Sales</b>	<u>9,075,348</u>	<u>10,600,279</u>
<b>COST OF SALES</b>	<u>5,644,017</u>	<u>6,493,041</u>
<b>GROSS PROFIT</b>	<u>3,431,331</u>	<u>4,107,238</u>
<b>OPERATING EXPENSES:</b>		
Salaries, wages and contract services	1,865,415	2,392,331
Professional services	522,085	405,492
Sales and marketing	340,270	351,416
Occupancy	375,903	352,706
Travel and entertainment	154,332	217,170
Depreciation	115,571	152,384
Administrative	200,056	137,118
Materials and development	37,627	46,997
<b>Total Operating Expenses</b>	<u>3,611,259</u>	<u>4,055,614</u>
<b>INCOME (LOSS) FROM OPERATIONS</b>	<u>(179,928)</u>	<u>51,624</u>
<b>OTHER INCOME (EXPENSES):</b>		
Interest income	40	288
Interest expense	(80,326)	—
Other income, net	41,894	9,806
<b>Total Income (Expenses)</b>	<u>(38,392)</u>	<u>10,094</u>
<b>NET INCOME (LOSS)</b>	<u>\$ (218,320)</u>	<u>\$ 61,718</u>
<b>NET INCOME (LOSS) PER COMMON SHARE:</b>		
Basic	<u>\$ (0.11)</u>	<u>\$ 0.02</u>
Diluted	<u>\$ (0.11)</u>	<u>\$ 0.02</u>
<b>WEIGHTED AVERAGE COMMON SHARES OUTSTANDING:</b>		
Basic	<u>1,970,134</u>	<u>3,731,241</u>
Diluted	<u>1,970,134</u>	<u>3,731,241</u>

See accompanying notes to consolidated financial statements.

**NANOHOLDING INC. AND SUBSIDIARY  
STATEMENTS OF CHANGES IN EQUITY  
FOR THE YEARS ENDED DECEMBER 31, 2013 AND 2012**

	<u>Class A Common Stock</u>		<u>Class B Common Stock</u>		<u>Additional Paid-in Capital</u>	<u>Retained Earnings (Accumulated Deficit)</u>	<u>Non- controlling Interest</u>	<u>Total Equity</u>
	<u># of Shares</u>	<u>Amount</u>	<u># of Shares</u>	<u>Amount</u>				
Balance, December 31, 2011	3,736,066	\$ 374	–	\$ –	\$ 1,126,280	\$ 1,143,258	\$ 3,153,031	\$ 5,422,943
Class A redemptions	(1,765,932)	(177)	–	–	(1,007,582)	(2,117,942)	–	(3,125,701)
Distributions	–	–	–	–	(118,698)	–	(10,630)	(129,328)
Net income	–	–	–	–	–	56,645	5,073	61,718
Balance, December 31, 2012	1,970,134	197	–	–	–	(918,039)	3,147,474	2,229,632
Conversion of shares	(1,774,300)	(177)	1,774,300	177	–	–	–	–
Net loss	–	–	–	–	–	(186,626)	(31,694)	(218,320)
Balance, December 31, 2013	<u>195,834</u>	<u>\$ 20</u>	<u>1,774,300</u>	<u>\$ 177</u>	<u>\$ –</u>	<u>\$ (1,104,665)</u>	<u>\$ 3,115,780</u>	<u>\$ 2,011,312</u>

See accompanying notes to consolidated financial statements.

**NANOHOLDING INC. AND SUBSIDIARY  
CONSOLIDATED STATEMENTS OF CASH FLOWS**

	<b>FOR THE YEARS ENDED DECEMBER 31,</b>	
	<b>2013</b>	<b>2012</b>
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>		
Net income (loss)	\$ (218,320)	\$ 61,718
Adjustments to reconcile net income (loss) to net cash provided by (used in) operating activities:		
Bad debt (recovery) expense	4,446	(45,343)
Loss on disposal of property and equipment	–	1,769
Change in inventory obsolescence reserve	166,605	(126,275)
Depreciation and amortization expense	200,174	244,077
Amortization of deferred lease incentives	(12,830)	(12,830)
Change in value of stock appreciation rights	(6,678)	1,873
Change in value of equity credits	(12,477)	167
Change in operating assets and liabilities:		
Accounts receivable	(475,420)	929,429
Accounts receivable related party	71,154	(75,259)
Inventory	(376,083)	511,428
Prepaid expenses and other assets	(36,504)	(51)
Accounts payable	430,929	(193,558)
Accrued expenses	50,925	(149,571)
<b>NET CASH PROVIDED BY (USED IN) OPERATING ACTIVITIES</b>	<b>(214,079)</b>	<b>1,147,574</b>
<b>CASH FLOWS FROM INVESTING ACTIVITIES</b>		
Purchases of property and equipment	(66,109)	(106,243)
Purchase of cash equivalent investments	–	(499,915)
Proceeds from sale of cash equivalent investments	–	499,915
<b>NET CASH USED IN INVESTING ACTIVITIES</b>	<b>(66,109)</b>	<b>(106,243)</b>
<b>CASH FLOWS FROM FINANCING ACTIVITIES</b>		
Distributions paid to members	–	(129,328)
Payments made for member unit redemptions	–	(1,190,617)
Proceeds from equity credits employee receivable	3,381	704
Equity credits repurchased	(3,242)	(5,631)
Stock appreciation rights redeemed	–	(298)
Proceeds from bank line of credit	725,000	–
Repayment of bank line of credit	(525,081)	–
Proceeds from bank loans	600,000	–
Repayment of bank loans	(25,000)	–
Repayment of notes payable related to member redemptions	(1,935,084)	–
<b>NET CASH USED IN FINANCING ACTIVITIES</b>	<b>(1,160,026)</b>	<b>(1,325,170)</b>
<b>NET DECREASE IN CASH</b>	<b>(1,440,214)</b>	<b>(283,839)</b>
CASH, beginning of year	1,540,581	1,824,420
CASH, end of year	<u>\$ 100,367</u>	<u>\$ 1,540,581</u>

**SUPPLEMENTAL DISCLOSURE OF CASH FLOW INFORMATION**

Cash paid during the year for interest

Interest	\$ 80,326	\$ –
Income taxes	<u>\$ –</u>	<u>\$ –</u>

**SUPPLEMENTAL DISCLOSURE OF NON-CASH INVESTING AND FINANCING ACTIVITIES:**

Notes payable issued in conjunction with member unit redemptions	\$ –	\$ 1,935,084
Value of equity credits forfeited at original purchase price, in exchange for cancellation of receivables	<u>\$ 18,313</u>	<u>\$ 3,583</u>

See accompanying notes to consolidated financial statements.

**NANOHOLDING INC. AND SUBSIDIARY**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**  
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**NOTE 1 – NATURE OF OPERATIONS AND REORGANIZATION**

*Nature of operations*

Nanoholding Inc. and Subsidiary (the “Company”) develops and markets products based on technology which permits the fabrication of oriented, ultra-thin films of organic or polymeric crystals. The Company also produces a line of personal lens cleaners and accessories. These products are marketed internationally primarily to customers in the eyeglass industry.

Nanoholding Inc. (“Nanoholding”) is a holding company formed under the laws of Delaware on February 24, 2014. Nanoholding is a majority owner of membership interests in Nanofilm, Ltd. (“Nanofilm”), a company formed under the laws of the Ohio on June 14, 1995 as a limited liability company.

*Reorganization and retroactive application*

In February 2014, on a one to one basis, Class A and Class B unit owners of Nanofilm exchanged their respective units into Class A common stock and Class B common stock, respectively, of Nanoholding, respectively. Similar to Nanofilm’s Class A and Class B unit owners voting rights, holders of Nanoholding’s Class A Common Stock shall be entitled to one vote in person or by proxy for each share of Class A Common Stock held by such holder and every holder of Class B Common Stock shall be entitled to one hundred votes in person or by proxy for each share of Class B Common Stock held by such holder. The Class Z unit owner retained their member interest in Nanofilm. As a result of the share exchange, Nanofilm became a majority-owned subsidiary of the Company. During and after the reorganization, there has been no change to the Company’s principal managers and Nanofilm has remained under common operating, management and financial control. As a result, the reorganization has been accounted for as a combination of entities under common control and recapitalization of Nanofilm with no adjustment to the historical basis of the assets and liabilities of Nanofilm, and the operations are consolidated and all equity and per unit equity data is presented retroactively as if the reorganization occurred as of the beginning of the first accounting period presented in these consolidated financial statements. The Class Z member interest is accounted for as a non-controlling interest.

**NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

*Basis of presentation*

The Company’s consolidated financial statements include the financial statements of its majority-owned subsidiary, Nanofilm, Ltd. All significant intercompany accounts and transactions have been eliminated in consolidation.



**NANOHOLDING INC. AND SUBSIDIARY**  
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**NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES, CONTINUED**

Use of estimates

The preparation of consolidated financial statements in conformity with accounting principles generally accepted in the United States requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenue and expenses during the reporting period. Actual results could differ from those estimates. Significant estimates for the years ended December 31, 2013 and 2012 include the allowance for doubtful accounts on accounts receivable, the allowance for obsolete inventory, the useful life of property and equipment, assumptions used in assessing impairment of long-term assets, and the fair value of any equity incentives.

Fair value of financial instruments

The Company adopted the guidance of Accounting Standards Codification (“ASC”) 820 for fair value measurements which clarifies the definition of fair value, prescribes methods for measuring fair value, and establishes a fair value hierarchy to classify the inputs used in measuring fair value as follows:

Level 1-Inputs are unadjusted quoted prices in active markets for identical assets or liabilities available at the measurement date.

Level 2-Inputs are quoted prices for similar assets and liabilities in active markets, quoted prices for identical or similar assets and liabilities in markets that are not active, inputs other than quoted prices that are observable, and inputs derived from or corroborated by observable market data.

Level 3-Inputs are unobservable inputs which reflect the reporting entity’s own assumptions on what assumptions the market participants would use in pricing the asset or liability based on the best available information.

The carrying amounts reported in the balance sheets for cash and cash equivalents, accounts receivable, loans and lines of credit, accounts payable, accrued expenses, and other payables approximate their fair market value based on the short-term maturity of these instruments.

The Company analyzes all financial instruments with features of both liabilities and equity under the FASB’s accounting standard for such instruments. Under this standard, financial assets and liabilities are classified in their entirety based on the lowest level of input that is significant to the fair value measurement. Depending on the product and the terms of the transaction, the fair value of notes payable and derivative liabilities were modeled using a series of techniques, including closed-form analytic formula, such as the Black-Scholes option-pricing model.

**NANOHOLDING INC. AND SUBSIDIARY**  
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**NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES, CONTINUED**

The following table presents a reconciliation of the liabilities measured at fair value on a recurring basis using significant unobservable input (Level 3) for the years ended December 31, 2013 and 2012:

	Stock Appreciation Rights Plan A	Equity Credits Issued
Balance at December 31, 2011	\$ 64,102	\$ 68,116
Equity credits forfeited	–	(3,541)
Equity credits repurchased	–	(5,631)
Stock appreciation rights redeemed	(298)	–
Change in fair value included in earnings	1,873	167
Balance at December 31, 2012	65,677	59,111
Equity credits forfeited	–	(18,313)
Equity credits repurchased	–	(3,242)
Change in fair value included in net loss	(6,678)	(12,477)
Balance at December 31, 2013	\$ 58,999	\$ 25,079

ASC 825-10 “Financial Instruments”, allows entities to voluntarily choose to measure certain financial assets and liabilities at fair value (fair value option). The fair value option may be elected on an instrument-by-instrument basis and is irrevocable, unless a new election date occurs. If the fair value option is elected for an instrument, unrealized gains and losses for that instrument should be reported in earnings at each subsequent reporting date. The Company did not elect to apply the fair value option to any outstanding instruments.

Cash and cash equivalents

For purposes of the consolidated statements of cash flows, the Company considers all highly liquid instruments with a maturity of three months or less at the purchase date and money market accounts to be cash equivalents.

Accounts receivable

The Company recognizes an allowance for losses on accounts receivable in an amount equal to the estimated probable losses net of recoveries. The allowance is based on an analysis of historical bad debt experience, current receivables aging, and expected future write-offs, as well as an assessment of specific identifiable customer accounts considered at risk or uncollectible. The expense associated with the allowance for doubtful accounts is recognized as administrative expense. At December 31, 2013 and 2012, outstanding accounts receivable are shown net of allowance for doubtful accounts of \$16,017 and \$11,611, and sales discount reserve of \$10,555 and \$8,079, respectively.

Inventory

Inventory is stated at the lower of cost or market. Cost is determined using the first-in, first-out (FIFO) method.

**NANOHOLDING INC. AND SUBSIDIARY**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**  
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**NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES, CONTINUED**

Property and equipment

Property and equipment are stated at cost and are depreciated using the straight-line method over their estimated useful lives, which range from three to ten years. Leasehold improvements are depreciated over the shorter of the useful life or lease term including scheduled renewal terms. Maintenance and repairs are charged to expense as incurred. When assets are retired or disposed of, the cost and accumulated depreciation are removed from the accounts, and any resulting gains or losses are included in income in the year of disposition. The Company examines the possibility of decreases in the value of these assets when events or changes in circumstances reflect the fact that their recorded value may not be recoverable.

Impairment of long-lived assets

In accordance with ASC Topic 360, the Company reviews long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount of the assets may not be fully recoverable. The Company recognizes an impairment loss when the sum of expected undiscounted future cash flows is less than the carrying amount of the asset. The amount of impairment is measured as the difference between the asset's estimated fair value and its carrying value.

Deferred lease incentives

Rental expense includes the amortization of lease incentives received. In addition, the Company received a cash allowance from a landlord to reimburse the Company for moving expenses. In 2009, the Company received \$102,640 in lease incentives and moving allowances. As of December 31, 2013 and 2012, net deferred lease incentives amounted to \$43,836 and \$56,666 respectively. For the years ended December 31, 2013 and 2012, amortization amounted to \$12,830 each year.

Revenue recognition

Pursuant to the guidance of ASC Topic 605, the Company recognizes sales when persuasive evidence of an arrangement exists, delivery has occurred, the purchase price is fixed or determinable and collectability is reasonably assured. Net sales is recognized when the product is shipped to the customer and title is transferred.

Sales incentives and consideration paid to customers

The Company accounts for certain promotional costs such as sales incentives and cooperative advertising as a reduction of net sales. For the years ended December 31, 2013 and 2012, the Company recorded approximately \$140,833 and \$140,049, respectively, as a reduction of sales related to these costs.

Cost of sales

Cost of sales includes inventory costs, labor and related benefits, depreciation, overhead and shipping and handling costs incurred.

**NANOHOLDING INC. AND SUBSIDIARY**  
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**NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES, CONTINUED**

Shipping and handling costs

Shipping and handling costs incurred relating to the purchase of inventory are included in inventory which is charged to cost of sales as product is sold. Shipping and handling costs charged to customers are included in sales. For 2013 and 2012, shipping and handling costs incurred for product shipped to customers are included in cost of sales and amounted to \$239,755 and \$239,433, respectively.

Research and development

Research and development costs are expensed as incurred. Total research and development costs were \$878,364 and \$1,144,154 in 2013 and 2012, respectively, and are included in operating expenses on the accompanying consolidated statements of operations.

Federal and state income taxes

In 2013 and 2012, the Company operated as a limited liability company and passed all income and loss to each Nanofilm member based on their proportionate interest in Nanofilm. Accordingly, no provision for federal and state income taxes has been made in these consolidated financial statements.

The Company follows the accounting guidance for uncertainty in income taxes using the provisions of Accounting Standards Codification (ASC) 740 *Income Taxes*. Using that guidance, tax positions initially need to be recognized in the financial statements when it is more likely than not the position will be sustained upon examination by the tax authorities. As of December 31, 2013 and 2012, the Company had no uncertain tax positions that qualify for either recognition or disclosure in the financial statements. Tax years that remain subject to examination are the years ending on and after December 31, 2010. The Company recognizes interest and penalties related to uncertain income tax positions in other expense. However, no such interest and penalties were recorded in 2013 and 2012.

Member distributions

At the election of the Company's subsidiary's Board of Managers', the Company may make periodic distributions to members of the subsidiary based on a percentage of the Company's estimated taxable income.

Advertising costs

The Company participates in various advertising programs. All costs related to advertising of the Company's products are expensed in the period incurred. Total advertising costs charged to operations were \$190,178 and \$188,336 in 2013 and 2012, respectively and are included in sales and marketing on the accompanying statements of operations. These advertising expenses do not include cooperative advertising sales incentives and which have been deducted from sales.

**NANOHOLDING INC. AND SUBSIDIARY**  
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**NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES, CONTINUED**

Income (loss) per share of common stock

Basic net income (loss) per common share is computed by dividing net income (loss) available to common stockholders (Class A and B) by the weighted average number of shares of Class A and Class B common stock outstanding during the period. Diluted net income (loss) per common share is computed by dividing net income (loss) by the weighted average number of shares of Class A and Class B common stock, common stock equivalents and potentially dilutive securities outstanding during each period. As of December 31, 2013 and 2012, the Company did not have any potentially dilutive common shares.

**NOTE 3 - INVENTORY**

At December 31, 2013 and 2012, inventory consisted of the following:

	<u>2013</u>	<u>2012</u>
Raw materials	\$ 1,055,667	\$ 901,608
Finished goods	696,461	474,437
	1,752,128	1,376,045
Less: reserve for obsolete inventory	(267,672)	(101,067)
<b>Inventory, net</b>	<b>\$ 1,484,456</b>	<b>\$ 1,274,978</b>

**NOTE 4 - PROPERTY AND EQUIPMENT**

At December 31, 2013 and 2012, property and equipment consisted of the following:

	<u>Useful Life</u>	<u>2013</u>	<u>2012</u>
Machinery and equipment	5 - 10 Years	\$ 3,387,141	\$ 3,369,273
Furniture and office equipment	3-7 Years	918,368	912,778
Leasehold improvements	7 - 15 Years	287,162	287,161
Construction in progress	-	53,200	34,550
		4,645,871	4,603,762
Less: accumulated depreciation		(3,973,167)	(3,796,993)
<b>Property and equipment, net</b>		<b>\$ 672,704</b>	<b>\$ 806,769</b>

For the years ended December 31, 2013 and 2012, depreciation and amortization expense amounted to \$200,174 and \$244,077, respectively, of which \$84,603 and \$91,693, respectively, is included in cost of sales and the remainder is included in operating expenses.

**NANOHOLDING INC. AND SUBSIDIARY**  
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**NOTE 5 – EQUITY**

The holders of Class A common stock have one vote for each share. On December 30, 2012, the Company redeemed 1,765,932 Class A common shares for \$1.77 per share. In connection with these redemptions, the Company paid cash of \$1,190,617 in 2012, and issued promissory notes to the respective Class A stockholders aggregating \$1,935,084 which was paid in 2013 (see Note 6).

On April 19, 2013, the Nanofilm Operating Agreement was amended to allow for Class B units which are now reflected as Class B common stock in the accompanying consolidated financial statements. In connection with this amendment, 1,774,300 Class A common shares beneficially owned by the Company's chief executive officer were converted to Class B common shares. Class B common shares have 100 votes per share. Holders of Class A and Class B common shares elect all but one manager to the Board of Managers of Nanofilm.

Pursuant to the First Amendment to the Operating Agreement of Nanofilm, Class Z members are non-voting and are entitled to elect one manager to the Board of Managers. If additional Class A units or other common equivalents are issued, the holder of Class Z units has the right to purchase additional Class Z units necessary to prevent dilution of Class Z units held as a percentage of the total common equivalent.

**NOTE 6 – NOTES PAYABLE**

In conjunction with the redemption of Class A common shares, the Company issued promissory notes to certain Class A stockholders totaling \$1,935,084 (see Note 5). Interest payments were due quarterly at an annual interest rate of 6%. The notes were to be repaid at 45% of the principal balance due on December 31, 2013 with the remaining balance due December 31, 2014. The notes were personally guaranteed by the majority member and were subordinated to future debt incurred. In July 2013, the Company received a bank loan from Fifth Third Bank (see Note 7) and repaid all remaining notes.

**NOTE 7 -BANK LOANS AND LINES OF REVOLVING CREDIT FACILITY**

On July 30, 2013 the Company entered into a financing arrangement with Fifth Third Bank to provide funds to repay notes payable to Class A stockholders (see Note 6) and provide working capital. The financing arrangement provided for a \$600,000 term loan (the "Term Loan") and a \$1,200,000 Revolving Credit Facility ("Revolving Credit Facility") as described below.

	Term Loan	Revolving Credit Facility
Amount	\$600,000	\$1,200,000
Loan term	5 years	1 year
Interest rate	Libor plus 3% (3.138% at December 31, 2013)	Libor plus 2.75% (2.92% December 31, 2013)
Monthly payment	\$5,000 monthly plus interest	Interest only

The notes are secured by substantially all of the assets of the Company and are personally guaranteed by the Company's chief executive officer/principal stockholder.

**NANOHOLDING INC. AND SUBSIDIARY**  
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**NOTE 7 -BANK LOANS AND LINES OF REVOLVING CREDIT FACILITY (continued)**

The bank term loan and revolving credit facility were as follows:

	Term Loan	Revolving Credit Facility
Balance at December 31, 2013	\$ 575,000	\$ 199,919
Less: current portion	(60,000)	(199,919)
Bank term loan, net of current portion	<u>\$ 515,000</u>	<u>\$ —</u>

Pursuant the Term Loan agreement, in addition to covenants to provide quarterly and annual financial statements and other standard covenants, effective December 31, 2014, the Company shall not permit its Fixed Charge Coverage Ratio (“Fixed Ratio”), as defined in the Term Loan Agreement, to be less than 1.20 to 1.0 at all times, calculated as of the last day of each fiscal year. The Fixed Ratio shall equal the ratio of (a) earnings before interest, income taxes, depreciation and amortization (“EBITDA”) plus rent and operating leases, less distributions, dividends and certain capital expenditures, as defined to (b) the consolidated sum of (i) interest expense and (ii) all principal payments with respect to indebtedness that were paid or were due and payable plus rent and operating lease expense incurred and all cash taxes paid during the respective fiscal year. If these covenants are not met, the Term Loan shall become immediately due on demand.

At December 31, 2013, maximum funds available to borrow under the Revolving Credit Facility amounted to \$1,000,081. The weighted average interest rate during the period was approximately 3%.

At December 31, 2103, future maturities of the Term Loan are as follows:

December 31,	
2014 (current liability)	\$ 60,000
2015	60,000
2016	60,000
2017	60,000
2018	335,000
Total	<u>\$ 575,000</u>

**NOTE 8 – COMMITMENTS**

**Leases**

The Company leases its facilities and certain equipment under non-cancelable operating leases. The Company has the right to renew certain facility leases for an additional five years. Rental expense for operating leases was \$375,330 and \$364,814 for the years ended December 31, 2013 and 2012, respectively, including \$12,830 of amortization for deferred lease incentives for the years ended December 31, 2013 and 2012.

**NANOHOLDING INC. AND SUBSIDIARY**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**  
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**NOTE 8 – COMMITMENTS (continued)**

**Leases (continued)**

Future minimum lease payments under non-cancelable operating leases at December 31, 2013 are as follows:

Years ending <u>December 31,</u>	
2014	\$ 372,436
2015	376,106
2016	373,666
2017	280,249
Total minimum non-cancelable operating lease payments	<u>\$ 1,402,457</u>

**NOTE 9 – RELATED PARTY TRANSACTIONS**

Sales to related party

During 2013 and 2012, the Company engaged in certain sales transactions with the owner of the Nanofilm's Class Z Membership Units. These transactions were conducted during the normal course of the Company's business on terms consistent with similar transactions with unrelated parties. Sales to the related party totaled \$209,170 and \$362,494 for the years ended December 31, 2013 and 2012, respectively. Accounts receivable from the related party totaled \$17,224 and \$88,378 at December 31, 2013 and 2012, respectively.

Other

The Company utilized the services of a legal firm in which the wife of the Company's CEO was a principal in 2012 and only an employee in 2013. Fee incurred to this law firm were \$12,957 and \$24,515 in 2013 and 2012, respectively.

A board member is a principal in an investment advisory firm which the Company paid approximately \$105,000 in fees and expenses during 2013.



**NANOHOLDING INC. AND SUBSIDIARY**  
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**NOTE 10 – EQUITY CREDITS**

During 1997, the Company established *The Equity Credit Incentive Program*. This program enables select employees the opportunity to purchase equity credits that increase in value based upon an increase in the Company's revenue over a base year of 1996. Eligible credits can be redeemed after two years at the equity credit value for that year. Under certain circumstances, the equity credits are convertible into Company equity on a one-for-one basis.

The maximum number of credits available for issuance is 385,000. In 2013, 65,000 equity credits were forfeited and 17,450 units were redeemed, and in 2012, 12,500 credits were forfeited and 15,500 units were redeemed. As of December 31, 2013, 77,700 equity credits were issued and outstanding with an approximate value of \$0.3228 per credit and, as of December 31, 2012, 160,150 equity credits were issued and outstanding with an approximate value of \$0.3691 per credit. A long-term employee receivable of \$14,187 and \$35,880 is included in other assets at December 31, 2013 and 2012, respectively. The receivable relates to the purchases of 44,250 and 99,000 equity credits in 2009 and 2008, respectively, whereby participants are guaranteed no less than their purchase price of \$0.3206 and \$0.2817 per credit, respectively, a portion of which were forfeited during 2012 and 2011. At December 31, 2013 and 2012, \$25,079 and \$59,111 respectively, was accrued representing the redemption value associated with the equity credits outstanding for both years. For the years ended December 31, 2013 and 2012, a gain (loss) from the change in value of the equity credits was \$12,477 and \$(167), respectively, and is included in operating expenses on the accompanying statements of operations.

**NOTE 11 – STOCK APPRECIATION PLAN AND PARTICIPATING MEMBERSHIP UNITS OPTIONS**

From June 1, 1988, until December 31, 1997 when the plan was terminated, the Company had in place a Stock Appreciation Rights Plan A (the Plan), intended to increase the personal participation of employees, directors, members of the Technical Advisory Board and certain independent contractors in the growth of the Company and to provide them with an opportunity to participate in the equity of the Company. The maximum number of stock appreciation rights that could be granted by the Board was 1,000,000.

There were 235,782 fully vested stock appreciation rights outstanding under the terms of the Plan at December 31, 2013 and 2012. These rights are redeemable in cash in the event of termination of employment or business relationship, death, permanent and total disability, or sale of the Company (as defined). In the event of an initial public offering (as defined), 70% of the redemption value of the rights will be used to purchase common shares, with the remaining 30% being distributed in cash to the participant. The accrued redemption value associated with the stock appreciation rights was computed using the formula outlined in the Plan agreement and amounted to \$58,999 and \$65,677, at December 31, 2013 and 2012, respectively. For the years ended December 31, 2013 and 2012, a gain (loss) from the change in value of the stock appreciation rights was \$6,678 and \$(1,873), respectively, and is included in operating expenses on the accompanying consolidated statements of operations.

**NANOHOLDING INC. AND SUBSIDIARY**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**  
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**NOTE 12 – RETIREMENT PLAN**

The Company sponsors a 401(k) savings plan covering substantially all of its employees. Company contributions totaled \$125,201 and \$144,139 for the years ending December 31, 2013 and 2012, respectively, and is included in cost of sales and operating expenses.

**NOTE 13 – INCOME TAXES**

For the years ended December 31, 2013 and 2012, the Company operated as a limited liability company and passed all income and loss to each member based on their proportionate interest in the Company. Accordingly, no provision for federal and state income taxes has been made in these financial statements. Had the Company been subject to income taxes during the years ended December 31, 2013 and 2012, the pro forma effect of income taxes on the Company's net income (loss) based of the Company's statutory income tax rate of 34% are as follows:

	(Unaudited)	
	Years ended December 31,	
	2013	2012
Net income (loss)	\$ (218,320)	\$ 61,718
Pro forma income tax based on statutory rate	–	(20,984)
Pro forma net income (loss)	<u>\$ (218,320)</u>	<u>\$ 40,734</u>

**NOTE 14 – CONCENTRATIONS**

*Concentrations of credit risk*

Financial instruments that potentially subject the Company to concentrations of credit risk consist primarily of trade accounts receivable and cash deposits and investments in cash equivalent instruments. The Company places its cash in banks at levels that, at times, may exceed federally insured limits. At December 31, 2012, cash exceeded the federal insured limit by \$1,290,581. There were no balances in excess of FDIC insured levels as of December 31, 2013. The Company has not experienced any losses in such accounts through December 31, 2013.

**NANOHOLDING INC. AND SUBSIDIARY**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**  
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**NOTE 14 – CONCENTRATIONS (continued)**

Customer concentrations

For the years ended December 31, 2013 and 2012, the Company had the following sales and accounts receivable concentrations:

Customer concentrations for the years ended December 31, 2013 and 2012 are as follows:

	Sales		Accounts Receivable	
	For the years ended December 31,		As of December 31,	
	2013	2012	2013	2012
Customer A	31%	28%	35%	46%
Customer B	14%	4%	32%	–
Customer C	12%	10%	8%	11%
Total	57%	42%	75%	57%

A reduction in sales from or loss of such customers would have a material adverse effect on our results of operations and financial condition.

Geographic concentrations of sales

In 2013 and 2012, total sales in the United States represent 85% and 76% of total sales, respectively. No other geographical area accounting for more than 10% of total sales in 2013 and 2012.

Vendor concentrations

The Company purchased 14% and 12% of its inventory from one supplier for the years ended December 31, 2013 and 2012, respectively.

**NOTE 15 - SUBSEQUENT EVENTS**

The Company has evaluated events and transactions that occurred between December 31, 2013 and April 3, 2014, except for Notes 1 and 15 “Reorganization” as to which the date is May 7, 2014, which is the date that the financial statements were available to be issued, for possible recognition or disclosure in the financial statements.

**NANOHOLDING INC. AND SUBSIDIARY**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**  
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**NOTE 15 - SUBSEQUENT EVENTS (continued)**

Reorganization

In February 2014, on a one to one basis, Nanofilm's Class A and Class B unit owners exchanged their respective units into Class A common stock and Class B common stock, respectively, of Nanoholding, respectively. Similar to the Company's Class A and Class B unit owners voting rights, holder of Nanoholding Inc.'s Class A Common Stock shall be entitled to one vote in person or by proxy for each share of Class A Common Stock held by such holder and every holder of Class B Common Stock shall be entitled to one hundred votes in person or by proxy for each share of Class B Common Stock held by such holder (See Note 1).

Plan of Merger

On March 10, 2014, Nanoholding entered into an Agreement and Plan of Merger and Exchange (the "Merger Agreement") with Applied Nanotech Holdings, Inc., a Texas corporation (the "Applied Nano"), together with its wholly owned subsidiaries PEN INC, a Delaware corporation ("PEN") and NanoMerger Sub Inc., a Delaware corporation ("Merger Sub") and with Carl Zeiss, Inc. ("Zeiss"), the Class Z member of Nanofilm, pursuant to which, subject to the terms and conditions of the Merger Agreement, Nanoholding will merge with and into Merger Sub and become a wholly-owned subsidiary of PEN (the "Merger") with Nanoholding shareholders receiving Class A and Class B common shares of PEN, and Applied Nano will merge with and into PEN for re-domestication purposes. Immediately thereafter Zeiss will exchange its interest in Nanofilm for Class Z common shares of PEN. If additional Class A common shares or Class B common shares or other common equivalents of PEN are issued, the holder of the Class Z common shares has the right to purchase additional Class Z common shares necessary to prevent dilution of the Class Z shareholder as a percentage of the total common equivalent. Applied Nano provides nanotechnology research and development services. Upon completion of the Merger, the then stockholders of Applied Nano are expected to receive approximately 38% of PEN's outstanding common stock and stockholders of Nanoholding and Zeiss are expected to receive approximately 62% of PEN's outstanding common stock. Consummation of the Merger is subject to certain conditions, including (i) approval by the holders of at least a majority of Applied Nano's common stock, (ii) payment or conversion of all of Applied Nano's debt that is convertible into its equity securities (exclusive of the any securities issued as part of the Bridge Financing), and (iii) the absence of any law restraining, enjoining or prohibiting the Merger. Moreover, each party's obligation to consummate the Merger and the exchange is subject to certain other conditions including (a) the accuracy of the other parties' representations and warranties (subject to customary materiality qualifiers) and (b) the other parties' material compliance with its covenants and agreements contained in the Merger Agreement. The Company intends to treat this transaction as a reverse acquisition using the acquisition method of accounting with the Company as the acquirer for accounting purposes.

**NANOHOLDING INC. AND SUBSIDIARY  
CONSOLIDATED BALANCE SHEETS**

	<b>March 31</b>	<b>December 31,</b>
	<b>2014</b>	<b>2013</b>
	<b>(Unaudited)</b>	
<b>ASSETS</b>		
<b>CURRENT ASSETS:</b>		
Cash and cash equivalents	\$ 230,170	\$ 100,367
Accounts receivable, net	1,627,810	1,524,303
Accounts receivable, related party	35,517	17,224
Inventory	1,387,253	1,484,456
Prepaid expenses	153,752	107,718
<b>TOTAL CURRENT ASSETS</b>	<b>3,434,502</b>	<b>3,234,068</b>
PROPERTY AND EQUIPMENT, net	633,035	672,704
OTHER ASSETS	37,890	73,504
<b>TOTAL ASSETS</b>	<b>\$ 4,105,427</b>	<b>\$ 3,980,276</b>
<b>LIABILITIES AND EQUITY</b>		
<b>CURRENT LIABILITIES:</b>		
Accounts payable	\$ 344,638	\$ 721,860
Accrued expenses	355,189	344,271
Current portion of bank term loan	60,000	60,000
Income taxes payable	47,608	-
Bank revolving line of credit	399,919	199,919
<b>TOTAL CURRENT LIABILITIES</b>	<b>1,207,354</b>	<b>1,326,050</b>
<b>LONG-TERM LIABILITIES:</b>		
Accrued compensation - stock appreciation rights Plan A	58,999	58,999
Deferred lease incentives	40,628	43,836
Equity credits issued	11,373	25,079
Bank term loan, net of current portion	505,000	515,000
<b>TOTAL LONG-TERM LIABILITIES</b>	<b>616,000</b>	<b>642,914</b>
<b>TOTAL LIABILITIES</b>	<b>1,823,354</b>	<b>1,968,964</b>
	<b>2,227,148</b>	
Commitments (Note 6)		
<b>EQUITY:</b>		
Class A common stock: \$.0001 par value, 2,600,000 shares authorized; 195,834 and 195,834 issued and outstanding at March 31, 2014 and December 31, 2013, respectively	20	20
Class B common stock: \$.0001 par value, 2,000,000 shares authorized; 1,774,300 and 1,774,300 issued and outstanding at March 31, 2014 and December 31, 2013, respectively	177	177
Accumulated deficit	(873,210)	(1,104,665)
Total Nanoholding Inc. stockholders' deficit	(873,013)	(1,104,468)
Non-controlling interest	3,155,086	3,115,780
<b>TOTAL EQUITY</b>	<b>2,282,073</b>	<b>2,011,312</b>
<b>TOTAL LIABILITIES AND EQUITY</b>	<b>\$ 4,105,427</b>	<b>\$ 3,980,276</b>

See accompanying notes to unaudited consolidated financial statements.



**NANOHOLDING INC. AND SUBSIDIARY  
CONSOLIDATED STATEMENTS OF OPERATIONS**

	For the Three Months Ended March 31,	
	2014	2013
	(Unaudited)	(Unaudited)
<b>SALES:</b>		
Third parties	\$ 2,688,726	\$ 2,339,088
Related party	82,685	55,575
<b>Total Sales</b>	<b>2,771,411</b>	<b>2,394,663</b>
<b>COST OF SALES</b>	<b>1,450,141</b>	<b>1,361,852</b>
<b>GROSS PROFIT</b>	<b>1,321,270</b>	<b>1,032,811</b>
<b>OPERATING EXPENSES:</b>		
Salaries, wages and contract services	533,561	486,107
Professional services	186,026	72,303
Sales and marketing	73,517	82,008
Occupancy	90,735	94,600
Travel and entertainment	22,084	31,642
Depreciation	22,137	32,643
Administrative	45,862	40,872
Materials and development	21,659	13,113
<b>Total Operating Expenses</b>	<b>995,581</b>	<b>853,288</b>
<b>INCOME FROM OPERATIONS</b>	<b>325,689</b>	<b>179,523</b>
<b>OTHER INCOME (EXPENSES):</b>		
Interest income	–	9
Interest expense	(7,333)	(28,526)
Other income, net	13	4,445
<b>Total Income (Expenses)</b>	<b>(7,320)</b>	<b>(24,072)</b>
<b>INCOME BEFORE PROVISION FOR INCOME TAXES</b>	<b>318,369</b>	<b>155,451</b>
<b>PROVISION FOR INCOME TAXES</b>	<b>(47,608)</b>	<b>–</b>
<b>NET INCOME</b>	<b>270,761</b>	<b>155,451</b>
<b>NET INCOME ATTRIBUTABLE TO NON-CONTROLLING INTEREST</b>	<b>(39,306)</b>	<b>(22,567)</b>
<b>NET INCOME ATTRIBUTABLE TO NANOHOLDING INC.</b>	<b>\$ 231,455</b>	<b>\$ 132,884</b>
<b>NET INCOME PER COMMON SHARE:</b>		
Basic	\$ 0.12	\$ 0.07
Diluted	\$ 0.12	\$ 0.07
<b>WEIGHTED AVERAGE COMMON SHARES OUTSTANDING:</b>		
Basic	1,970,134	1,970,134
Diluted	1,970,134	1,970,134

See accompanying notes to unaudited consolidated financial statements.

**NANOHOLDING INC. AND SUBSIDIARY  
CONSOLIDATED STATEMENTS OF CASH FLOWS**

	<b>For the Three Months Ended March 31,</b>	
	<b>2014</b>	<b>2013</b>
	<b>(Unaudited)</b>	<b>(Unaudited)</b>
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>		
Net income	\$ 270,761	\$ 155,451
Adjustments to reconcile net income to net cash used in operating activities:		
Bad debt (recovery) expense	–	(36)
Change in inventory obsolescence reserve	63,729	36,379
Depreciation and amortization expense	42,183	55,071
Amortization of deferred lease incentives	(3,208)	(3,208)
Change in operating assets and liabilities:		
Accounts receivable	(103,507)	(433,666)
Accounts receivable related party	(18,293)	72,541
Inventory	33,474	(212,362)
Prepaid expenses and other assets	(24,126)	(95,620)
Accounts payable	(377,222)	14,656
Accrued expenses	10,918	73,404
Income taxes payable	47,608	–
<b>NET CASH USED IN OPERATING ACTIVITIES</b>	<b>(57,683)</b>	<b>(337,390)</b>
<b>CASH FLOWS FROM INVESTING ACTIVITIES</b>		
Purchases of property and equipment	(2,514)	(19,095)
<b>NET CASH USED IN INVESTING ACTIVITIES</b>	<b>(2,514)</b>	<b>(19,095)</b>
<b>CASH FLOWS FROM FINANCING ACTIVITIES</b>		
Payments made for member unit redemptions	–	(50,045)
Proceeds from bank line of credit	200,000	–
Repayment of bank loans	(10,000)	–
<b>NET CASH PROVIDED BY (USED IN) FINANCING ACTIVITIES</b>	<b>190,000</b>	<b>(50,045)</b>
<b>NET INCREASE (DECREASE) IN CASH</b>	<b>129,803</b>	<b>(406,530)</b>
CASH, beginning of year	100,367	1,540,581
CASH, end of period	<u>\$ 230,170</u>	<u>\$ 1,134,051</u>
<b>SUPPLEMENTAL DISCLOSURE OF CASH FLOW INFORMATION</b>		
Cash paid during the year for interest		
Interest	<u>\$ 4,798</u>	<u>\$ 251</u>
Income taxes	<u>\$ –</u>	<u>\$ –</u>
<b>SUPPLEMENTAL DISCLOSURE OF NON-CASH INVESTING AND FINANCING ACTIVITIES:</b>		
Value of equity credits forfeited at original purchase price, in exchange for cancellation of receivables	<u>\$ 13,706</u>	<u>\$ –</u>

See accompanying notes to unaudited consolidated financial statements.



**NANOHOLDING INC. AND SUBSIDIARY**  
**NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS**  
**March 31, 2014 and 2013**

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**NOTE 1 – NATURE OF OPERATIONS AND REORGANIZATION**

*Nature of operations*

Nanoholding Inc. and Subsidiary (the “Company”) develops and markets products based on technology which permits the fabrication of oriented, ultra-thin films of organic or polymeric crystals. The Company also produces a line of personal lens cleaners and accessories. These products are marketed internationally primarily to customers in the eyeglass industry. Nanoholding Inc. (“Nanoholding”) is a holding company formed under the laws of Delaware on February 24, 2014. Nanoholding is a majority owner of membership interests in Nanofilm, Ltd. (“Nanofilm”), a company formed under the laws of the Ohio on June 14, 1995 as a limited liability company.

*Reorganization*

In February 2014, on a one to one basis, Class A and Class B unit owners of Nanofilm exchanged their respective units into Class A common stock and Class B common stock, respectively, of Nanoholding, respectively. Similar to Nanofilm’s Class A and Class B unit owners voting rights, holders of Nanoholding’s Class A Common Stock shall be entitled to one vote in person or by proxy for each share of Class A Common Stock held by such holder and every holder of Class B Common Stock shall be entitled to one hundred votes in person or by proxy for each share of Class B Common Stock held by such holders. The Class Z unit owner retained their member interest in Nanofilm. As a result of the share exchange, Nanofilm became a majority-owned subsidiary of the Company. During and after the restructuring, there has been no change to the Company’s principal managers and Nanofilm has remained under common operating, management and financial control. As a result, the reorganization has been accounted for as a combination of entities under common control and recapitalization of Nanofilm with no adjustment to the historical basis of the assets and liabilities of Nanofilm, and the operations are consolidated and all equity and per unit equity data is presented retroactively as if the reorganization occurred as of the beginning of the first accounting period presented in these consolidated financial statements. The Class Z member of Nanofilm is accounted for as a non-controlling interest.

**NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

*Basis of presentation*

The Company’s consolidated financial statements include the financial statements of its majority-owned subsidiary, Nanofilm, Ltd. All significant intercompany accounts and transactions have been eliminated in consolidation.

Management acknowledges its responsibility for the preparation of the accompanying consolidated financial statements which reflect all adjustments, consisting of normal recurring adjustments, considered necessary in its opinion for a fair statement of its consolidated financial position and the consolidated results of its operations for the periods presented. The accompanying unaudited consolidated financial statements for the Company have been prepared in accordance with accounting principles generally accepted in the United States of America (the “U.S. GAAP”) and the rules and regulations of the U.S. Securities and Exchange Commission for interim financial information. Operating results for interim periods are not necessarily indicative of results that may be expected for the fiscal year as a whole. All necessary adjustments have been made to present the consolidated financial statements in accordance with U.S. GAAP. These consolidated financial statements should be read in conjunction with the summary of significant accounting policies and notes to financial statements included in the Company’s audited financial statements for the years ended December 31, 2013 and 2012.

**NANOHOLDING INC. AND SUBSIDIARY**  
**NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS**  
**March 31, 2014 and 2013**

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**NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES, CONTINUED**

Use of estimates

The preparation of consolidated financial statements in conformity with accounting principles generally accepted in the United States requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenue and expenses during the reporting period. Actual results could differ from those estimates. Significant estimates for the three months ended March 31, 2014 and 2013 include the allowance for doubtful accounts on accounts receivable, the allowance for obsolete inventory, the useful life of property and equipment, assumptions used in assessing impairment of long-term assets, and the fair value of any equity incentives.

Fair value of financial instruments

The Company adopted the guidance of Accounting Standards Codification (“ASC”) 820 for fair value measurements which clarifies the definition of fair value, prescribes methods for measuring fair value, and establishes a fair value hierarchy to classify the inputs used in measuring fair value as follows:

Level 1-Inputs are unadjusted quoted prices in active markets for identical assets or liabilities available at the measurement date.

Level 2-Inputs are quoted prices for similar assets and liabilities in active markets, quoted prices for identical or similar assets and liabilities in markets that are not active, inputs other than quoted prices that are observable, and inputs derived from or corroborated by observable market data.

Level 3-Inputs are unobservable inputs which reflect the reporting entity’s own assumptions on what assumptions the market participants would use in pricing the asset or liability based on the best available information.

The carrying amounts reported in the consolidated balance sheets for cash and cash equivalents, accounts receivable, loans and lines of credit, accounts payable, accrued expenses, and other payables approximate their fair market value based on the short-term maturity of these instruments.

The Company analyzes all financial instruments with features of both liabilities and equity under the FASB’s accounting standard for such instruments. Under this standard, financial assets and liabilities are classified in their entirety based on the lowest level of input that is significant to the fair value measurement. Depending on the product and the terms of the transaction, the fair value of notes payable and derivative liabilities were modeled using a series of techniques, including closed-form analytic formula, such as the Black-Scholes option-pricing model.

**NANOHOLDING INC. AND SUBSIDIARY**  
**NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS**  
**March 31, 2014 and 2013**

**NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES, CONTINUED**

The following table presents a reconciliation of the liabilities measured at fair value on a recurring basis using significant unobservable input (Level 3) for the three months ended March 31, 2014:

	Stock Appreciation Rights Plan A	Equity Credits Issued
Balance at December 31, 2013	\$ 58,999	\$ 25,079
Equity credits forfeited	–	(13,706)
Balance at March 31, 2014	<u>\$ 58,999</u>	<u>\$ 11,373</u>

ASC 825-10 “Financial Instruments”, allows entities to voluntarily choose to measure certain financial assets and liabilities at fair value (fair value option). The fair value option may be elected on an instrument-by-instrument basis and is irrevocable, unless a new election date occurs. If the fair value option is elected for an instrument, unrealized gains and losses for that instrument should be reported in earnings at each subsequent reporting date. The Company did not elect to apply the fair value option to any outstanding instruments.

Cash and cash equivalents

For purposes of the consolidated statements of cash flows, the Company considers all highly liquid instruments with a maturity of three months or less at the purchase date and money market accounts to be cash equivalents.

Accounts receivable

The Company recognizes an allowance for losses on accounts receivable in an amount equal to the estimated probable losses net of recoveries. The allowance is based on an analysis of historical bad debt experience, current receivables aging, and expected future write-offs, as well as an assessment of specific identifiable customer accounts considered at risk or uncollectible. The expense associated with the allowance for doubtful accounts is recognized as administrative expense. At March 31, 2014 and December 31, 2013, outstanding accounts receivable are shown net of allowance for doubtful accounts of \$16,017 and \$16,017, and sales discount reserve of \$9,455 and \$10,555, respectively.

Inventory

Inventory is stated at the lower of cost or market. Cost is determined using the first-in, first-out (FIFO) method.

Revenue recognition

Pursuant to the guidance of ASC Topic 605, the Company recognizes sales when persuasive evidence of an arrangement exists, delivery has occurred, the purchase price is fixed or determinable and collectability is reasonably assured. Net sales is recognized when the product is shipped to the customer and title is transferred.

**NANOHOLDING INC. AND SUBSIDIARY**  
**NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS**  
**March 31, 2014 and 2013**

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**NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES, CONTINUED**

*Sales incentives and consideration paid to customers*

The Company accounts for certain promotional costs such as sales incentives and cooperative advertising as a reduction of net sales. For the three months ended March 31, 2014 and 2013, the Company recorded approximately \$30,498 and \$32,655, respectively, as a reduction of sales related to these costs.

*Cost of sales*

Cost of sales includes inventory costs, labor and related benefits, depreciation, overhead and shipping and handling costs incurred.

*Shipping and handling costs*

Shipping and handling costs incurred relating to the purchase of inventory are included in inventory which is charged to cost of sales as product is sold. Shipping and handling costs charged to customers are included in sales. For the three months ended March 2014 and 2013, shipping and handling costs incurred for product shipped to customers are included in cost of sales and amounted to \$52,985 and \$58,558, respectively.

*Research and development*

Research and development costs are expensed as incurred. For the three months ended March 31, 2014 and 2013, research and development costs were \$146,969 and \$206,606, respectively, and are included in operating expenses on the accompanying consolidated statements of operations.

*Advertising costs*

The Company participates in various advertising programs. All costs related to advertising of the Company's products are expensed in the period incurred. For the three months ended March 31, 2014 and 2013, advertising costs charged to operations were \$38,331 and \$47,330, respectively and are included in sales and marketing on the accompanying statements of operations. These advertising expenses do not include cooperative advertising sales incentives and which have been deducted from sales.

*Federal and state income taxes*

The Company accounts for income tax using the liability method prescribed by ASC 740, "Income Taxes". Under this method, deferred tax assets and liabilities are determined based on the difference between the financial reporting and tax bases of assets and liabilities using enacted tax rates that will be in effect in the year in which the differences are expected to reverse. The Company records a valuation allowance to offset deferred tax assets if based on the weight of available evidence, it is more-likely-than-not that some portion, or all, of the deferred tax assets will not be realized. The effect on deferred taxes of a change in tax rates is recognized as income or loss in the period that includes the enactment date.

**NANO HOLDING INC. AND SUBSIDIARY**  
**NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS**  
**March 31, 2014 and 2013**

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**NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES, CONTINUED**

The Company's subsidiary, Nanofilm, operates as a limited liability company and passes all income and loss to each member based on their proportionate interest in Nanofilm.

The Company follows the accounting guidance for uncertainty in income taxes using the provisions of Accounting Standards Codification (ASC) 740 *Income Taxes*. Using that guidance, tax positions initially need to be recognized in the financial statements when it is more likely than not the position will be sustained upon examination by the tax authorities. As of March 31, 2014 and December 31, 2013 and, the Company had no uncertain tax positions that qualify for either recognition or disclosure in the financial statements. Tax years that remain subject to examination are the years ending on and after December 31, 2010. The Company recognizes interest and penalties related to uncertain income tax positions in other expense. However, no such interest and penalties were recorded as of March 31, 2014.

Member distributions

At the election of the Company's subsidiary's Board of Managers', the Company may make periodic distributions to members of the subsidiary based on a percentage of the Company's estimated taxable income.

Income per share of common stock

Basic net income per common share is computed by dividing net income available to common stockholders (Class A and B) by the weighted average number of shares of Class A and Class B common stock outstanding during the period. Diluted net income per common share is computed by dividing net income by the weighted average number of shares of Class A and Class B common stock, common stock equivalents and potentially dilutive securities outstanding during each period. As of March 31, 2014 and December 31, 2013, the Company did not have any potentially dilutive common shares.

**NOTE 3 - INVENTORY**

At March 31, 2014 and December 31, 2013, inventory consisted of the following:

	<b>March 31, 2014</b>	<b>December 31, 2013</b>
Raw materials	\$ 1,053,737	\$ 1,055,667
Finished goods	664,918	696,461
	<u>1,718,655</u>	<u>1,752,128</u>
Less: reserve for obsolete inventory	(331,402)	(267,672)
<b>Inventory, net</b>	<b><u>\$ 1,387,253</u></b>	<b><u>\$ 1,484,456</u></b>

**NANOHOLDING INC. AND SUBSIDIARY**  
**NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS**  
**March 31, 2014 and 2013**

**NOTE 4 – EQUITY**

In February 2014, on a one to one basis, Class A and Class B member unit owners of Nanofilm exchanged their respective units into Class A common stock and Class B common stock, respectively, of Nanoholding, respectively. Similar to Nanofilm’s Class A and Class B member unit owners voting rights, holder of the Company’s Class A Common Stock shall be entitled to one vote in person or by proxy for each share of Class A Common Stock held by such holder and every holder of Class B Common Stock shall be entitled to one hundred votes in person or by proxy for each share of Class B Common Stock held by such holder.

**NOTE 5 -BANK LOANS AND LINES OF REVOLVING CREDIT FACILITY**

On July 30, 2013 the Company entered into a financing arrangement with Fifth Third Bank to provide funds to repay notes payable to Class A stockholders and provide working capital. The financing arrangement provided for a \$600,000 term loan (the “Term Loan”) and a \$1,200,000 Revolving Credit Facility (“Revolving Credit Facility”) as described below.

	Term Loan		Revolving Credit Facility
Amount	\$ 600,000	\$	1,200,000
Loan term	5 years		1 year
Interest rate	Libor plus 3% (3.156% and 3.138% at March 31, 2014 and December 31, 2013, respectively)		Libor plus 2.75% (2.906 and 2.92% at March 31, 2014 and December 31, 2013, respectively)
Monthly payment	\$ 5,000 monthly plus interest	\$	Interest only

The notes are secured by substantially all of the assets of the Company and are personally guaranteed by the Company’s chief executive officer/principal stockholder.

The bank term loan and revolving credit facility were as follows:

	Term Loan	Revolving Credit Facility
Balance at March 31, 2014	\$ 565,000	\$ 399,919
Less: current portion	(60,000)	(399,919)
Bank term loan, net of current portion	<u>\$ 505,000</u>	<u>\$ –</u>
	Term Loan	Revolving Credit Facility
Balance at December 31, 2013	\$ 575,000	\$ 199,919
Less: current portion	(60,000)	(199,919)
Bank term loan, net of current portion	<u>\$ 515,000</u>	<u>\$ –</u>

**NANOHOLDING INC. AND SUBSIDIARY**  
**NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS**  
**March 31, 2014 and 2013**

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**NOTE 5 -BANK LOANS AND LINES OF REVOLVING CREDIT FACILITY (continued)**

Pursuant the Term Loan agreement, in addition to covenants to provide quarterly and annual financial statements and other standard covenants, effective December 31, 2014, the Company shall not permit its Fixed Charge Coverage Ratio ("Fixed Ratio"), as defined in the Term Loan Agreement, to be less than 1.20 to 1.0 at all times, calculated as of the last day of each fiscal year. The Fixed Ratio shall equal the ratio of (a) earnings before interest, income taxes, depreciation and amortization ("EBITDA") plus rent and operating leases, less distributions, dividends and certain capital expenditures, as defined to (b) the consolidated sum of (i) interest expense and (ii) all principal payments with respect to indebtedness that were paid or were due and payable plus rent and operating lease expense incurred and all cash taxes paid during the respective fiscal year. If these covenants are not met, the Term Loan shall become immediately due on demand.

At March 31, 2014, maximum funds available to borrow under the Revolving Credit Facility amounted to \$800,081. The weighted average interest rate during the period was approximately 3%.

At March 31, 2014, future maturities of the Term Loan are as follows:

March 31,	
2015 (current liability)	\$ 60,000
2016	60,000
2017	60,000
2018	60,000
2019	325,000
Total	<u>\$ 565,000</u>

**NOTE 6 – COMMITMENTS**

**Leases**

The Company leases its facilities and certain equipment under non-cancelable operating leases. The Company has the right to renew certain facility leases for an additional five years. Rental expense for operating leases was \$92,981 and \$95,000 for the three months ended March 31, 2014 and 2013, respectively, including \$3,208 of amortization for deferred lease incentives for the three months ended March 31, 2014 and 2013.

**NANOHOLDING INC. AND SUBSIDIARY**  
**NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS**  
**March 31, 2014 and 2013**

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**NOTE 7 – RELATED PARTY TRANSACTIONS**

Sales to related party

During the three months ended March 31, 2014 and 2013, the Company engaged in certain sales transactions with the owner of Nanofilm’s Class Z Membership Units. These transactions were conducted during the normal course of the Company’s business on terms consistent with similar transactions with unrelated parties. Sales to the related party totaled \$82,685 and \$55,575 for the three months ended March 31, 2014 and 2013, respectively. Accounts receivable from the related party totaled \$35,517 and \$17,224 at March 31, 2014 and December 31, 2013, respectively.

Other

A board member is a principal in an investment advisory firm which the Company paid approximately \$67,000 in fees and expenses during the three months ended March 31, 2014.

**NOTE 8 – CONCENTRATIONS**

Concentrations of credit risk

Financial instruments that potentially subject the Company to concentrations of credit risk consist primarily of trade accounts receivable and cash deposits and investments in cash equivalent instruments.

The Company places its cash in banks at levels that, at times, may exceed federally insured limits. There were no balances in excess of FDIC insured levels as of March 31, 2014 and December 31, 2013. The Company has not experienced any losses in such accounts through March 31, 2014.

Customer concentrations

For the three months ended March 31, 2014 and 2013, the Company had the following sales and accounts receivable concentrations:

Customer concentrations for the three months ended March 31, 2014 and 2013 are as follows:

	Sales		Accounts Receivable	
	For the three months ended		As of	As of
	March 31,		March 31,	December 31,
	2014	2013	2014	2013
Customer A	20%	27%	40%	35%
Customer B	29%	2%	27%	32%
Customer C	14%	13%	6%	8%
Total	63%	42%	73%	75%

A reduction in sales from or loss of such customers would have a material adverse effect on our consolidated results of operations and financial condition.



**NANOHOLDING INC. AND SUBSIDIARY**  
**NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS**  
**March 31, 2014 and 2013**

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**NOTE 8 – CONCENTRATIONS (continued)**

Geographic concentrations of sales

For the three months ended March 31, 2014 and 2013, total sales in the United States represent 89% and 79% of total sales, respectively. No other geographical area accounting for more than 10% of total sales during the three months ended March 31, 2014 and 2013.

Vendor concentrations

For the three months ended March 31, 2014, the Company purchased 38% of its inventory from two suppliers (26% and 12%, respectively). For the three months ended March 31, 2013, the Company purchased 35% of its inventory from two suppliers (24% and 11%, respectively).

**NOTE 9 – PLAN OF MERGER**

On March 10, 2014, Nanoholding entered into an Agreement and Plan of Merger and Exchange (the “Merger Agreement”) with Applied Nanotech Holdings, Inc., a Texas corporation (the “Applied Nano”), together with its wholly owned subsidiaries PEN INC, a Delaware corporation (“PEN”) and NanoMerger Sub Inc., a Delaware corporation (“Merger Sub”) and with Carl Zeiss, Inc. (“Zeiss”), the Class Z member of Nanofilm, pursuant to which, subject to the terms and conditions of the Merger Agreement, Nanoholding will merge with and into Merger Sub and become a wholly-owned subsidiary of PEN (the “Merger”) with Nanoholding shareholders receiving Class A and Class B common shares of PEN, and Applied Nano will merge with and into PEN for re-domestication purposes. Immediately thereafter Zeiss will exchange its interest in Nanofilm for Class Z common shares of PEN. If additional Class A common shares or Class B common shares or other common equivalents of PEN are issued, the holder of the Class Z common shares has the right to purchase additional Class Z common shares necessary to prevent dilution of the Class Z shareholder as a percentage of the total common equivalent. Applied Nano provides nanotechnology research and development services. Upon completion of the Merger, the then stockholders of Applied Nano are expected to receive approximately 38% of PEN’s outstanding common stock and stockholders of Nanoholding and Zeiss are expected to receive approximately 62% of PEN’s outstanding common stock. Consummation of the Merger is subject to certain conditions, including (i) approval by the holders of at least a majority of Applied Nano’s common stock, (ii) payment or conversion of all of Applied Nano’s debt that is convertible into its equity securities (exclusive of the any securities issued as part of the Bridge Financing), and (iii) the absence of any law restraining, enjoining or prohibiting the Merger. Moreover, each party’s obligation to consummate the Merger and the exchange is subject to certain other conditions including (a) the accuracy of the other parties’ representations and warranties (subject to customary materiality qualifiers) and (b) the other parties’ material compliance with its covenants and agreements contained in the Merger Agreement. The Company intends to treat this transaction as a reverse acquisition using the acquisition method of accounting with the Company as the acquirer for accounting purposes.

**NANOHOLDING INC. AND SUBSIDIARY**  
**NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS**  
**March 31, 2014 and 2013**

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**NOTE 10 - SUBSEQUENT EVENTS**

The Company has evaluated events and transactions that occurred between March 31, 2014 and May 22, 2014, which is the date that the consolidated financial statements were available to be issued, for possible recognition or disclosure in the consolidated financial statements.

In April 2014, the Company entered into a \$1,500,000 revolving credit note agreement (the "Revolving Note") with a bank. The unpaid principal balance of this Revolving Note is payable on demand, is secured by all of the Company's assets, and bears interest computed at a rate of interest (the "Effective Rate") which is equal to 7.0% above the LIBOR Rate, as defined, payable monthly. The Company shall pay to Lender a late charge of 5.0% of any monthly payment not received by Lender within 10 calendar days after said payment is due. The Company, at any time or from time to time upon three business days' written notice to Lender, prepay the Note in whole provided that (i) if Borrower prepays the Revolving Note in full and terminates the Revolving Note after the date hereof, or (ii) Lender, after the date hereof, terminates the Revolving Note after default, then Borrower shall pay, in addition to all other amounts due to Lender and/or paid by the Company, a termination premium equal to 2.0% of the maximum loan amount. The Company used the proceeds of the Revolving Note disbursed at closing to retire and extinguish all indebtedness of the Company to Fifth Third Bank (see Note 5). The Company borrowed approximately \$988,000 under the Revolving Note which repaid Fifth Third Bank.

**AGREEMENT AND PLAN OF MERGER  
AND EXCHANGE  
BY AND AMONG  
APPLIED NANOTECH HOLDINGS, INC.  
PEN INC.,  
NANOMERGER SUB INC.  
NANO HOLDINGS INC.,  
AND  
CARL ZEISS, INC.**

**Dated: March 10, 2014**

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## AGREEMENT AND PLAN OF MERGER AND EXCHANGE

This AGREEMENT AND PLAN OF MERGER AND EXCHANGE, dated as of March 10, 2014 is entered into by and among APPLIED NANOTECH HOLDINGS, INC., a corporation incorporated in the State of Texas, USA ("**APNT**"), PEN INC., a corporation incorporated in the State of Delaware and a wholly-owned subsidiary of APNT ("**PEN**"), NANOMERGER SUB INC., a corporation incorporated in the State of Delaware and a wholly-owned subsidiary of APNT ("**MergerSub**"), NANO HOLDING INC., a Delaware corporation ("**Nano**") AND CARL ZEISS INC., a New York corporation ("**Zeiss**"). APNT, PEN, MergerSub and other subsidiaries of APNT are referred to herein as, the "**APNT Parties**". Each of the Parties to this Agreement is individually referred to herein as a "**Party**" and collectively as the "**Parties**." Capitalized terms used herein that are not otherwise defined herein shall have the meanings ascribed to them in *Annex A* hereto.

### BACKGROUND

APNT has formed a wholly-owned subsidiary, PEN, solely for the purposes of the merger of APNT with and into PEN pursuant to the applicable sections of the General Corporation Law of the State of Delaware (the "**DGCL**") and applicable sections of the Texas Business Organizations Code (the "**TBOC**") in which PEN will be the surviving corporation (the "**Redomestication Merger**").

APNT has formed a wholly-owned subsidiary, MergerSub, solely for the purposes of the merger of Nano with and into MergerSub pursuant to the applicable sections of the DGCL (the "**Nano Merger**"). The Redomestication Merger and the Nano Merger are collectively referred to hereinafter as the "**Merger**" or "**Mergers**".

For U.S. federal income tax purposes, APNT and Nano intend that the Mergers will qualify as a "reorganization" within the meaning of Section 368 of the Code, that this Agreement will constitute a "plan of reorganization" for purposes of the Code, and that APNT, PEN, MergerSub and Nano will each be a "party" to the reorganization.

APNT and Zeiss desire that Zeiss participate in the business combination through a direct exchange by which Zeiss will transfer to PEN, immediately after the Nano Merger, its Class Z Units of membership interest (the "**Z Units**") in Nanofilm Ltd, an Ohio limited liability company ("**Nanofilm LLC**") in exchange for shares of PEN as further described herein (the "**Exchange**"). The Board of Directors of APNT (i) has determined that the Redomestication Merger and Nano Merger are advisable and fair to, and in the best interests of, APNT and its stockholders, (ii) has approved this Agreement, the Mergers, the issuance of the PEN Shares to the stockholders of APNT and shares of PEN to the stockholders of Nano and to Zeiss pursuant to the terms of this Agreement, (iii) has determined that this Agreement and the other actions contemplated by this Agreement are advisable and (iv) has determined to recommend that the stockholders of APNT vote to approve the Mergers, the issuance of the shares of PEN pursuant to the terms of this Agreement, and such other actions as contemplated by this Agreement.

The Board of Directors of PEN (i) has determined that the Mergers and the Exchange are advisable and fair to, and in the best interests of, PEN and its sole stockholder, (ii) has approved this Agreement, the Mergers, the Exchange and the other actions contemplated by this Agreement and has deemed this Agreement advisable and (iii) has determined to recommend that the stockholder of PEN vote to approve the Mergers, the Exchange and such other actions as contemplated by this Agreement.

The Board of Directors of MergerSub (i) has determined that the Mergers are advisable and fair to, and in the best interests of, MergerSub and its sole stockholder, (ii) has approved this Agreement, the Mergers, and the other actions contemplated by this Agreement and has deemed this Agreement advisable and (iii) has determined to recommend that the stockholder of MergerSub vote to approve the Mergers and such other actions as contemplated by this Agreement.

The Board of Directors of Nano (i) has determined that the Nano Merger is advisable and fair to, and in the best interests of, Nano and its stockholders, (ii) has approved this Agreement, the Nano Merger and the other actions contemplated by this Agreement and has deemed this Agreement advisable and (iii) has approved and determined to recommend the approval and adoption of this Agreement and the approval of the Nano Merger to the stockholders of Nano.

Zeiss has authorized this Agreement and the Exchange.

In order to induce Nano to enter into this Agreement and to cause the Mergers to be consummated, directors of APNT and their affiliates listed on the signature pages to Exhibit A, are executing voting agreements in favor of the Mergers concurrently with the execution and delivery of this Agreement in the form substantially attached hereto as Exhibit A (the "**Voting and Conversion Agreements**").

In order to induce Nano to enter into this Agreement and to cause the Mergers to be consummated, the directors, the President and Chief Financial Officer of APNT have agreed to modify the terms and conditions of their compensation arrangements with APNT on terms and conditions agreed to among such officers and directors, APNT and Nano (the "**Amended Compensation Agreements**").

## AGREEMENT

NOW, THEREFORE, in consideration of the foregoing and the respective representations, warranties, covenants and agreements set forth herein, and intending to be legally bound hereby, the Parties agree as follows:

### ARTICLE I The Redomestication Merger

SECTION 1.1 *The Redomestication Merger*. At the Redomestication Merger Effective Time, APNT will be merged with and into PEN in accordance with the applicable sections of the DGCL, the TBOC and this Agreement, and the separate corporate existence of APNT will thereupon cease. PEN (sometimes hereinafter referred to as the "**Surviving Corporation**") will be the surviving corporation in the Redomestication Merger. The Redomestication Merger will have the effects specified in the DGCL and the TBOC.

SECTION 1.2 *Filing of Certificate of Merger; Redomestication Merger Effective Time*. As soon as practicable following the satisfaction or, to the extent permitted by applicable Legal Requirements, waiver of the conditions to the Closing set forth in Article XII, if this Agreement shall not have been terminated prior thereto as provided in Section 14.1, APNT and PEN shall cause (a) a certificate of merger (the "**Certificate of Redomestication Merger**") meeting the applicable sections of the DGCL to be properly executed and filed in accordance with the applicable requirements of the DGCL, and (b) certificate of merger meeting the requirements of applicable sections of the TBOC to be properly executed and filed in accordance with such sections. The Redomestication Merger shall become effective at the time designated in the Certificate of Redomestication Merger (the "**Redomestication Merger Effective Time**").

**ARTICLE II**  
**The Nano Merger and Z Unit Exchange**

SECTION 2.1 *Integrated Transaction*. The Nano Merger will take place immediately after the Redomestication Merger Effective Time. Subject to the terms and conditions of this Agreement, at the Nano Merger Effective Time (as defined in Section 2.2 below), Nano will be merged with and into MergerSub in accordance with this Agreement and the applicable provisions of the DGCL, and the separate corporate existence of Nano will thereupon cease. The Nano Merger shall have the effects specified in the relevant sections of the DGCL. The Redomestication Merger, the Nano Merger and the Exchange are part of the same integrated transaction, such that, while the Redomestication Merger is a precondition to the Nano Merger and the Exchange, and the Redomestication Merger and the Nano Merger are preconditions to the Exchange, neither of the Mergers nor the Exchange shall occur without the others.

SECTION 2.2 *Filing of Certificate of Merger; Nano Merger Effective Time*. As soon as practicable following the satisfaction or, to the extent permitted by applicable Legal Requirements, waiver of the conditions to the Closing set forth in Article XII, if this Agreement shall not have been terminated prior thereto as provided in Section 14.1, Nano and MergerSub shall cause a certificate of merger (the “*Certificate of Nano Merger*”) meeting the applicable sections of the DGCL, to be properly executed and filed in accordance with the applicable requirements of the DGCL. The Nano Merger shall become effective at the time designated in the Certificate of Nano Merger (the “*Nano Merger Effective Time*”).

SECTION 2.3 *Share Exchange for Z Units*. At the Closing, immediately after the Nano Merger Effective Time, Zeiss shall exchange the Z Units for that number of validly issued, fully paid and non-assessable shares of Class Z Common Stock, par value \$0.0001, of PEN equal to the product of the number of Z Units multiplied by the Exchange Ratio.

SECTION 2.4 *Effect of Nano Merger and Exchange*; Zeiss and Nano are the sole members of Nanofilm LLC. At the Closing, following the Nano Merger Effective Time and the Exchange, Nanofilm LLC will be a wholly-owned subsidiary of PEN.

**ARTICLE III**  
**Charter Documents, Directors and Officers of PEN and MergerSub**

SECTION 3.1 *Articles of Incorporation of Surviving Corporation*. The Articles of Incorporation of PEN as set forth in Exhibit B-1 attached hereto shall be the Articles of Incorporation of the Surviving Corporation, until duly amended in accordance with applicable Legal Requirements.

SECTION 3.2 *Bylaws of Surviving Corporation*. The bylaws of PEN as set forth in Exhibit B-2 attached hereto shall be the bylaws of the Surviving Corporation, until duly amended in accordance with applicable Legal Requirements.

SECTION 3.3 *Directors of Surviving Corporation*. The directors of PEN immediately following the Redomestication Merger Effective Time shall be the directors of the Surviving Corporation, until the earlier of the Nano Merger Effective Time at which time the Combined Board will be established under Section 11.4(a), or, if this Agreement shall have been terminated prior thereto as provided in Section 14.1, their death, resignation or removal or until their respective successors are duly elected and qualified, as the case may be.

SECTION 3.4 *Officers of Surviving Corporation*. The officers of PEN immediately following the Redomestication Merger Effective Time shall be the officers of the Surviving Corporation, until the earlier of the Nano Merger Effective Time at which time the Combined Board will appoint the officers of the Surviving Corporation as provided under Section 11.4(c), or if this Agreement shall have been terminated prior thereto as provided in Section 14.1, their death, resignation or removal or until their respective successors are duly elected and qualified, as the case may be.

SECTION 3.5 *Articles of Incorporation of MergerSub*. The Articles of Incorporation of Nanofilm Holdings Inc. as set forth in Exhibit C-1 attached hereto shall be the Articles of Incorporation of MergerSub until duly amended in accordance with applicable Legal Requirements.

SECTION 3.6 *Bylaws of MergerSub*. The bylaws of Nanofilm Holdings Inc. as set forth in Exhibit C-2 attached hereto shall be the bylaws of MergerSub as the surviving corporation, until duly amended in accordance with applicable Legal Requirements.'

SECTION 3.7 *Directors of MergerSub*. The sole director of Nanofilm Holdings Inc. immediately following the Nano Merger Effective Time shall be Scott Rickert until the earlier of his death, resignation or removal or until his successor is duly elected and qualified.

#### ARTICLE IV Conversion and Exchange of Securities

SECTION 4.1 *Conversion of Securities in the Redomestication Merger*. At the Redomestication Merger Effective Time, by virtue of the Redomestication Merger and without any action on the part of the holder of any shares:

(a) *Conversion of APNT Shares*. Except for the Dissenting Shares, each APNT Share issued and outstanding immediately prior to the Redomestication Merger Effective Time shall be automatically converted into one share of the validly issued, fully paid and non-assessable share of Class A Common Stock, to be issued by PEN in accordance with Section 4.3 below (the "**Redomestication Merger Consideration**").

(b) *Cancellation of PEN Shares Owned by APNT*. Each issued and outstanding share of common stock of PEN that is owned by APNT immediately prior to the Redomestication Merger Effective Time shall automatically be cancelled and retired and shall cease to exist, and no consideration shall be delivered or deliverable in exchange therefor.

(c) *Dissenting Holders of APNT Shares*. Notwithstanding any other provision contained in this Agreement, APNT Shares that are issued and outstanding as of the Effective Time and that are held by a shareholder who has not voted such APNT Shares in favor of the Redomestication Merger and who is entitled to demand and properly demands the fair value of such APNT Shares pursuant to, and who complies in all respects with (and has otherwise taken all of the steps required by) Subchapter H of Chapter 10 of the TBOC to properly exercise and perfect such shareholder's rights of dissent and appraisal (the "**Dissenting Shares**") shall be deemed to have ceased to represent any interest in the Surviving Corporation as of the Redomestication Merger Effective Time and shall be entitled to those rights and remedies set forth in Subchapter H of Chapter 10 of the TBOC; EXCEPT that in the event that a shareholder of APNT fails to perfect, withdraws or otherwise loses any such right or remedy granted by the TBOC, the APNT Shares held by such shareholder shall be converted into and represent only the right to receive the Redomestication Merger Consideration specified in Section 4.1(a) of this Agreement. APNT shall give Nano (i) prompt notice of any written notices to exercise dissenters' rights in respect of any APNT Shares, attempted withdrawals of such notices, and any other instruments served pursuant to Legal Requirements that are received by APNT with respect to shareholders' rights of dissent and appraisal and (ii) the opportunity to participate in and direct all negotiations and proceedings with respect to any such demands for payment of fair value under the TBOC. APNT shall not, without the prior written consent of Nano, voluntarily make any payment with respect to, or settle or offer to settle any such demands for payment of fair value under the TBOC.

SECTION 4.2 *Conversion of Securities in the Nano Merger.* At the Nano Merger Effective Time, by virtue of the conversion and without any action on the part of the holder of any shares:

(a) *Conversion of Nano Shares.* Each issued and outstanding share of Common Stock of Nano shall be cancelled and shall automatically be converted into the right to receive that number and class of validly issued, fully paid and non-assessable shares of PEN equal to that number obtained by multiplying the Exchange Ratio with the number of Units of membership interest in Nanofilm LLC owned by Nano with the shares of PEN issued to the holders of Nano Shares in proportion to the number of shares owned by each of them as follows (the “*Nano Merger Consideration*”):

(i) each share of Class A Common Stock in Nano, outstanding immediately prior to the Nano Merger Effective Time shall be converted into shares of the PEN Class A common stock, \$0.0001 par value per share; and

(ii) each share of Class B Common Stock in Nano, outstanding immediately prior to the Nano Merger Effective Time shall be converted into shares of the PEN Class B common stock, \$0.0001 par value per share.

(b) *MergerSub Shares Owned by APNT.* Each issued and outstanding share of MergerSub that is owned by APNT immediately prior to the Nano Merger Effective Time shall remain outstanding and unchanged.

(c) *Dissenting Holders of Nano Shares.* Notwithstanding any other provision contained in this Agreement, shares in Nano that are issued and outstanding as of the Nano Merger Effective Time and that are held by a person who has not voted such shares in favor of the Nano Merger and who is entitled to demand and properly demands the fair value of such shares pursuant to, and who complies in all respects with (and has otherwise taken all of the steps required by) the applicable provisions of the DGCL to properly exercise and perfect such shareholder’s rights of dissent and appraisal shall be deemed to have ceased to represent any interest in the shares of Nano or shares of PEN as of the Nano Merger Effective Time and shall be entitled to those rights and remedies set forth in the DGCL; EXCEPT that in the event that a holder of shares in Nano fails to perfect, withdraws or otherwise loses any such right or remedy granted by the DGCL, the shares held by such holder shall be converted into and represent only the right to receive the Nano Merger Consideration specified in Section 4.2(a) of this Agreement.

SECTION 4.3 *Certificates Representing APNT Shares.*

(a) From and after the Redomestication Merger Effective Time, all of the certificates and other documents or instruments that immediately prior to that time represented outstanding APNT Shares (“*APNT Certificates*”) shall be deemed for all purposes to evidence ownership of, and to represent, the shares of Class A Common Stock, par value \$0.0001, of PEN into which the APNT Shares represented by such APNT Certificates have been converted as provided for in Section 4.1(a) subject to Section 4.1(c). No certificates for PEN Shares will be issued as a result of the Redomestication Merger, and no holder of record of any APNT Certificates shall be entitled to surrender any Certificate for cancellation to PEN or its transfer agent in exchange for a certificate representing that number of PEN Shares which such holder has the right to receive pursuant to the provisions of this Article IV. The registered owner on the books and records of PEN or its transfer agent of any such Certificate shall have and be entitled to exercise any voting and other rights with respect to and to receive any dividend and other distributions upon the PEN Shares evidenced by such Certificate as above provided.

(b) The holders of those APNT Certificates representing PEN Shares shall be entitled to be entered on the register of shareholders of PEN as holders of that number of PEN Shares represented by the APNT Certificates. The registered owner from time to time entered in the register of shareholders of PEN shall have and be entitled to exercise any voting and other rights with respect to and to receive any dividend and other distributions upon the PEN Shares in respect of which it is a registered owner.

(c) At or after the Redomestication Merger Effective Time until after the Nano Merger Effective Time, there shall be no transfers on the stock transfer or other books of APNT of the APNT Shares which were outstanding immediately prior to the Redomestication Merger Effective Time. At or after the Redomestication Merger Effective Time until after the Nano Merger Effective Time, there shall be no transfers on the stock transfer or other books of PEN of the PEN Shares which were outstanding immediately prior to the Redomestication Merger Effective Time.

(d) Following the Merger Effective Time, each holder of record of one or more APNT Certificates may, but shall not be required to, surrender any Certificate for cancellation to PEN or its transfer agent, and the holder of such Certificate shall be entitled to be entered on the register of shareholders of PEN as the holder of that number of PEN Shares represented by the APNT Certificates, as applicable, and the APNT Certificates so surrendered shall forthwith be cancelled. In the event of a transfer of ownership of APNT Shares which is not registered in the transfer records of APNT or a transfer of ownership of PEN Shares which is not registered in the transfer records of PEN, a certificate or other applicable document or instrument representing the proper number of PEN Shares may be issued to such a transferee (in the case of PEN Shares, PEN shall enter the transferee on the register of shareholders of PEN as the holder of the proper number of PEN Shares, in lieu of or in addition to issuing share certificates for such PEN Shares) if the Certificate representing such APNT Shares or PEN Shares is presented to PEN or its transfer agent, accompanied by all documents required to evidence and effect such transfer and to evidence that any applicable stock transfer taxes have been paid.

(e) If any APNT Certificates representing the APNT Shares shall have been lost, stolen or destroyed, PEN shall issue in exchange for such lost, stolen or destroyed APNT Certificates, upon the making of an affidavit of that fact by the holder thereof, certificates or documents representing the PEN Shares to be issued to such holder pursuant to this Article IV (in the case of PEN Shares, PEN shall enter the holder on the register of shareholders of PEN as the holder of the proper number of PEN Shares, in lieu of or in addition to issuing share certificates for such PEN Shares); EXCEPT, that PEN may, in its discretion and as a condition precedent to the issuance thereof (or entry on the register of shareholders, as the case may be), require the owner of such lost, stolen or destroyed APNT Certificates to deliver a bond or indemnity in such sum as it may reasonably direct as indemnity against any claim that may be made against PEN with respect to the APNT Certificates so alleged to have been lost, stolen or destroyed.

#### SECTION 4.4 *Certificates Representing Nano Shares and Z Units.*

(a) From and after the Nano Merger Effective Time, all of the holders of record of shares of Nano Class A Common Stock and Nano Class B Common Stock (the "Nano Shares ") that are entitled to receive shares of PEN pursuant to Section 4.2(a) (subject to Section 4.2(c)) shall be owners of the PEN Shares into which the Nano Shares are entitled to receive pursuant to Section 4.2(a) subject to Section 4.2(c). From and after the Closing, Zeiss shall be the owner of the PEN Shares that Zeiss is entitled to receive pursuant to Section 2.3. No certificates for PEN Shares will be issued as a result of the Nano Merger or the Exchange. The registered owner on the books and records of PEN or its transfer agent as a result of the exchange of ownership of Nano Shares for PEN shares as provided for in Section 4.2(a) (subject to Section 4.2(c)) and the Exchange under Section 2.3 shall have and be entitled to exercise any voting and other rights with respect to and to receive any dividend and other distributions upon the PEN Shares as above provided.

(b) *No Further Rights in Nano Shares or Z Units*. All shares of PEN issued upon conversion of Nano Shares in accordance with the terms hereof shall be deemed to have been paid and issued in full satisfaction of all rights pertaining to such Nano Shares. All shares of PEN issued in exchange for the Z Units in accordance with the terms hereof shall be deemed to have been paid and issued in full satisfaction of all Zeiss's rights pertaining to the Z Units.

(c) *No Fractional Shares*. No certificates or scrip of shares of PEN representing fractional Nano Shares or Z Units will be issued; in lieu thereof, PEN shall issue one share of the applicable class of PEN Common Stock to the holder of any Nano Shares or to Zeiss in exchange for the Z Units that would otherwise be entitled to such fractional PEN Shares.

(d) *No Liability*. PEN shall not be liable to any holder of Nano Shares or to Zeiss as the holder of Z Units or shares of PEN for any such Nano Shares, Z Units or shares of PEN, as applicable (or dividends or distributions with respect thereto), or cash delivered to a public official pursuant to any abandoned property, escheat or similar Law.

#### SECTION 4.5 *Effect of the Mergers*.

(a) At the Redomestication Merger Effective Time, the effect of the Redomestication Merger shall be as provided in this Agreement and the applicable provisions of TBOC and DGCL. Without limiting the generality of the foregoing, and subject thereto, at the Redomestication Merger Effective Time, all the property, rights, privileges, agreements, powers and franchises, debts, liabilities, duties and obligations of APNT and PEN shall become the property, rights, privileges, agreements, powers and franchises, debts, liabilities, duties and obligations of PEN, which shall include the assumption by PEN of any and all agreements, covenants, duties and obligations of APNT and PEN as set forth in this Agreement to be performed after the Closing.

(b) At the Nano Merger Effective Time, the effect of the Nano Merger shall be as provided in this Agreement and the applicable provisions of the DGCL. Without limiting the generality of the foregoing, and subject thereto, at the Nano Merger Effective Time, all the property, rights, privileges, agreements, powers and franchises, debts, liabilities, duties and obligations of MergerSub and Nano shall become the property, rights, privileges, agreements, powers and franchises, debts, liabilities, duties and obligations of MergerSub. In addition, at the Nano Merger Effective Time, PEN shall enter into such agreements as may be required to evidence (i) any obligations required of PEN by the lender to Nano or Nanofilm LLC; (ii) obligations of Nanofilm LLC under its Stock Appreciation Rights and Equity Credits programs; and (iii) any and all agreements, covenants, duties and obligations of Nano and Merger Sub as set forth in this Agreement to be performed after the Closing.

### ARTICLE V The Closing

SECTION 5.1 *Closing*. The Closing (the "**Closing**") of the Redomestication Merger, Nano Merger, the Exchange and the other transactions contemplated hereby (the "**Transactions**"), shall take place at the offices of Legal & Compliance, LLC in West Palm Beach, Florida commencing at 9:00 a.m. local time on the third business day following the satisfaction or waiver of all conditions and obligations of the Parties to consummate the Transactions contemplated hereby (other than conditions and obligations with respect to the actions that the respective Parties will take at Closing), or on such other date and at such other time as the Parties may mutually determine (the "**Closing Date**").

SECTION 5.2 *Deliveries of the Parties*. At the Closing, (i) Nano shall deliver to the APNT Parties the various certificates, opinions, instruments, agreements and documents referred to in Section 12.2 below, (ii) the APNT Parties shall deliver to Nano the various certificates, opinions, instruments, agreements and documents referred to in Section 12.1 below, (iii) PEN shall deliver to Zeiss the various certificates, opinions, instruments, agreements and documents referred to in Section 12.4 below, and (iv) Zeiss shall deliver to PEN the various certificates, opinions, instruments, agreements and documents referred to in Section 12.3 below.



SECTION 5.3 *No Survival*. The representations and warranties of the Parties in this Agreement will not survive the Closing. Following the Closing, no Party shall have and no Party shall assert any claim against any other Party based either on (i) the representations and warranties contained herein, or (ii) any pre-closing covenant.

SECTION 5.4 *Further Assurances*. Subject to the terms and conditions of this Agreement, at any time or from time to time after the Closing, each of the Parties shall execute and deliver such other documents and instruments, provide such materials and information and take such other actions as may be commercially reasonable, to the extent permitted by law, to fulfill its obligations under this Agreement and to effectuate and consummate the Transactions.

## ARTICLE VI Representations and Warranties of Nano

Except as set forth in the Disclosure Schedule of Nano attached hereto as Schedule D (the “**Nano Disclosure Schedule**”) Nano represents and warrants to APNT as follows:

SECTION 6.1 *Nano Capital Structure*. The authorized share capital of Nano and the total number of issued and outstanding Nano Shares are set forth in Section 6.1(a) of the Nano Disclosure Schedule. Except as set forth in Section 6.1(a) of the Nano Disclosure Schedule: (i) no Nano Shares or other voting securities of Nano are issued, reserved for issuance or outstanding; (ii) all outstanding Nano Shares are duly authorized, validly issued, fully paid and nonassessable and are not subject to or issued in violation of any purchase option, call option, right of first refusal, preemptive right, subscription right or any similar right under any provision of the Nano Constituent Instruments or any Contract to which Nano is a party or otherwise bound; (iii) there are no bonds, debentures, notes or other indebtedness of Nano having the right to vote (or convertible into, or exchangeable for, securities having the right to vote) on any matters on which holders of the Nano Shares may vote (“**Voting Nano Debt**”); (iv) there are no options, warrants, rights, convertible or exchangeable securities, “phantom” stock rights, stock appreciation rights, stock-based performance units to which Nano is a party or is bound (A) obligating Nano to issue, deliver or sell, or cause to be issued, delivered or sold, additional shares or other equity interests in, or any security convertible or exercisable for or exchangeable into any shares of capital stock of or other equity interest in, Nano or any Voting Nano Debt, or (B) obligating Nano to issue, grant, extend or enter into any such option, warrant, call, right, security, commitment, Contract, arrangement or undertaking; (v) except as contemplated by this Agreement, there are no outstanding contractual obligations of Nano to repurchase, redeem or otherwise acquire any of its shares of capital stock; and (vi) except as contemplated by this Agreement, there are no registration rights, and there is no voting trust, proxy, or other agreement or understanding to which Nano is a party or by which Nano is bound with respect to any equity security of any class of Nano.

SECTION 6.2 *Organization and Standing*. Except as set forth in Section 6.2 of the Nano Disclosure Schedule, each of the Nano Entities is (i) duly organized, validly existing and in good standing (with respect to jurisdictions that recognize the concept of good standing) under the laws of its respective jurisdiction of incorporation, organization or formation, and (ii) duly qualified to do business in each of the jurisdictions in which the property owned, leased or operated by it or the nature of the business which it conducts requires qualification, except where the failure to so qualify would not reasonably be expected, individually or in the aggregate, to result in a Material Adverse Effect. Each of the Nano Entities has all requisite power and authority to own, lease and operate its assets (tangible and intangible) and to carry on its business as now being conducted. Nano has delivered to APNT true and complete copies of the Nano Constituent Instruments. The minute book and stock register of Nano is true and complete in all material respects and copies of such documents, together with true and correct copies of the minute books and registers of the other Nano Entities, have been made available to APNT. The share transfer and ownership records of the Nano Entities are true and complete in all material respects. Copies of such records have been made available to APNT.

SECTION 6.3 *Authority; Execution and Delivery; Enforceability.*

(a) Nano has all requisite corporate or other entity power and authority to execute and deliver this Agreement and any Transaction Documents to which it is a party and to consummate the Transactions contemplated hereby and thereby. The execution, delivery and performance by Nano of this Agreement and its consummation of the Transactions have been duly authorized and approved by the board of directors of Nano, such authorization and approval remains in effect and has not been rescinded or qualified in any way, and no other proceedings on the part of any such entities are necessary to authorize this Agreement and the Transactions.

(b) Each of this Agreement and the Transaction Documents to which Nano is a party has been, or on the Closing Date will be, duly executed and delivered by such party and constitutes the valid, binding, and enforceable obligation of such party, enforceable in accordance with its terms, except as enforceability may be limited by applicable bankruptcy, insolvency, reorganization, moratorium, fraudulent transfer or similar laws of general application now or hereafter in effect affecting the rights and remedies of creditors and by general principles of equity (regardless of whether enforcement is sought in a proceeding at law or in equity).

SECTION 6.4 *Subsidiaries; No Equity Interests.* Section 6.4 of the Nano Disclosure Schedule lists all Subsidiaries of Nano and indicates as to each the type of entity and its jurisdiction of organization. Except as set forth in Section 6.4 of the Nano Disclosure Schedule, Nano does not directly or indirectly own any other equity or similar interest in or any interest convertible or exchangeable or exercisable for, any equity or similar interest in, any corporation, partnership, joint venture or other business association or entity. Except as set forth in Section 6.4 of the Nano Disclosure Schedule, Nano is the direct, indirect or beneficial owner of all registered capital or outstanding shares of capital stock (as applicable) of its Subsidiaries, and all such registered capital and shares are duly authorized, validly issued, fully paid and nonassessable and are owned by Nano free and clear of all Liens (except for clause (a) of the definition of Permitted Liens). Except as set forth in Section 6.4 of the Nano Disclosure Schedule, there are no outstanding subscriptions, options, warrants, puts, calls, rights, exchangeable or convertible securities or other commitments or agreements of any character relating to the issued or unissued capital stock or other securities of any Subsidiaries of Nano or otherwise obligating any Subsidiaries of Nano to issue, transfer, sell, purchase, redeem or otherwise acquire any such securities.

SECTION 6.5 *No Conflicts.* Except as set forth in Section 6.5 of the Nano Disclosure Schedule, the execution and delivery of this Agreement or any of the Transaction Documents by each of Nano and the consummation of the Transactions and compliance with the terms hereof and thereof will not, (a) conflict with, or result in any violation of or default (with or without notice or lapse of time, or both) under, or give rise to a right of termination, cancellation or acceleration of any obligation or to loss of a material benefit under, or result in the creation of any Lien (other than a Permitted Lien) upon any of the assets and properties of any Nano Entity under any provision of: (i) any Nano Constituent Instrument; (ii) any Material Contract (as defined in Section 6.14) to which any Nano Entity is a party or to or by which it (or any of its assets and properties) is subject or bound; or (iii) any material Permit of any Nano Entity; (b) subject to the filings and other matters referred to in Section 6.6, conflict with or violate in any material respect any Judgment or Legal Requirement applicable to any Nano Entity, or its properties or assets; (c) terminate or modify, or give any third party the right to terminate or modify, the provisions or terms of any Material Contract or any Research Contract to which any Nano Entity is a party; or (d) cause any of the assets owned by any Nano Entity to be reassessed or revalued in any material respect by any Governmental Authority, except, in the case of clauses (a)(ii), (a)(iii), (b), (c), and (d) above, any such items that, individually or in the aggregate, have not had and would not reasonably be expected to have a Material Adverse Effect on the Nano Entities, taken as a whole.

SECTION 6.6 *Consents and Approvals*. Except as set forth in Section 6.6 of the Nano Disclosure Schedule, no material consent, approval, license, permit, order or authorization of, or material registration, declaration or filing with any Governmental Authority ("**Consent**") is required to be obtained or made by or with respect to any Nano Entity in connection with the execution, delivery and performance of this Agreement or the consummation of any of the Transactions.

SECTION 6.7 *Financial Statements*.

(a) Nano has furnished APNT with (i) (x) the audited financial statements for the Nano Entities required to be included in such financial statements for the fiscal year ended December 31, 2012 (the "**Audited Financial Statements**") and (ii) the unaudited consolidated financial statements for the Nano Entities required to be included in such financial statements for the nine-month period ended September 30, 2013 (the "**Unaudited Financial Statements**," and together with the Audited Financial Statements, the "**Nano Financial Statements**"). The Nano Financial Statements have been prepared in accordance with U.S. GAAP, applied on a consistent basis throughout the periods involved (except as may be otherwise specified in the notes thereto). The Audited Financial Statements fairly present in all material respects the consolidated financial condition and operating results, change in stockholders' equity and cash flow of the Nano Entities required to be included in such financial statements as of the date, and for the period, indicated therein and are accompanied by an unqualified opinion of a U.S. registered independent public accounting firm qualified to practice before the Public Company Accounting Oversight Board. The Unaudited Financial Statements fairly present in all material respects the consolidated financial condition and operating results, change in stockholders' equity and cash flow of the Nano Entities required to be included in such financial statements as of the date, and for the period, indicated therein, subject to normal year-end audit adjustments, none of which shall, in the aggregate, be material.

SECTION 6.8 *Absence of Certain Changes or Events*. Except as disclosed in the Nano Financial Statements or in Section 6.8 of the Nano Disclosure Schedule, from September 30, 2013 to the date of this Agreement, there has not been:

(a) any event, situation or effect (whether or not covered by insurance) that has resulted in, or to Nano's Knowledge is reasonably likely to result in, a Material Adverse Effect on the Nano Entities, taken as a whole;

(b) any material damage, destruction or loss to, or any material interruption in the use of, any of the assets of any of the Nano Entities (whether or not covered by insurance);

(c) any material change to, or amendment or waiver of a material term of, a Material Contract by which any of the Nano Entities or any of its respective assets is bound or subject;

(d) any mortgage, pledge, transfer of a security interest in, or Lien, created by any of the Nano Entities or to which any such entity's properties, assets or rights is subject, with respect to any of its material properties, assets or rights, except for Permitted Liens;

(e) any payments, loans or guarantees made by any of the Nano Entities to or for the benefit of any of its officers or directors, or any members of their immediate families, or any material payments, loans or guarantees made by the Nano Entities to or for the benefit of any of its employees or any members of their immediate families, in each case other than payment of ordinary course compensation and benefits, expense reimbursements, travel advances and other advances made in the ordinary course of its business;

(f) any change of the identity of its auditors or material alteration of any Nano Entity's method of accounting or accounting practice;

(g) any declaration, accrual, set aside or payment of dividend or any other distribution of cash or other property in respect of any shares of capital stock of any Nano Entity or any purchase, redemption or agreements to purchase or redeem by any Nano Entity of any Nano Shares or other securities;

(h) any sale, issuance or grant, or authorization of the issuance of equity securities of any Nano Entity;

(i) any amendment to any Nano Constituent Instruments;

(j) any merger, consolidation, share exchange, business combination, recapitalization, reclassification of shares, stock split, reverse stock split or similar transaction involving any Nano Entity;

(k) any creation of any Subsidiary of any of the Nano Entities or acquisition by any of the Nano Entities of any assets (other than in the ordinary course of business), equity interest or other interest in any other Person;

(l) any material Tax election by any Nano Entity, any change in accounting method in respect of Taxes, any amendment to any Tax Returns, entry into any closing or equivalent agreement, any settlement of any claim or assessment in respect of any Taxes, or any consent to any waiver of the limitation period applicable to any claim or assessment in respect of any Taxes;

(m) any commencement or settlement of any material Actions by any of the Nano Entities;

(n) any granting by any Nano Entity of any increases in compensation (excluding sales commissions) or fringe benefits (in the aggregate), , or any payment by any Nano Entity of any bonuses (excluding sales commissions), or any granting by any Nano Entity of any increases in severance or termination pay or any entry by any Nano Entity into any currently effective employment, severance, termination or indemnification agreement the benefits of which are contingent, or the terms of which are materially altered, upon the occurrence of a transaction involving any Nano Entity of the nature contemplated by this Agreement;

(o) any transfer or license to any Person or entity of any Nano Intellectual Property Rights;

(p) other than in the ordinary course of business or as contemplated under (o) above, any sale, lease, license or other disposal of or encumbrance of any of its properties or assets which are material, individually or in the aggregate, to its business in excess of \$50,000;

(q) any payment, discharge, or satisfaction in an amount in excess of \$50,000 of any single claim (or series of related claims), liability or obligation (absolute, accrued, asserted or unasserted, contingent or otherwise) arising other than the payment, discharge or satisfaction of liabilities reflected or reserved against in the Nano Financial Statements or incurred in the ordinary course of business;

(r) any capital expenditures, capital additions or capital improvements, except in the ordinary course of business, that exceed \$50,000 individually or in the aggregate;

(s) any opening or closing of any significant facility or office;

(t) any material revaluation by any Nano Entity of any of its assets, including, without limitation, writing down the value of a material amount of capitalized inventory or writing off a material amount of notes or accounts receivable; or

(u) any negotiations, arrangement or commitment by any of the Nano Entities to take any action ~~s~~ described in this section 6.8.

SECTION 6.9 *No Undisclosed Liabilities*. Except as set forth in Section 6.9 of the Nano Disclosure Schedule, the Nano Entities (considered as a whole) have no obligations or liabilities of any nature (matured or unmatured, fixed or contingent, known or unknown), other than (a) those set forth or adequately provided for in the Balance Sheet included in the Unaudited Financial Statements (the “*Nano Balance Sheet*”), (b) those incurred since the Nano Balance Sheet date in the ordinary course of business and (c) those incurred in connection with the negotiation, execution, delivery and performance of this Agreement.

SECTION 6.10 *Litigation*. Except as set forth in Section 6.10 of the Nano Disclosure Schedule, as of the date of this Agreement, there is no private or governmental action, suit, inquiry, notice of violation, claim, arbitration, audit, proceeding (including any partial proceeding such as a deposition) or investigation (“*Action*”) pending or threatened in writing against any of the Nano Entities, any of their respective officers or directors (in their capacities as such) or any of their respective properties before or by any Governmental Authority which (a) adversely affects or challenges the legality, validity or enforceability of this Agreement or (b) if there were an unfavorable decision, individually or in the aggregate, has had or would reasonably be expected to result in a change to a Research Contract, a claim of breach or default under a Research Contract or former Research Contract, or a Material Adverse Effect on the Nano Entities, taken as a whole. Except as set forth in Section 6.10 of the Nano Disclosure Schedule, there is no Judgment imposed upon any of the Nano Entities, any of their respective officers or directors (in their capacities as such) or any of their respective properties. Neither the Nano Entities, nor any director or officer thereof (in his or her capacity as such), is or has been the subject of any Action involving a material claim or material violation of or material liability under the securities laws of any Governmental Authority or a claim of breach of fiduciary duty.

SECTION 6.11 *Intellectual Property*.

A. Nano has provided to APNT in the data room a complete list of all active patents, patent applications, and provisional patent applications, (collectively, “**Patents**”) owned by any of the Nano Entities (“**Nano Patents**”).

Except as disclosed to APNT in the section of the data room relating to intellectual property,

i. the Nano Entities exclusively own all rights in the Nano Patents, free and clear of all:

- a. License agreements,
- b. Restrictions on further licensing,
- c. Obligations to make payments to third parties, or
- d. Security interests, mortgages or liens.

ii. No entity other than the Nano Entities has any rights granted by Nano (either current or contingent) to use, make, sell or practice, the inventions protected by any Nano Patents, no employee retains any right to use, make, sell or practice any invention protected by a Nano Patent, and to the Knowledge of the Nano Entities no consultant to Nano retains any such rights.

iii. Except for office actions issued by the U.S. Patent and Trademark Office or a similar office or agency anywhere in the world, none of the Nano Entities has received any communications alleging that any Nano Patents are invalid or unenforceable, and Nano has no Knowledge of any basis to allege that any Nano Patents are invalid or unenforceable.

iv. All Nano Patents which are issued or pending before, as applicable, the U.S. Patent and Trademark Office or a similar office or agency anywhere in the world, are currently in compliance with formalities and legal requirements necessary to maintain them as currently valid (including without limitation as applicable, the payment of all necessary fees, including without limitation, filing, examination, annuity, maintenance or other fees, and the filing of all necessary documents or statements, including without limitation, necessary proofs of working or use, or other items or documents necessary to maintain such Nano Patents as currently valid).

v. Nano has not licensed Patents from any other Person.

B. Nano has provided to APNT in the data room a complete list of all registered trademarks and service marks, and related applications for registration (collectively, “**Marks**”) which are currently owned or used by any Nano Party (“**Nano Marks**”).

Except as disclosed to APNT in the section of the data room relating to intellectual property,

i. the Nano Entities exclusively own and hold all rights in the Nano Marks free and clear of all:

- a. License agreements,
- b. Restrictions on further licensing,
- c. Obligations to make payments to third parties; or
- d. Security interests, mortgages, or liens.

ii. No other entity has been granted any rights, either current or contingent, to use any Nano Marks.

iii. All Nano Marks which are registered with, as applicable, the U.S. Patent and Trademark Office or any similar office or agency anywhere in the world, are currently in compliance with all formalities and legal requirements necessary to maintain them as currently valid (including, without limitation as applicable, the payment of filing, examination, use, renewal and other fees and timely compliance with post filing requirements including, as applicable, affidavits of use and incontestability, renewals and evidence of use, and all other items to maintain such Nano Marks as currently valid).

iv. Except for office actions issued by the U.S. Patent and Trademark Office or a similar office or agency anywhere in the world, none of the Nano Entities has received any communications alleging that any Nano Marks are invalid or unenforceable, and Nano has no Knowledge of any basis to allege that any Nano Marks are invalid or unenforceable.

C. Except as disclosed to APNT in the section of the data room relating to intellectual property, to the Knowledge of Nano, no entity has or is, infringing upon any Nano Patents, and no entity is violating the rights of any Nano Entity with respect to Nano Marks or any other Nano proprietary rights.

D. Except as disclosed to APNT in the section of the data room relating to intellectual property,

- i. To the Knowledge of Nano there is not nor has there been, any violation of any agreements that currently or previously authorized any other entity to use or practice rights under any Nano Patents,
- ii. To the Knowledge of Nano, no entity that has been licensed any rights to use or practice rights under any Nano Patents, has any basis to:
  - a. Claim against any Nano Party any violation of any agreement which granted the entity such rights or
  - b. Cease payment or reduce the amount of payments to any Nano Party under the agreement under which such rights were granted.
- iii. To the Knowledge of Nano no other entity has a right to claim any interest, whether ownership, license rights or otherwise, in any technology that may be developed by Nano and/or its subsidiaries after the date of this Agreement.

#### SECTION 6.12 *Taxes.*

(a) The Nano Entities have timely filed, or have caused to be timely filed on their behalf, all Tax Returns relating to Taxes determined by reference to income, earnings, or revenues and all other material Tax Returns that are or were required to be filed by or with respect to any of them, either separately or as a member of group of corporations, pursuant to applicable Legal Requirements. All Tax Returns filed by (or that include on a consolidated basis) any of the Nano Entities were (and, as to a Tax Return not filed as of the date hereof, will be) in all material respects true, complete and accurate. All Taxes due and payable by each of the Nano Entities have been paid by such Nano Entity in compliance with applicable Legal Requirements and there are no unpaid -Taxes claimed to be due in writing, or, to the Knowledge of Nano, otherwise claimed, by any Governmental Authority in charge of taxation of any jurisdiction, nor any claim in writing or, to the Knowledge of Nano, any other claim, for additional Taxes for any period for which Tax Returns have been filed.

(b) The Nano Financial Statements reflect an adequate reserve for all Taxes payable by the Nano Entities (in addition to any reserve for deferred Taxes to reflect timing differences between book and Tax items) for all taxable periods and portions thereof through the date of such financial statements. None of the Nano Entities is either a party to or bound by any Tax indemnity, Tax sharing or similar agreement and the Nano Entities currently have no liability and will not have any liabilities for any Taxes of any other Person under any agreement or by the operation of any law. No deficiency with respect to any Taxes has been proposed, asserted or assessed against any of the Nano Entities, and no requests for waivers of the time to assess any such Taxes are pending.

(c) None of the Nano Entities has requested any extension of time within which to file any Tax Return, which Tax Return has not since been filed. None of the Nano Entities has executed any outstanding waivers or comparable consents regarding the application of the statute of limitations with respect to any Taxes or Tax Returns. No power of attorney currently in force has been granted by any of the Nano Entities concerning any Taxes or Tax Return.

SECTION 6.13 *Transactions With Affiliates and Employees.* Except as disclosed in Section 6.13 of the Nano Disclosure Schedule, none of the officers or directors of Nano and none of the Nano Members is a party, directly or indirectly, to any transaction with any of the Nano Entities that is required to be disclosed under Rule 404(a) of Regulation S-K if such Legal Requirement applied to the Nano Entities (other than for services as employees, officers and directors), including any Contract providing for the furnishing of services to or by, providing for rental of real or personal property to or from, or otherwise requiring payments to or from any officer or director or, to the Knowledge of Nano, any entity in which any officer or director has a substantial interest or is an officer, director, partner or other equity holder.

SECTION 6.14 *Material Contracts*. Nano has made available to APNT, prior to the date of this Agreement, true, correct and complete copies of each of the following written Contracts, as amended and supplemented, to which any of the Nano Entities is a party: (i) any agreement that would be considered a material contract with respect to any Nano Entity pursuant to Item 601(b)(10) of Regulation S-K (if such Legal Requirement were applicable to such entities and without reference to “registration statements” or “reports” thereunder); (ii) any loan agreement, mortgage, note, installment obligation, indenture or other instrument, agreement or arrangement relating to any outstanding indebtedness in excess of \$50,000; and (iii) any agreement requiring annual expenditures in excess of \$50,000 (each, a “**Material Contract**”). Except as set forth on Section 6.14) of the Nano Disclosure Schedule, none of the Nano Entities is in violation of or in default under (nor does there exist any condition which upon the passage of time or the giving of notice or both would cause such a violation of or default under) any Contract to which it is a party or by which it or any of its properties or assets is bound except for violations or defaults that would not, individually or in the aggregate, reasonably be expected to result in a Material Adverse Effect on the Nano Entities, taken as a whole. To the Knowledge of Nano, except as set forth on Section 6.14 of the Nano Disclosure Schedule, no other Person has materially violated or breached, or committed or suffered any material default under, any Material Contract.

SECTION 6.15 *Compliance with Applicable Laws*. The Nano Entities are in compliance with all applicable Legal Requirements, including those relating to occupational health and safety to which they are subject except for instances of noncompliance that, individually and in the aggregate, have not had and would not reasonably be expected to have a Material Adverse Effect on the Nano Entities, taken as a whole. Except as set forth in Section 6.15 of the Nano Disclosure Schedule, none of the Nano Entities has received any written communication during the past two years from a Governmental Authority alleging that any of the Nano Entities is not in compliance in any material respect with any applicable Legal Requirement.

SECTION 6.16 *Foreign Corrupt Practices*. Neither the Nano Entities, nor any of the Nano Members, nor to the Knowledge of Nano, has, in the course of its actions for, or on behalf of, the Nano Entities, directly or indirectly, (a) used any corporate funds for any unlawful contribution, gift, entertainment or other unlawful expenses relating to political activity; (b) made any direct or indirect unlawful payment to any Governmental Authority or any foreign or domestic government official or employee from corporate funds; (c) violated or is in violation of any provision of the U.S. Foreign Corrupt Practices Act of 1977, as amended, and the rules and regulations thereunder; or (d) made any bribe, rebate, payoff, influence payment, kickback or other unlawful or improper payment in connection with the operations of The Nano Entities to any foreign or domestic government official or employee.

SECTION 6.17 *Brokers*. Except as set forth in Section 6.17 of the Nano Disclosure Schedule, no broker, investment banker, financial advisor or other Person is entitled to any broker’s, finder’s, financial advisor’s or other similar fee or commission in connection with this Agreement or the Transactions based upon arrangements made by or on behalf of the Nano Entities.

SECTION 6.18 *Investment Company*. No Nano Entity is an “investment company” or an entity “controlled” by an “investment company” within the meaning of the Investment Company Act of 1940, as amended, and the rules and regulations of the SEC thereunder.



**ARTICLE VII**  
**Representations and Warranties of APNT**

Except as set forth in the Disclosure Schedule of APNT attached hereto as *Schedule B* (the “**APNT Disclosure Schedule**”), each of the APNT Parties, jointly and severally, represents and warrants to Nano and to Zeiss as follows:

SECTION 7.1 *Capital Structure.*

(a) Section 7.1(a) of the APNT Disclosure Schedule sets forth the number of authorized and outstanding shares of capital stock of APNT, the number of outstanding options, warrants or rights to acquire any shares of capital stock of APNT, and the authorized shares of capital stock of APNT. After the Redomestication Merger, the authorized share capital of PEN will be as provided for in the Articles of Incorporation of PEN attached hereto as *Exhibit B-1*. Other than those set forth on Section 7.1(a) of the APNT Disclosure Schedule or as contemplated by this Agreement, there are no options, warrants, convertible debt or other rights outstanding which give any Person the right to acquire any share of capital stock of APNT or PEN.

(b) Except as set forth in Section 7.1(b) of the APNT Disclosure Schedule or as contemplated by this Agreement: (i) no shares of capital stock or other voting securities of APNT were issued, reserved for issuance or outstanding; (ii) all outstanding shares of the capital stock of APNT are, duly authorized, validly issued, fully paid and nonassessable and not subject to or issued in violation of any purchase option, call option, right of first refusal, preemptive right, subscription right or any similar right under any provision of the TBOC, the APNT Constituent Instruments (as defined in Section 7.2) or any Contract to which APNT is a party or otherwise bound; and (iii) there are no outstanding contractual obligations of APNT to repurchase, redeem or otherwise acquire any shares of capital stock of APNT.

(c) Except as set forth in Section 7.1(c) of the APNT Disclosure Schedule or as contemplated by this Agreement: (i) there are no bonds, debentures, notes or other indebtedness of APNT having the right to vote (or convertible into, or exchangeable for, securities having the right to vote) on any matters on which holders of Common Stock may vote (“**Voting APNT Debt**”); and (ii) there are no convertible debts, options, warrants, rights, convertible or exchangeable securities, “phantom” stock rights, stock appreciation rights, stock-based performance units, commitments, Contracts, arrangements or undertakings of any kind to which APNT is a party or by which it is bound (A) obligating APNT to issue, deliver or sell, or cause to be issued, delivered or sold, additional shares of capital stock or other equity interests in, or any security convertible or exercisable for or exchangeable into any capital stock of or other equity interest in, APNT or any Voting APNT Debt, or (B) obligating APNT to issue, grant, extend or enter into any such option, warrant, call, right, security, commitment, Contract, arrangement or undertaking.

(d) Except as set forth in Section 7.1(d) of the APNT Disclosure Schedule, APNT is not a party to any agreement granting any security holder of APNT the right to cause APNT to register shares of the capital stock or other securities of APNT held by such security holder under the Securities Act and there is no voting trust, proxy, or other agreement or understanding to which APNT is a party or by which APNT is bound with respect to any equity security of any class of APNT. The stockholder list provided to Nano is a current shareholder list generated by APNT’s stock transfer agent, and such list accurately reflects all of the issued and outstanding shares of APNT’s capital stock.

(f) When issued and delivered in accordance with the terms hereof for the consideration provided for herein and entered in the register of stockholders of PEN, the shares of PEN Common Stock to be issued in the Nano Merger and the Exchange will be duly authorized, validly issued, fully paid and non-assessable.

SECTION 7.2 *Organization and Standing*. The APNT Parties are duly organized, validly existing and in good standing under the laws of their state of organization. The APNT Parties are duly qualified to do business in each of the jurisdictions in which the property owned, leased or operated by the respective APNT Party or the nature of the business which it conducts requires qualification, except where the failure to so qualify would not reasonably be expected to have a Material Adverse Effect on such APNT Party. The APNT Parties have the requisite power and authority to own, lease and operate their tangible assets and properties and to carry on their business as now being conducted. APNT has delivered to Nano true and complete copies of the amended and restated certificate of incorporation of the APNT Parties, as amended and as in effect on the date of this Agreement, and the bylaws of the APNT Parties, as amended and as in effect on the date of this Agreement (the “*APNT Constituent Instruments*”).

SECTION 7.3 *Authority; Execution and Delivery; Enforceability*. APNT has all requisite corporate power and authority to execute and deliver this Agreement and the Transaction Documents to which it is a party and to consummate the Transactions. The execution and delivery by APNT of this Agreement and the consummation by APNT of the Transactions have been duly authorized and approved by the APNT Board and, other than the Stockholder Approval, no other corporate proceedings on the part of APNT are necessary to authorize this Agreement and the Transactions. Other than the Stockholder Approval, all action, corporate and otherwise, necessary to be taken by APNT to authorize the execution, delivery and performance of this Agreement, the Transaction Documents and all other agreements and instruments delivered by APNT in connection with the Transactions have been duly and validly taken. Each of this Agreement and the Transaction Documents to which APNT is a party has been, or on the Closing Date will be, duly executed and delivered by APNT and constitutes the valid, binding, and enforceable obligation of APNT, enforceable in accordance with its terms, except as enforceability may be limited by applicable bankruptcy, insolvency, reorganization, moratorium, fraudulent transfer or similar laws of general application now or hereafter in effect affecting the rights and remedies of creditors and by general principles of equity (regardless of whether enforcement is sought in a proceeding at law or in equity).

SECTION 7.4 *Subsidiaries or Equity Interests*. Section 7.4 of the APNT Disclosure Schedule lists all Subsidiaries of APNT and indicates as to each the type of entity and its jurisdiction of organization. Except as set forth in Section 7.4 of the APNT Disclosure Schedule, APNT does not directly or indirectly own any other equity or similar interest in or any interest convertible or exchangeable or exercisable for, any equity or similar interest in, any corporation, partnership, joint venture or other business association or entity. Except as set forth in Section 7.4 of the APNT Disclosure Schedule, APNT is the direct, indirect or beneficial owner of all registered capital or outstanding shares of capital stock (as applicable) of its Subsidiaries, and all such registered capital and shares are duly authorized, validly issued, fully paid and nonassessable and are owned by APNT free and clear of all Liens (except for clause (a) of the definition of Permitted Liens). Except as set forth in Section 7.4 of the APNT Disclosure Schedule, there are no outstanding subscriptions, options, warrants, puts, calls, rights, exchangeable or convertible securities or other commitments or agreements of any character relating to the issued or unissued capital stock or other securities of any Subsidiaries of APNT or otherwise obligating any Subsidiaries of APNT to issue, transfer, sell, purchase, redeem or otherwise acquire any such securities.

SECTION 7.5 *No Conflicts*. The execution and delivery of this Agreement or any of the Transaction Documents by APNT and the consummation of the Transactions and compliance with the terms hereof and thereof will not, (a) conflict with, or result in any violation of or default (with or without notice or lapse of time, or both) under, or give rise to a right of termination, cancellation or acceleration of any obligation or to loss of a material benefit under, or result in the creation of any Lien (other than a Permitted Lien) upon any of the assets and properties of the APNT Parties, under, any provision of any (i) any APNT Constituent Instrument; (ii) any APNT Material Contract (as defined in Section 7.20 herein) to which any APNT Party is a party or to or by which it (or any of its assets and properties) is subject or bound; or (iii) any material Permit of the APNT Parties; (b) subject to the filings and other matters referred to in Section 7.6, conflict with or violate in any material respect any Judgment or Legal Requirement applicable to an APNT Party, or its properties or assets; (c) terminate or modify, or give any third party the right to terminate or modify, the provisions or terms of any APNT Material Contract or any Research Contract to which an APNT Party is a party or by which any of them is bound; or (d) cause any of the assets owned by an APNT Party to be reassessed or revalued in any material respect by any Governmental Authority.

SECTION 7.6 *Consents and Approvals*. No material Consent of, or material registration, declaration or filing with, or permit from, any Governmental Authority is required to be obtained or made by or with respect to an APNT Party in connection with the execution, delivery and performance of this Agreement or the consummation of the Transactions, other than (i) the filing of the Certificate of Redomestication Merger with the Secretary of State of Texas and the filing of Certificate of Merger with the Secretary of State of Delaware as provided in Section 1.2; (ii) the filings in connection with Nano Merger as provided in Section 2.2; (iii) the filing with, and clearance by the SEC of the preliminary proxy statement, which shall serve as a proxy statement pursuant to Section 14(a), Regulation 14A and Schedule 14A under the Exchange Act, and all other proxy materials for the Stockholders Meeting (as defined below) (the "**Proxy Statement**") pursuant to which APNT's stockholders must vote at a special meeting of stockholders to approve, among other thing, this Agreement and the Transactions; (iv) the filing of a Form 8-K with the SEC within four (4) business days after the execution of this Agreement and of the Closing Date; and (v) any filing required by FINRA.

SECTION 7.7 *SEC Documents; Financial Statements*.

(a) APNT has delivered or made available to Nano accurate and complete copies of all registration statements, proxy statements, Certifications (as defined below) and other statements, reports, schedules, forms and other documents filed by APNT with the SEC since May 15, 1996 (the "**APNT SEC Documents**"), other than those documents available on the SEC's website at [www.sec.gov](http://www.sec.gov). Except as set forth on Section 7.7 of the APNT Disclosure Schedule, all material statements, reports, schedules, forms and other documents required to have been filed by APNT or its officers with the SEC have been so filed on a timely basis. As of the time it was filed with the SEC (or, if amended or superseded by a filing prior to the date of this Agreement, then on the date of such filing), each of the APNT SEC Documents complied in all material respects with the applicable requirements of the Securities Act or the Exchange Act (as the case may be) and, to APNT's Knowledge, as of the time they were filed, none of the APNT SEC Documents contained any untrue statement of a material fact or omitted to state a material fact required to be stated therein or necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading. The certifications and statements required by (A) Rule 13a-14 under the Exchange Act and (B) 18 U.S.C. §1350 (Section 906 of the Sarbanes-Oxley Act) relating to the APNT SEC Documents (collectively, the "**Certifications**") are accurate and complete and comply as to form and content with all applicable Legal Requirements. As used in this Section 7.7, the term "file" and variations thereof shall be broadly construed to include any manner in which a document or information is furnished, supplied or otherwise made available to the SEC.

(b) The consolidated financial statements (including any related notes) contained or incorporated by reference in the APNT SEC Documents (the "**APNT Financial Statements**"): (i) complied as to form in all material respects with the published rules and regulations of the SEC applicable thereto; (ii) were prepared in accordance with GAAP (except as may be indicated in the notes to such financial statements or, in the case of unaudited financial statements, as permitted by Form 10-Q of the SEC, and except that the unaudited financial statements may not contain footnotes and are subject to normal and recurring year-end adjustments that are not reasonably expected to be material in amount) applied on a consistent basis unless otherwise noted therein throughout the periods indicated; and (iii) fairly present the consolidated financial position of the APNT Parties as of the respective dates thereof and the consolidated results of operations and cash flows of the APNT Parties for the periods covered thereby.

(c) APNT's auditor has at all times since March 1, 2012 been: (i) a registered public accounting firm (as defined in Section 2(a)(12) of the Sarbanes-Oxley Act); (ii) to the Knowledge of APNT, "independent" with respect to APNT within the meaning of Regulation S-X under the Exchange Act; and (iii) to the Knowledge of APNT, in compliance with subsections (g) through (l) of Section 10A of the Exchange Act and the rules and regulations promulgated by the SEC and the Public Company Accounting Oversight Board thereunder.

SECTION 7.8 *Internal Accounting Controls*. Since January 1, 2007, APNT has maintained a system of internal accounting controls sufficient to provide reasonable assurance that (a) transactions are executed in accordance with management's general or specific authorizations, (b) transactions are recorded as necessary to permit preparation of financial statements in conformity with generally accepted accounting principles and to maintain asset accountability, (c) access to assets is permitted only in accordance with management's general or specific authorization, and (d) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences. APNT's officers have established disclosure controls and procedures for APNT and designed such disclosure controls and procedures to ensure that material information relating to APNT is made known to the officers by others within those entities. APNT's officers have evaluated the effectiveness of APNT's controls and procedures and there is no material weakness, significant deficiency or control deficiency, in each case as such term is defined in Public Company Accounting Oversight Board Auditing Std. No. 2.

#### SECTION 7.9

*Absence of Certain Changes or Events*. From September 30, 2013 to the date of this Agreement, there has not been:

(a) any event, situation or effect (whether or not covered by insurance) that has resulted in, or to APNT's Knowledge, is reasonably likely to result in, a Material Adverse Effect on the APNT Parties;

(b) any change to, or amendment or waiver of a material term of, a material Contract by which any APNT Party or any of its respective assets is bound or subject except as set forth in Section 7.9(b) of the APNT Disclosure Schedule;

(c) any mortgage, pledge, transfer of a security interest in, or Lien, created by any APNT Party or to which any of the APNT Parties' properties, assets or rights is subject, with respect to any of their material properties, assets or rights, except for Permitted Liens;

(d) any payments, loans or guarantees made by any APNT Party to or for the benefit of its officers or directors, or any members of their immediate families, or any material payments loans or guarantees made by any APNT Party to or for the benefit of any of its employees or any members of their immediate families, in each case, other than ordinary course compensation and benefits in accordance with compensation arrangements previously disclosed to Nano or included in any APNT SEC Documents and reimbursement of expenses.

(e) any change of the identity of its auditors or material alteration of APNT's method of accounting or accounting practice;

(f) any declaration, accrual, set aside or payment of dividend or any other distribution of cash or other property in respect of any shares of APNT's capital stock or any purchase, redemption or agreements to purchase or redeem by APNT of any shares of capital stock or other securities;

(g) any issuance of equity securities to any officer, director or affiliate, except pursuant to existing APNT stock option plans;

(h) any amendment to any APNT Constituent Instruments;

(i) any material Tax election by APNT, any change in accounting method in respect of Taxes, any amendment to any Tax Returns, entry into any closing or equivalent agreement, any settlement of any claim or assessment in respect of Taxes, or any consent to any waiver of the limitation period applicable to any claim or assessment in respect of Taxes;

(j) any commencement or settlement of any material Actions by the APNT Parties;

(k) any granting by APNT or its Subsidiaries of any increases in compensation or fringe benefits, or any payment by any APNT Party of any bonuses, or any granting by any APNT Party of any increases in severance or termination pay or any entry by an APNT Party into any currently effective employment, severance, termination or indemnification agreement the benefits of which are contingent, or the terms of which are altered, upon the occurrence of a transaction involving an APNT Party as contemplated by this Agreement;

(l) any transfer, license or encumbrance to any Person of any APNT Intellectual Property Rights;

(l) other than in the ordinary course of business, any sale, lease, license or other disposal of or encumbrance of any of its tangible properties or tangible assets;

(m) any payment, discharge, or satisfaction in an amount in excess of \$5,000 of any single claim (or series of related claims), liability or obligation (absolute, accrued, asserted or unasserted, contingent or otherwise) arising other than the payment, discharge or satisfaction of liabilities reflected or reserved against in the APNT Financial Statements or incurred in the ordinary course of business;

(n) any capital expenditures, capital additions or capital improvements, except in the ordinary course of business, that exceed \$5,000 individually or in the aggregate;

(o) any opening or closing of any significant facility or office;

(p) any material revaluation by an APNT Party of any of its assets, including, without limitation, writing down the value of a material amount of capitalized inventory or writing off a material amount of notes or accounts receivable;

(q) any material damage, destruction or loss to, or any material interruption in the use of, any of the assets of any APNT Party (whether or not covered by insurance);

(r) any sale, issuance or grant, or authorization of the issuance of equity securities of any APNT Party, except for the issuance of common stock pursuant to previously existing convertible notes or accounts payable as set forth in Section 7.1(c) of the APNT Disclosure Schedule as well as issuances of shares of common stock for awards made prior to the date of this Agreement under the equity compensation plans as set forth in Section 7.24 of the APNT Disclosure Schedule;

(s) any merger, consolidation, share exchange, business combination, recapitalization, reclassification of shares, stock split, reverse stock split or similar transaction involving any APNT Party;

(t) any creation of any Subsidiary of any of the APNT Parties or acquisition by any APNT Party of any assets (other than in the ordinary course of business), equity interest or other interest in any other Person; or

(u) any negotiations, arrangement or commitment by any APNT Party to take any of the actions described in this Section 7.9 except as set forth in Section 7.9(b) of the APNT Disclosure Schedule.

SECTION 7.10 *Undisclosed Liabilities*. The APNT Parties have no material liabilities or obligations of any nature (whether matured or unmatured, fixed or contingent, known or unknown) other than those (a) set forth on or adequately provided for in the balance sheet of APNT as of September 30, 2013, (b) estimated to the best of APNT's Knowledge in Section 7.10 of the APNT Disclosure Schedule; , (c) incurred since the date of such balance sheet that are incurred in the ordinary course of business and (d) those incurred in connection with the negotiation, execution, delivery and performance of this Agreement.

SECTION 7.11 *Litigation*. Except as set forth in Section 7.11 of the APNT Disclosure Schedule, as of the date of this Agreement, there is no Action pending or threatened in writing against any of the APNT Parties, any of their respective officers or directors (in their capacities as such) or any of their respective properties before or by any Governmental Authority which (a) adversely affects or challenges the legality, validity or enforceability of this Agreement or (b) if there were an unfavorable decision, individually or in the aggregate, has had or would reasonably be expected to result in a change to a Research Contract, a claim of breach or default under a Research Contract or former Research Contract, or a Material Adverse Effect on any APNT Party. Except as set forth Section 7.11 of the APNT Disclosure Schedule, there is no Judgment imposed upon any APNT Party, any of their respective officers or directors (in their capacities as such) or any of their respective properties. No APNT Party, nor any director or officer thereof (in his or her capacity as such), is or has been the subject of any Action involving a material claim or material violation of or material liability under the securities laws of any Governmental Authority or a claim of breach of fiduciary duty.

SECTION 7.12 *Compliance with Applicable Laws*. To the Knowledge of APNT, the APNT Parties are in compliance with all applicable Legal Requirements, except for instances of noncompliance that, individually and in the aggregate, have not had and would not reasonably be expected to have a Material Adverse Effect on any APNT Party. Since December 31, 2012 APNT has not received any written communication, and to the knowledge of APNT, APNT has not received any written communication since its incorporation from a Governmental Authority alleging that the APNT Parties are not in compliance in any material respect with any applicable Legal Requirement. This Section 7.12 does not relate to matters with respect to Taxes, which are the subject of Section 7.21. It also does not relate to matters with respect to: SEC Documents (which is the subject of Section 7.7) and Sarbanes-Oxley (which is the subject of Section 7.13).

SECTION 7.13 *Sarbanes-Oxley Act of 2002*. APNT is in material compliance with all provisions of the Sarbanes-Oxley Act of 2002 (the "**Sarbanes-Oxley Act**") applicable to it as of the date hereof and as of the Closing. There has been no change in APNT's accounting policies except as described in the notes to the most recent APNT financial statements contained in the APNT SEC Documents. Each required form, report and document containing financial statements that has been filed with or submitted to the SEC since inception, was accompanied by the certifications required to be filed or submitted by APNT's principal executive officer and chief financial officer pursuant to the Sarbanes-Oxley Act, and at the time of filing or submission of each such certification, such certification was true and accurate and materially complied with the Sarbanes-Oxley Act and the rules and regulations promulgated thereunder. Neither APNT, nor to the Knowledge of APNT, any Representative of APNT, has received or otherwise had or obtained knowledge of any complaint, allegation, assertion or claim, whether written or oral, regarding the accounting or auditing practices, procedures, methodologies or methods of APNT or their respective internal accounting controls, including any complaint, allegation, assertion or claim that APNT has engaged in questionable accounting or auditing practices, except for (a) any complaint, allegation, assertion or claim as has been resolved without any resulting change to APNT's accounting or auditing practices, procedures methodologies or methods of APNT or its internal accounting controls, and (b) questions regarding such matters raised and resolved in the ordinary course in connection with the preparation and review of APNT's financial statements and periodic reports. To the Knowledge of APNT, no attorney representing APNT, whether or not employed by APNT, has reported evidence of a material violation of securities laws, breach of fiduciary duty or similar violation by APNT or any of its officers, directors, employees or agents to the APNT Board or any committee thereof or to any director or officer of APNT. To the Knowledge of APNT, no director or officer of APNT has provided or is providing information to any law enforcement agency regarding the commission or possible commission of any crime or the violation or possible violation of any applicable law.

SECTION 7.14 *Broker's and Finders' Fees*. APNT has not incurred, nor will it incur, directly or indirectly, any liability for brokerage or finders' fees or agents' commissions or investment bankers' fees or any similar charges in connection with this Agreement or any Transaction.

SECTION 7.15 *Minute Books*. The minute books of the APNT Parties made available to Nano contain in all material respects a complete and accurate summary of all meetings of directors and stockholders or actions by written consent of the APNT Parties since 1989, and reflect all transactions referred to in such minutes accurately in all material respects.

SECTION 7.16 *Board Approval*. The APNT Board (including any required committee or subgroup of such board) has (i) adopted resolutions approving the Redomestication Merger and the Nano Merger, and declared the advisability of and approved this Agreement and the Transactions, and (ii) determined that the Transactions are in the best interests of the stockholders of APNT.

SECTION 7.17 *Required Vote*. The approval of the board of directors of APNT and the affirmative vote (the "**APNT Stockholder Approval**") of the holders of a majority of the shares of APNT Common Stock having voting power representing a majority of the outstanding and issued Common Stock is the only vote of the holders of any class or series of APNT's capital stock necessary to approve the Redomestication Merger and the Transactions (the "**Required APNT Stockholder Vote**").

SECTION 7.18 *OTC Markets*. The Common Stock is quoted in the over-the-counter markets on the OTCQB Tier of the OTC Markets under the symbol "APNT". There is no Action or proceeding pending or, to the Knowledge of APNT, threatened against APNT by FINRA, or any other regulatory or self-regulatory organization or the staff thereof relating to any intention by such entities to prohibit or terminate the quotation of APNT Common Stock on the OTCQB tier of the OTC Markets.

SECTION 7.19 *Transactions With Affiliates and Employees*. None of the officers or directors of any APNT Party and none of the stockholders of APNT is presently a party, directly or indirectly, to any transaction with any APNT Party that is required to be disclosed under Rule 404(a) of Regulation S-K (other than for services as employees, officers and directors), including any Contract providing for the furnishing of services to or by, providing for rental of real or personal property to or from, or otherwise requiring payments to or from any officer, director, or, to the Knowledge of APNT, any entity in which any officer or director has a substantial interest or is an officer, director, partner or other equity holder.

SECTION 7.20 *Material Contracts and Transaction Documents*. Section 7.20 of the APNT Disclosure Schedule sets forth any Contracts (including Research Contracts) to which any APNT Party is a party or to which its assets are subject that would be considered a material contract pursuant to Item 601(b)(10) of Regulation S-K or pursuant to which any APNT Party receives or pays amounts in excess of \$50,000 (each an "**APNT Material Contract**"). APNT has made available to Nano, prior to the date of this Agreement, true, correct and complete copies of each Contract described in clause (a) (except to the extent such APNT Material Contract is otherwise available via the SEC's Edgar website) and each Research Contract. No APNT Party is in violation of or in default under (nor does there exist any condition which upon the passage of time or the giving of notice or both would cause such a violation of or default under) any Contract to which any of them is a party or by which it or any of their properties or assets is bound, except for violations or defaults that would not, individually or in the aggregate, reasonably be expected to result in a Material Adverse Effect on any APNT Party. To the Knowledge of APNT, no other Person has materially violated or breached, or committed or suffered any material default under, any APNT Material Contract.

SECTION 7.21 *Taxes.*

(a) APNT has timely filed, or has caused to be timely filed on behalf of each APNT Party, all Tax Returns relating to Taxes determined by reference to income, earnings, or revenues and all other material Tax Returns that are or were required to be filed by or with respect to any APNT Party, either separately or as a member of group of corporations, pursuant to applicable Legal Requirements, with the exception of its 2012 Federal Income Tax Return which was filed approximately December 3, 2013. All Tax Returns filed by (or that include on a consolidated basis) an APNT Party were (and, as to a Tax Return not filed as of the date hereof, will be) in all material respects true, complete and accurate. All material Taxes due and payable by any APNT Party have been paid in compliance with applicable Legal Requirements. There are no unpaid material Taxes of any APNT Party claimed to be due, or, to the Knowledge of APNT, otherwise claimed, by any Governmental Authority in charge of taxation of any jurisdiction, nor any claim in writing or, to the Knowledge of APNT, any other claim, for additional material Taxes from any APNT Party for any period for which Tax Returns have been filed.

(b) Section 7.21(b) of the APNT Disclosure Schedule lists all the relevant Governmental Authorities in charge of taxation in which Tax Returns are filed with respect to the APNT Parties, and indicates those Tax Returns that have been audited or that are currently the subject of an audit since December 31, 2007. APNT has not received any notice in writing, or, to the Knowledge of APNT, any other notice, that any Governmental Authority will audit or examine (except for any general audits or examinations routinely performed by such Governmental Authorities), seek information with respect to, or make material claims or assessments with respect to any Taxes for any period. APNT has delivered or made available to Nano correct and complete copies of all Tax Returns, correspondence with Governmental Authorities regarding Taxes, examination reports, and statements of deficiencies filed by, assessed against or agreed to by the APNT Parties, for and during fiscal years 2011 and 2012.

(c) The financial statements contained in APNT's annual report on Form 10-K for the year ended December 31, 2013 reflect a materially adequate reserve for all Taxes payable by APNT (in addition to any reserve for deferred Taxes to reflect timing differences between book and Tax items) for all taxable periods and portions thereof through the date of such financial statements. APNT is neither a party to nor bound by any Tax indemnity, Tax sharing or similar agreement and APNT currently has no liability and will not have any liabilities for any Taxes of any other Person under any agreement or by the operation of any law. No deficiency with respect to any Taxes has been proposed, asserted or assessed against APNT, and no requests for waivers of the time to assess any such Taxes are pending.

(d) APNT has not requested any extension of time within which to file any Tax Return, which Tax Return has not since been filed. APNT has not executed any outstanding waivers or comparable consents regarding the application of the statute of limitations with respect to any Taxes or Tax Returns. No power of attorney currently in force has been granted by APNT concerning any Taxes or Tax Return.

(e) APNT does not own nor has ever owned any United States real property interests as described in Section 897 of the Code.



(f) APNT has withheld and remitted to the appropriate Governmental Authority in compliance with all Legal Requirements all Taxes required to be withheld and remitted by APNT in connection with payments made to other persons.

**SECTION 7.22 Permits.** Section 7.22 of the APNT Disclosure Schedule identifies all material Permits of each APNT Party which are necessary to conduct their business as currently conducted. All such material Permits are in full force and effect. Except as set forth in Section 7.22 of the APNT Disclosure Schedule, each APNT Party has complied with all terms of such material Permits in all material respects. Except as set forth in Section 7.22 of the APNT Disclosure Schedule, no APNT Party is in material default under any of such material Permits, and to the Knowledge of APNT, no event has occurred and no condition exists which, with the giving of notice or the passage of time, or both, would constitute a default thereunder.

**SECTION 7.23 Properties.** Section 7.23(a) of the APNT Disclosure Schedule contains an accurate and complete list of all leases under which the APNT Parties have a right to use or occupy real property (the **“Real Estate Leases”**). None of the APNT Parties is in material default under any of the Real Estate Leases, and to the Knowledge of APNT, there is no material default by any of the lessors thereunder. No APNT Party owns any real property.

**SECTION 7.24 Employment Matters.**

(a) **Benefit Plans.** Except as set forth in Section 7.24 of the APNT Disclosure Schedule, no APNT Party has or maintains any bonus, pension, profit sharing, deferred compensation, incentive compensation, stock ownership, stock purchase, stock option, phantom stock, retirement, vacation, severance, disability, death benefit, hospitalization, medical or other plan, arrangement or understanding (whether or not legally binding) providing benefits to any current or former employee, officer or director of any APNT Party. Except as set forth in Section 7.24 of the APNT Disclosure Schedule, neither the execution and delivery of this Agreement nor the consummation of the Transactions will (either alone or in conjunction with any other event) result in, cause the accelerated vesting or delivery of, or increase the amount or value of, any payment or benefit to any employee of any APNT Party. Except as set forth in Section 7.24 of the APNT Disclosure Schedule, there are no (i) severance or termination agreements or arrangements currently in effect between any APNT Party and any of its current or former employees, officers or directors, or (ii) any severance plan or policy in effect on the date of this Agreement for employees, officers or directors of any APNT Party.

(b) **Labor Matters.** (i) there are no collective bargaining or other labor union agreements to which any APNT Party is a party or by which any of them are bound; (ii) no material labor dispute exists or, to the Knowledge of APNT, is threatened with respect to any of the employees of any APNT Party; (iii) no complaint, charge or Actions by or before any Governmental Authority brought by or on behalf of any employee, prospective employee, former employee, retiree, labor organization or other representative of its employees is pending or, to APNT’s Knowledge, threatened against any APNT Party; and (iii) no APNT Party is a party to, or otherwise bound by, any consent decree with, or to the Knowledge of Nano, citation by, any Governmental Authorities relating to employees or employment practices.

(c) **Officers.** As of the date of this Agreement, except as contemplated by this Agreement, no officer of any APNT Party has given notice in writing that such officer intends to leave or otherwise terminate such officer’s employment in connection with the consummation of the Transactions or following the Closing Date.

**SECTION 7.25 OFAC.** No APNT Party, no director or officer of any of them, or, to the Knowledge of APNT, any agent, employee, affiliate or Person acting on behalf of an APNT Party is currently identified on the specially designated nationals or other blocked person list or otherwise currently subject to any U.S. sanctions administered by the Office of Foreign Assets Control of the U.S. Treasury Department (**“OFAC”**); and the APNT Parties have not, directly or indirectly, used any funds, or loaned, contributed or otherwise made available such funds to any Subsidiary, joint venture partner or other Person, in connection with any sales or operations in Cuba, Iran, Syria, Sudan, Myanmar or any other country sanctioned by OFAC or for the purpose of financing the activities of any Person currently subject to, or otherwise in violation of, any U.S. sanctions administered by OFAC.

SECTION 7.26 *Environmental Matters*. To the Knowledge of the APNT, each of the APNT Parties is in and at all times has been in substantial compliance with, and has not been and is not in material violation of or subject to any material liability under, any Environmental Law. Except as set forth in Section 7.26 of the APNT Disclosure Schedule, no Action or proceeding involving any APNT Party with respect to any Environmental Law is pending or, to APNT's Knowledge, is threatened.

SECTION 7.27 *Restrictions on Business Activities*. Except as set forth in Section 7.27 of the APNT Disclosure Schedule, there is no agreement, commitment, judgment, injunction, order or decree binding upon any APNT Party or their respective assets or to which any of them is a party which restricts the scope of business in which they may engage.

SECTION 7.28 *Investment Company*. No APNT Party is an "investment company" or an entity "controlled" by an "investment company" within the meaning of the Investment Company Act of 1940, as amended, and the rules and regulations of the SEC thereunder.

SECTION 7.29 *Insurance*. The insurance policies maintained for the benefit of the APNT Parties are identified in Section 7.29 Of the APNT Disclosure Schedule.

SECTION 7.30 *Intellectual Property*.

A. APNT has provided to Nano in the data room a complete list of all active patents, patent applications, and provisional patent applications, (collectively, "Patents") owned by any of the APNT Parties ("APNT Patents").

Except as disclosed to Nano in the section of the data room relating to intellectual property,

i. the APNT Parties exclusively own all rights in the APNT Patents, free and clear of all:

- a. License agreements,
- b. Restrictions on further licensing,
- c. Obligations to make payments to third parties, or
- d. Security interests, mortgages or liens.

ii. No entity other than the APNT Parties has any rights granted by APNT (either current or contingent) to use, make, sell or practice, the inventions protected by any APNT Patents. No employee retains any right to use, make, sell or practice any invention protected by an APNT Patent, and to the Knowledge of the APNT Parties no consultant to APNT retains any such rights.

iii. Except for office actions issued by the U.S. Patent and Trademark Office or a similar office or agency anywhere in the world, none of the APNT Parties has received any communications from another Person alleging that any APNT Patents are invalid or unenforceable, and APNT has no Knowledge of any basis for another Person to allege that any APNT Patents are invalid or unenforceable.

iv. All APNT Patents which are issued or pending before, as applicable, the U.S. Patent and Trademark Office or a similar office or agency anywhere in the world, are currently in compliance with formalities and legal requirements necessary to maintain them as currently valid (including without limitation as applicable, the payment of all necessary fees, including without limitation, filing, examination, annuity, maintenance or other fees, and the filing of all necessary documents or statements, including without limitation, necessary proofs of working or use, or other items or documents necessary to maintain such APNT Patents as currently valid).

v. APNT has not licensed Patents from any other Person.

B. APNT has provided to Nano in the data room a complete list of all registered trademarks and service marks, and related applications for registration (collectively, “**Marks**”) which are currently owned or used by any APNT Party (“**APNT Marks**”).

Except as disclosed to Nano in the section of the data room relating to intellectual property,

i. the APNT Parties exclusively own and hold all rights in the APNT Marks free and clear of all:

- a. License agreements,
- b. Restrictions on further licensing,
- c. Obligations to make payments to other Persons, or
- d. Security interests, mortgages, or liens.

ii. No other entity has been granted any rights, either current or contingent, to use any APNT Marks.

iii. All APNT Marks which are registered with, as applicable, the U.S. Patent and Trademark Office or any similar office or agency anywhere in the world, are currently in compliance with all formalities and legal requirements necessary to maintain them as currently valid (including, without limitation as applicable, the payment of filing, examination, use, renewal and other fees and timely compliance with post filing requirements including, as applicable, affidavits of use and incontestability, renewals and evidence of use, and all other items to maintain such APNT Marks as currently valid).

iv. Except for office actions issued by the U.S. Patent and Trademark Office or a similar office or agency anywhere in the world, none of the APNT Parties has received any communications from another Person alleging that any APNT Marks are invalid or unenforceable, and APNT has no Knowledge of any basis for another Person to allege that any APNT Marks are invalid or unenforceable.

C. APNT has provided to Nano in the data room a complete and accurate list of all software code that the APNT Parties have developed in connection with (y) gas sensing methods, gas analysis methods, or other material components of the gas sensing product, and (z) any material manufacturing processes, material or product performance testing or any products or materials under development by an APNT Party (“**APNT Copyrights**”).

Except as disclosed to Nano in the section of the data room relating to intellectual property,

i. the APNT Parties exclusively own all of the APNT Copyrights free and clear of all:

- a. License agreements,
- b. Restrictions on use, copying or distribution, or
- c. Security interests, mortgages or liens.

ii. No entity other than the APNT Parties has any right to use, publish, transfer, copy, distribute, or commercially exploit, either current or contingent, any APNT Copyrights.

iii. No APNT Party has received any communications from another Person alleging that any APNT Copyrights are invalid, unenforceable or subject to any claim of any other entity, and APNT has no Knowledge of any basis to allege that any APNT Copyrights are invalid, unenforceable or subject to a claim by any other entity.

D. Except as disclosed to Nano in the section of the data room relating to intellectual property, to the Knowledge of APNT, no entity, or has or is, infringing upon any APNT Patents, and no entity is violating the rights of any APNT Party with respect to APNT Marks, APNT Copyrights or any other APNT proprietary rights.

E. Except as disclosed to Nano in the section of the data room relating to intellectual property,

i. To the Knowledge of APNT there is not nor has there been, any violation of any agreements that currently or previously authorized any other entity to use or practice rights under any APNT Patents,

ii. To the Knowledge of APNT, no entity that has been licensed any rights to use or practice rights under any APNT Patents, has any basis to:

a. Claim against any APNT Party any violation of any agreement which granted the entity such rights or

b. Cease payment or reduce the amount of payments to any APNT Party under the agreement under which such rights were granted.

iii. To the Knowledge of APNT no other entity has a right to claim any interest, whether ownership, license rights or otherwise, in any technology that may be developed by APNT and/or its subsidiaries after the date of this Agreement.

F. Except as disclosed to Nano in the section of the data room relating to intellectual property, to the Knowledge of APNT all former and current employees, consultants, contractors, agents, research partners, independent developers, and other sources of or contributors to APNT Patents, and/or APNT Copyrights, has executed and delivered valid written instruments that assign or otherwise vest in APNT or its subsidiaries, all rights in and to such APNT Patents and/or APNT Copyrights that were developed, authored, conceived or reduced to practice by them in the course of performing services for or other activities related to, APNT and/or its subsidiaries.

G. Except as disclosed to Nano in the section of the data room relating to intellectual property,

i. To the Knowledge of APNT, there are no pending or threatened claims against APNT and/or any of its subsidiaries, licensees, suppliers, agents, employees, or officers, alleging that the use any, APNT Marks, or APNT Copyrights, directly or indirectly infringes, violates, misappropriates, or conflicts with the rights associated with any patents, trademarks, copyrights, trade secrets, or other proprietary rights owned by others (“**Third Party Rights**”).

ii. To the Knowledge of APNT, there are no pending or threatened or claims against APNT or any of its subsidiaries, licensees, suppliers, agents, employees, or officers, alleging that any activities or events that have occurred, that are currently occurring, or that are planned to occur, in connection with the actions or activities of APNT and/or its subsidiaries, infringes any Third Party Rights.

iii. No APNT Party has received any communication alleging, that any APNT Party, in carrying out past or current activities or in carrying out any activities that are currently planned in the future, has or will, directly or indirectly, infringe, misappropriate or violate any Third Party Rights.

iv. No APNT Party has violated any agreement that authorizes an APNT Party to use or practice any Third Party Rights.

H. Except as disclosed to Nano in the section of the data room relating to intellectual property,

i. All software programs currently used in the activities of APNT and/or its subsidiaries, (other than APNT Copyrights discussed above) (“**Third Party Software**”) are commercially available software products that can be obtained publicly from commercial sources at the present time.

ii. No licenses or rights to use such Third Party Software will be adversely impacted by a change in control of APNT and/or its subsidiaries.

iii. No fees, charges or other compensation will need to be paid by any third party upon a change in control of APNT and/or its subsidiaries for the right to continue to use such Third Party Software.

#### **ARTICLE VIII** **Conduct Prior to the Closing**

SECTION 8.1 *Covenants of Nano*. During the period from the date of this Agreement and continuing until the earlier of the termination of this Agreement or the Closing Date, Nano will use commercially reasonable efforts to, cause each of the Nano Entities to (except to the extent expressly contemplated by this Agreement or as consented to in writing by the other Parties), (i) carry on its business in the ordinary course in substantially the same manner as heretofore conducted and in compliance in all material respects with all applicable Legal Requirements, to pay debts and Taxes when due (subject to good faith disputes over such debts or Taxes), to pay or perform other obligations when due, and to use commercially reasonable efforts to preserve intact its present business organizations, and (ii) use commercially reasonable efforts to keep available the services of its present officers, directors and employees and to preserve its relationship with customers, suppliers, distributors, licensors, licensees, and others having business dealings with it. Without limiting the generality of the foregoing, during the period from the date of this Agreement and continuing until the earlier of the termination of this Agreement or the Closing Date, except as listed on Section 8.1 of the Nano Disclosure Schedule or as otherwise expressly permitted by or provided for in this Agreement, Nano will not, allow, cause or permit any of the following actions to occur with respect to any of the Nano Entities without the prior written consent of APNT, which shall not be unreasonably delayed or withheld:

(a) *Charter Documents*. Cause or permit any amendments to any of the Nano Constituent Instruments or any other equivalent organizational documents, except as contemplated by this Agreement;

(b) *Accounting Policies and Procedures*. Change any method of accounting or accounting principles or practices by the Nano Entities, except for any such change required by any Legal Requirement or by a change in U.S. GAAP;

(c) *Dividends; Changes in Capital Stock*. Declare or pay any dividends on or make any other distributions (whether in cash, stock or property) in respect of any of its capital stock, or split, combine or reclassify any of its capital stock or issue or authorize the issuance of any securities in respect of, in lieu of or in substitution for shares of its capital stock, or repurchase or otherwise acquire, directly or indirectly, any shares of its capital stock;

(d) *Material Contracts*. Enter into any new Material Contract, or violate, amend or otherwise modify or waive any of the terms of any existing Material Contract;

(e) *Issuance of Securities*. Except pursuant to the Bridge Financing, issue, deliver or sell or authorize or propose the issuance, delivery or sale of, or purchase or propose the purchase of, any shares or capital equity or securities convertible into or exchangeable for, or subscriptions, rights, warrants or options to acquire, or other agreements or commitments of any character obligating it to issue any such units or other convertible or exchangeable securities; or otherwise pledge or encumber any securities of any Nano Entity;

(f) *Intellectual Property*. Transfer, license to any Person or entity any Nano Intellectual Property Rights or enter into any agreement, or violate, amend or otherwise modify or waive any of the terms of any agreements related to any Nano Intellectual Property Rights;

(g) *Dispositions*. Sell, lease (other than in the ordinary course of business), license or otherwise dispose of or encumber any of its tangible properties or tangible assets which are material, individually or in the aggregate, to its business;

(h) *Indebtedness*. Issue or sell any debt securities or guarantee any debt securities of others, or incur any indebtedness for borrowed money other than the Bridge Financing or mortgage, pledge or grant a security interest or other lien or encumbrance in any material asset of any Nano Entity;

(i) *Payment of Obligations*. Pay, discharge or satisfy in an amount in excess of \$5,000 any claim, liability or obligation (absolute, accrued, asserted or unasserted, contingent or otherwise) other than (i) in the ordinary course of business, (ii) the payment, discharge or satisfaction of liabilities reflected or reserved against in the Nano Financial Statements for the quarter ended September 30, 2013, or (iii) the payment, discharge or satisfaction of liabilities incurred in connection with the Transactions;

(j) *Capital Expenditures*. Make any capital expenditures, capital additions or capital improvements except in the ordinary course of business that do not exceed \$5,000 individually or in the aggregate;

(k) *Acquisitions*. Acquire by merging or consolidating with, or by purchasing a substantial portion of the assets of, or by any other manner, any business or any corporation, partnership, association or other business organization or division thereof, or otherwise acquire any assets which are material, individually or in the aggregate, to its business, or acquire any equity securities of any corporation, partnership, association or business organization;

(l) *Employment*. Except as required to comply with Legal Requirements or pursuant to plans, agreements or arrangements existing on the date hereof, (i) take any action with respect to, adopt, enter into, terminate or amend any employment, severance, retirement, retention, incentive or similar agreement, arrangement or benefit plan for the benefit or welfare of any current or former director or officer or any collective bargaining agreement, (ii) increase any compensation or fringe benefits of, or pay any bonus to, any director, officer or other employee of any Nano Entity, (iii) amend or accelerate the payment, right to payment or vesting of any compensation or benefits, (iv) pay any benefit not provided for as of the date of this Agreement under any benefit plan, or (v) grant any awards under any bonus, incentive, performance or other compensation plan or arrangement or benefit plan, including the grant of stock options, stock appreciation rights, stock based or stock related awards, performance units or restricted stock, or the removal of existing restrictions in any benefit plans or agreements or awards made thereunder;

(m) *Facility*. Open or close any facility or office except in the ordinary course of business;

(n) *Taxes*. Make or change any material election in respect of Taxes, adopt or change any accounting method in respect of Taxes, file any Tax Return or any amendment to a Tax Return, enter into any closing or equivalent agreement, settle any claim or assessment in respect of Taxes, or consent to any extension or waiver of the limitation period applicable to any claim or assessment in respect of Taxes;

(o) *Litigation*. Initiate compromise or settle any litigation or arbitration proceedings relating to an amount in excess of \$5,000;

(p) *Loans*. Make any loans, advances or capital contributions, except advances for travel and other normal business expenses to officers and employees in accordance with policies and procedures in effect on the date hereof;

(q) *Payments to Affiliates*. Make any payments or series of related payments (other than ordinary compensation and benefits) to any of its officers, directors, employees, shareholders or other equity interest holders, except as required pursuant to any binding agreement with any such officer, director, employee, shareholder or other equity holder in effect as of the date of this Agreement and disclosed in the Nano Disclosure Schedule;

(r) *Affiliated Transactions*. Enter into any Contract, arrangement or other transaction with any Affiliate of any Nano Entity except in connection with the Transactions contemplated by this Agreement; and

(s) *Other*. Agree in writing or otherwise to take any of the foregoing actions.

SECTION 8.2 *Covenants of APNT*. Except as set forth in Section 8.2 of the APNT Disclosure Schedule or as otherwise agreed to among the Parties, from the date hereof until the earlier of the termination of this Agreement or the Closing Date, APNT agrees to, and to cause its Subsidiaries (except to the extent expressly contemplated by this Agreement or as consented to in writing by Nano), to (i) carry on its business in the ordinary course within the financial parameters set forth in the operating budget that has been mutually approved by APNT and Nano (the “**APNT Operating Budget**”), to pay debts and other amounts as set forth in the APNT Operating Budget and to use commercially reasonable efforts to preserve intact its present business organizations within the financial parameters set forth in the APNT Operating Budget and (ii) use commercially reasonable efforts to keep available the services of its current officers, directors and employees and to preserve its relationships with others having business dealings with it. Without limiting the generality of the foregoing, during the period from the date of this Agreement and continuing until the earlier of the termination of this Agreement or the Closing Date, except as listed on Section 8.2 of the APNT Disclosure Schedule or as otherwise expressly permitted by or provided for in this Agreement, the APNT Parties shall not do, allow, cause or permit any of the following actions to occur without the prior written consent of Nano, which consent shall not be unreasonably delayed or withheld:

(a) *Charter Documents*. Adopt or propose any change in any of their constituent instruments except for such amendments required by any Legal Requirement or the rules and regulations of the SEC or as are contemplated by this Agreement.

(b) *Accounting Policies and Procedures*. Change any method of accounting or accounting principles or practices by APNT, except for any such change required by any Legal Requirement or by a change in U.S. GAAP;

(c) *SEC Reports*. Fail to timely file or furnish to or with the SEC all reports, schedules, forms, statements and other documents required to be filed or furnished by APNT (except those filings by affiliates of APNT required under Section 13(d) or 16(a) of the Exchange Act);

(d) *Dividends; Changes in Capital Stock.* Declare or pay any dividends on or make any other distributions (whether in cash, stock or property) in respect of any of its capital stock, or split, combine or reclassify any of its capital stock or issue or authorize the issuance of any other securities in respect of, in lieu of or in substitution for shares of its capital stock, or repurchase or otherwise acquire, directly or indirectly, any shares of its capital stock;

(e) *Dispositions.* Sell, lease, license or otherwise dispose of or encumber any properties or material assets;

(f) *Material Contracts.* Enter into any new APNT Material Contract, or violate, amend or otherwise modify or waive any of the terms of any existing APNT Material Contract;

(g) *Issuance of Securities.* Except as a result of agreements and commitments entered into prior to the date of this Agreement and identified in the APNT Disclosure Schedule, issue, deliver or sell or authorize or propose the issuance, delivery or sale of, or purchase or propose the purchase of, any shares of its capital stock or securities convertible into or exchangeable for, or subscriptions, rights, warrants or options to acquire, or other agreements or commitments of any character obligating it to issue any such shares or other convertible or exchangeable securities; or otherwise pledge or encumber any securities of APNT or its Subsidiaries;

(h) *Indebtedness.* Except pursuant to the Bridge Financing, issue or sell any debt securities or guarantee any debt securities of others, or incur any indebtedness for borrowed money, other than those relating to liabilities incurred in connection with the Transactions and reflected in the APNT Operating Budget; or mortgage, pledge or grant a security interest in any asset of any APNT Party;

(i) *Payment of Obligations.* Pay, discharge or satisfy any claim, liability or obligation (absolute, accrued, asserted or unasserted, contingent or otherwise) other than (i) as provided for in the APNT Operating Budget, or (ii) the payment, discharge or satisfaction of liabilities incurred in connection with the Transactions as the parties may agree.;

(j) *Capital Expenditures.* Make any capital expenditures, capital additions or capital improvements except as provided for in the APNT Operating Budget;

(k) *Acquisitions.* Acquire by merging or consolidating with, or by purchasing a substantial portion of the assets of, or by any other manner, any business or any corporation, partnership, association or other business organization or division thereof, or otherwise acquire any assets which are material, individually or in the aggregate, to its business, or acquire any equity securities of any corporation, partnership, association or business organization;

(l) *Taxes.* Make or change any material election in respect of Taxes, adopt or change any accounting method in respect of Taxes, file any Tax Return amendment to a Tax Return, enter into any closing or equivalent agreement, settle any claim or assessment in respect of Taxes, or consent to any extension or waiver of the limitation period applicable to any claim or assessment in respect of Taxes;

(m) *Litigation.* Initiate compromise or settle any material litigation or arbitration proceedings;

(n) *Affiliated Transactions.* Enter into any Contract, arrangement or other transaction with any Affiliate of APNT, except in connection with the Transactions contemplated by this Agreement;



(o) *Employment*. Except as required to comply with Legal Requirements or pursuant to plans, agreements or arrangements existing on the date hereof as provided for in the APNT Operating Budget, (i) take any action with respect to, adopt, enter into, terminate or amend any employment, severance, retirement, retention, incentive or similar agreement, arrangement or benefit plan for the benefit or welfare of any current or former director or officer or any collective bargaining agreement, (ii) increase any compensation or fringe benefits of, or pay any bonus to, any director, officer or other employee of any APNT Party, (iii) amend or accelerate the payment, right to payment or vesting of any compensation or benefits, (iv) pay any benefit not provided for as of the date of this Agreement under any benefit plan as provided for in the APNT Operating Budget, or (v) grant any awards under any bonus, incentive, performance or other compensation plan or arrangement or benefit plan, including the grant of stock options, stock appreciation rights, stock based or stock related awards, performance units or restricted stock, or the removal of existing restrictions in any benefit plans or agreements or awards made thereunder;

(p) *Loans*. Make any loans, advances or capital contributions, except advances for travel and other normal business expenses to officers and employees in accordance with policies and procedures in effect on the date hereof;

(q) *Intellectual Property Rights*. Transfer, license to any Person or entity any APNT Intellectual Property Rights or enter into any agreement, or violate, amend or otherwise modify or waive any of the terms of any agreements related to any APNT Intellectual Property Rights;

(r) *Facility*. Open or close any facility or office; and

(s) *Other*. Agree in writing or otherwise to take any of the foregoing actions.

## ARTICLE IX Pre-Closing Covenants of Nano

SECTION 9.1 *Access to Information*. Between the date of this Agreement and the Closing Date, subject to APNT's undertaking to use its commercially reasonable efforts to keep confidential and protect the Trade Secrets of the Nano Entities against any disclosure, Nano will permit APNT and its Representatives reasonable access to all of the books and records of the Nano Entities which are reasonably necessary for the preparation and amendment of the Proxy Statement and such other filings or submissions in accordance with SEC rules and regulations as are necessary to consummate the Transactions and as are necessary to respond to requests of the SEC's staff, APNT's accountants and relevant Governmental Authorities. In the event that any APNT Party or any of its Representatives is requested or required to disclose any Trade Secrets of the Nano Entities, such APNT Party shall provide the Nano Entities with prompt written notice of any such request or requirement so that the Nano Entities may seek a protective order or other appropriate remedy (at their sole expense).

SECTION 9.2 *Further Assurances*. From the date hereof until the earlier of the Closing Date or the termination of this Agreement in accordance with Article XIV, unless a lesser standard is expressly provided for elsewhere in the Agreement, in which case such lesser standard shall be applicable, Nano shall, on or prior to the Closing Date, use its commercially reasonable efforts to fulfill or obtain the fulfillment of the conditions precedent to the consummation of the transactions contemplated hereby. Unless a lesser standard is expressly provided for elsewhere in the Agreement, in which case such lesser standard shall be applicable, Nano shall further cooperate with APNT and its commercially reasonable efforts to take or cause to be taken all actions, and do or cause to be done all things, necessary, proper or advisable on their part under this Agreement, including continued due diligence, and applicable Legal Requirements to consummate the transactions set forth in this Agreement as soon as practicable.

SECTION 9.3 *Disclosure of Certain Matters*. From the date hereof through the Closing Date, Nano shall give APNT prompt written notice of any event or development that occurs that (a) is of a nature that, individually or in the aggregate, would have or reasonably be expected to have a Material Adverse Effect on the Nano Entities, taken as a whole, or (b) would require any amendment or supplement to the Proxy Statement; except that any such notice shall not qualify, affect or diminish the representations, warranties and other obligations of Nano under this Agreement, or amend the Disclosure Schedules delivered by Nano on the date hereof.

SECTION 9.4 *Regulatory and Other Authorizations; Notices and Consents*. Nano shall use commercially reasonable efforts to give or obtain (a) all material Consents from Governmental Authorities, (b) material notices to any Governmental Authority or third party, and (c) material consents of any third party, that in each case may be or become necessary for the execution and delivery of, and the performance of their obligations pursuant to, this Agreement or the Transaction Documents by any Nano Entity, or that is otherwise required to be obtained or made by or with respect to any Nano Entity in connection with, the execution, delivery and performance of this Agreement or the Transaction Documents, or the consummation of any of the Transactions.

SECTION 9.5 *Related Tax*. From the date hereof through the Closing Date, Nano shall, and shall cause each of the Nano Entities to, consistent with past practice, (i) duly and timely file all Tax Returns and other documents required to be filed by it with applicable Governmental Authorities, subject to extensions permitted by law and properly granted by the appropriate authority; *provided* that Nano notifies APNT that any of the Nano Entities is availing itself of such extensions, and (ii) pay all Tax shown as due on such Tax Returns or otherwise due.

SECTION 9.6 *Proxy Statement*. Nano shall use commercially reasonable efforts to provide promptly to APNT such information concerning its and the other Nano Entities' business affairs and financial statements as is required under applicable Legal Requirements for inclusion in the Proxy Statement (including audited financial statements), shall direct that its counsel cooperate with APNT's counsel in the preparation of the Proxy Statement and shall request the cooperation of Nano's auditors in the preparation of the Proxy Statement. None of the information supplied or to be supplied by or on behalf of Nano for inclusion or incorporation by reference in the Proxy Statement will, at the time the Proxy Statement is filed with the SEC, contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary in order to make the statements therein, in the light of the circumstances under which they are made, not misleading. If any information provided by Nano is discovered or any event occurs with respect to any of Nano, or any change occurs with respect to the other information provided by Nano included in the Proxy Statement which is required to be described in an amendment of, or a supplement to, the Proxy Statement so that such document does not include any misstatement of a material fact or omit to state any material fact necessary to make the statements therein, in light of the circumstances under which they were made, not misleading, Nano shall notify APNT promptly of such event.

## ARTICLE X Pre-Closing Covenants of APNT

### SECTION 10.1 *Proxy Statement Filing, SEC Filings and Special Meeting*.

(a) APNT shall cause a meeting of its stockholders (the "**Stockholders' Meeting**") to be duly called and held as soon as reasonably practicable for the purpose of voting on the adoption and approval of, among others, this Agreement and the Transactions contemplated thereby. The APNT Board shall recommend to its stockholders that they vote in favor of the adoption of such matters. In connection with the Stockholders' Meeting, APNT (a) will use commercially reasonable efforts to file with the SEC as promptly as practicable the Proxy Statement, which shall serve as a proxy statement pursuant to Section 14(a), Regulation 14A, and Schedule 14A under the Exchange Act and all other proxy materials for such meeting, (b) upon receipt of approval from the SEC, will mail to its stockholders the Proxy Statement and other proxy materials, (c) will use commercially reasonable efforts to obtain the necessary approvals by its stockholders of this Agreement and the Transactions contemplated hereby under applicable Legal Requirements (the "**Stockholder Approval**"), and (d) will otherwise comply with all Legal Requirements applicable to the Stockholders' Meeting.

(b) APNT will timely provide to Nano all correspondence received from and to be sent to the SEC and will not file any amendment to the Proxy Statement with the SEC without providing Nano the opportunity to review and comment on any proposed responses to the SEC. APNT and Nano will cooperate with each other in finalizing each proposed response. In addition, APNT will use commercially reasonable efforts to cause the SEC to permit Nano and/or its counsel to participate in all SEC conversations on substantive issues related to the Proxy Statement together with APNT counsel.

SECTION 10.2 *Further Assurances*. From the date hereof until the earlier of the Closing Date and the termination of this Agreement in accordance with Article XIV, APNT shall, on or prior to the Closing Date, use its commercially reasonable efforts to fulfill or obtain the fulfillment of the conditions precedent to the consummation of the transactions contemplated hereby. APNT shall further cooperate with Nano and use its commercially reasonable efforts to take or cause to be taken all actions, and do or cause to be done all things, necessary, proper or advisable on its part under this Agreement and applicable Legal Requirements to consummate the transactions set forth in this Agreement as soon as practicable.

SECTION 10.3 *Disclosure of Certain Matters*. From the date hereof through the Closing Date, APNT shall give Nano prompt written notice of any event or development that occurs that (a) is of a nature that, individually or in the aggregate, would have or reasonably be expected to have a Material Adverse Effect on APNT, or (b) would require any amendment or supplement to the Proxy Statement; *provided* that any such notice shall not qualify, affect or diminish the representations, warranties and other obligations of the APNT Parties under this Agreement, or amend the Disclosure Schedules delivered by the APNT Parties on the date hereof. From the date hereof until the earlier of the Closing Date and the termination of this Agreement in accordance with Article XIV, APNT will keep Nano informed of the status of the payment and or conversion of any APNT Convertible Securities and any negotiations with any holder thereof. APNT will promptly give Nano copies of any agreement entered into with a holder of any APNT Convertible Securities. Any agreement with a holder of APNT Convertible Securities (exclusive of securities issued as part of the Bridge Financing) will not impose any obligations or any new or different obligations on the APNT Parties that would survive the closing of the Nano Merger.

SECTION 10.4 *Regulatory and Other Authorizations; Notices and Consents*. APNT shall use its commercially reasonable efforts to obtain all material authorizations, consents, orders and approvals of, and provide all material notices to, all Governmental Authorities and third parties that may be or become necessary for its execution and delivery of, and the performance of its obligations pursuant to, this Agreement and the Transaction Documents to which it is a party.

SECTION 10.5 *Exclusivity; No Other Negotiations*.

(a) Except as otherwise provided for herein, APNT shall not take (or authorize or permit any investment banker, financial advisor, attorney, accountant or other Person retained by or acting for or on behalf of APNT to take) directly or indirectly, any action to initiate, assist, solicit, negotiate, or encourage any offer, inquiry or proposal from any Person: (i) relating to any acquisition of such Person or APNT (regardless of the structure of any such acquisition) or (ii) take any other action that has the primary effect of avoiding the Closing contemplated hereby, except that the APNT Board may engage in discussions with any Person who has made an unsolicited bona fide written proposal relating to such an acquisition that the APNT Board determines in good faith constitutes, or could reasonably be expected to result in, an Superior Proposal; except that no such discussions shall limit, affect or impair the enforceability of this Agreement against APNT prior to the termination hereof.

(b) APNT will immediately cease any and all existing activities, discussions or negotiations with any parties conducted heretofore with respect to any of the actions set forth in Section 10.5(a) above, if applicable. APNT will promptly (i) notify Nano if APNT receives any such proposal or inquiry or request for information in connection with such proposal and (ii) notify Nano of the significant terms and conditions of any such proposal including the identity of the party making the proposal.

SECTION 10.6 *Related Tax*. From the date hereof through the Closing Date, APNT, consistent with past practice, shall (i) duly and timely file all Tax Returns and other documents required to be filed by it with applicable Governmental Authorities, subject to extensions permitted by Legal Requirements and properly granted by the appropriate authority; *provided*, that APNT notifies Nano that APNT is availing itself of such extensions, and (ii) pay all Tax shown as due on such Tax Returns.

## ARTICLE XI Additional Agreements and Covenants

SECTION 11.1 *Disclosure Schedules*. Each of the Parties shall, as of the Closing Date, have the obligation to supplement or amend their respective Disclosure Schedules being delivered concurrently with the execution of this Agreement and annexes and exhibits hereto with respect to any matter hereafter arising or discovered which resulted in, or could reasonably be expected to result in, a breach of any representation or warranty made by them herein; *provided* that any such amendment or supplementation shall not qualify, affect or diminish the representations, warranties and other obligations of the Parties under this Agreement or any condition to Closing hereunder, and the representations, warranties and other obligations of the Parties under this Agreement shall be made, qualified and/or determined by reference to the Disclosure Schedules as delivered at the time of execution of this Agreement.

SECTION 11.2 *Confidentiality*. Between the date hereof and the Closing Date, each of APNT, Nano and Zeiss shall hold and shall cause their respective Representatives to hold in strict confidence, unless compelled to disclose by judicial or administrative process or by other Legal Requirements or by the rules and regulations of, or pursuant to any agreement of a stock exchange or trading system, all documents and information concerning any other Party furnished to it by such other Party or its Representatives in connection with the Transactions, except to the extent that such information can be shown to have been (a) previously known by the Party to which it was furnished, (b) in the public domain through no fault of such Party, or (c) later lawfully acquired by the Party to which it was furnished from other sources, which source is not a Representative of the other Party, and each Party shall not release or disclose such information to any other Person, except its Representatives in connection with this Agreement. Each Party shall be deemed to have satisfied its obligations to hold confidential information concerning or supplied by the other Party in connection with the Transactions, if it exercises the same care as it takes to preserve confidentiality for its own similar information. For the avoidance of doubt, any disclosure of information required to be included by APNT or Nano in their respective filings with the SEC as required by the applicable Legal Requirements will not be violation of this Section 11.2.

SECTION 11.3 *Public Announcements*. From the date of this Agreement until the Closing or termination of this Agreement, APNT and Nano shall cooperate in good faith to jointly prepare all press releases and public announcements pertaining to this Agreement and the Transactions governed by it, and none of the foregoing shall issue or otherwise make any public announcement or communication pertaining to this Agreement or the Transactions without the prior consent of APNT or Nano, except as required by any Legal Requirement or by the rules and regulations of, or pursuant to any agreement of, a stock exchange or trading system. If any public announcement or communication pertaining to this Agreement or the Transactions will mention Zeiss, the prior consent of Zeiss will be obtained, unless such communication is as required by any Legal Requirement or by the rules and regulations of, or pursuant to any agreement of, a stock exchange or trading system. No Party will unreasonably withhold or delay approval from the others with respect to any press release or public announcement. If any Party determines with the advice of counsel that it is required to make this Agreement and the terms of the transaction public or otherwise issue a press release or make public disclosure with respect thereto, other than as required by any Legal Requirement or by the rules and regulations of, or pursuant to any agreement of, a stock exchange or trading system, it shall at a reasonable time before making any public disclosure, consult with the other Parties regarding such disclosure, seek such confidential treatment for such terms or portions of this Agreement or the transaction as may be reasonably requested by the other Parties and disclose only such information as is legally compelled to be disclosed.

SECTION 11.4 *Board Composition, Observer Rights and Officers.*

(a) Immediately following the Closing of the Nano Merger the Combined Board will consist of seven (7) persons. Prior to Closing, and as a precondition thereto, APNT shall obtain the resignations of its current directors and appointments of the nominated Combined Board (which resignations and nominee appointments are conditioned upon the Closing of the Nano Merger). Each Director Nominee shall serve as a director for a term expiring at PEN's next annual meeting of stockholders following the Closing Date and until his or her successor is elected and qualified. **"Director Nominee[s]"** means (i) three persons nominated by the APNT Board (all of whom shall be "independent directors" as such term is defined in the rules and regulations of the Exchange Act (the **"Independent Directors"**)) and in particular Ronald J. Berman, Dr. Robert Ronstadt and Howard Westerman and (ii) four persons nominated by the Nano Board and in particular, Douglas Q. Holmes, Jeanne M. Rickert, Scott E. Rickert, and James Sharp.

(b) Board Observation Rights. Until one year after the Closing Date, PEN and its Board of Directors shall permit the Director Nominees to designate a board observer, who as of Closing shall be Paul Rocheleau (the **"Observer"**) to the PEN Board of Directors subject to the following conditions. The Observer shall be permitted to attend all meetings of the PEN Board of Directors in a nonvoting observer capacity and, in this respect, PEN shall give the Observer copies of all notices, minutes, consents, and other materials that PEN provides to its Board of Directors; provided, however, that PEN reserves the right to withhold any information and to exclude such representative from any meeting or portion thereof if (i) access to such information or attendance at such meeting could adversely affect the attorney-client privilege between PEN and its counsel; (ii) access to such information or attendance at such meeting could result in disclosure of trade secrets to the Observer; (iii) access to such information or attendance at such meeting could result in a conflict of interest between the Observer and PEN or its counsel; or (iv) the Observer is, directly or indirectly, a competitor of PEN. The Observer shall agree to hold in confidence all information provided to it or learned by it in connection with its rights under this Section 11.4(b), except to the extent otherwise required by law and any other regulatory process to which Observer is subject.

(c) On the Closing Date, the Combined Board shall have appointed the following individuals to hold office of PEN until their successors are duly appointed:

Name	Position
Scott E Rickert	President,
Bruce Vereecken	Chief Executive Officer
Jeanne M Rickert	Chief Financial Officer Secretary and General Counsel

APNT and PEN shall have received the resignation of each of its current officers except those identified in this Section 11.4(c).

SECTION 11.5 *Fees and Expenses*. In the event there is no Closing of the Transactions contemplated by this Agreement, all fees and expenses incurred in connection with this Agreement shall be paid by the Party incurring such fees and expenses.

SECTION 11.6 *Director and Officer Insurance*. PEN shall purchase an insurance policy, with an effective date as of the Closing Date, which maintains in effect for no less than one year from the Closing Date a directors' and officers' liability insurance policy for APNT directors and officers on the date of this Agreement, except PEN will not be required to expend pursuant to this Section 11.6 more than an amount equal to the current annual premiums paid by APNT for such insurance.

SECTION 11.7 *Revisions to Certificate of Incorporation and Bylaws*. The consent of APNT will not be unreasonably withheld if Nano and Zeiss propose amendments to the PEN certificate of incorporation or the PEN bylaws that would cause the rights of the holder of Class Z Common Stock to be provided in separate contracts with Zeiss.

SECTION 11.8 *Transaction Documents*. To the extent this has not happened before the date hereof, on or prior to the Closing the parties will duly authorize execute and deliver the following agreements (collectively, the "**Transaction Documents**"):

- (i) the Lock-Up Agreements;
- (ii) the Voting and Conversion Agreements;
- (iii) Amended Compensation Agreements; and
- (iv) the Convertible Debt Agreement Amendments.

SECTION 11.9 *Bridge Financing*. As promptly as practicable, APNT shall initiate a financing transaction whereby it shall raise a maximum of \$1,500,000 on the terms and conditions agreed upon by APNT and Nano (the "**Bridge Financing**"). Proceeds of any Bridge Financing shall only be applied as agreed by Nano and APNT. If the Bridge Financing includes convertible debt as opposed to an equity investment in APNT, the convertible debt instrument included in such Bridge Financing shall include a mandatory conversion feature requiring that it be converted into equity of APNT or PEN, as the case may be, no later than 60 days after the Closing Date. Nano shall use commercially reasonable efforts to assist APNT with the Bridge Financing. Nano shall also be permitted to discuss with potential lenders the terms of a subordinated debt financing with an equity component, provided that if the equity would dilute APNT or PEN stockholders the consent of APNT shall be required prior to Nano entering into any agreement or commitment with respect to such financing.

SECTION 11.10 *APNT Operating Budget*. The APNT Board has directed that the APNT Parties implement a revised operating budget that provides: (i) that salaries will be reduced to the level of the cash salary payments made in the payroll effective in January 2014, (ii) that there shall be no further salary deferrals or accruals, (iii) that there be no new hires and no salary increases, and (iv) for continuing the cash conservation limits and approval procedures previously in effect. The APNT Board (or a committee thereof) will directly oversee its implementation of the operating budget by the officers and employees of the APNT Parties and their compliance with its terms. The operating budget will not be modified or amended without the prior approval of Nano.

**ARTICLE XII**  
**Conditions to Closing**

SECTION 12.1 *Nano Conditions Precedent*. The obligations of Nano to complete the Closing are subject to the fulfillment on or prior to the Closing Date, of the following conditions by the APNT Parties, any one or more of which may be waived by Nano in writing.

(a) *Representations and Covenants*. The representations and warranties of the APNT Parties contained in this Agreement, when read without any qualifications relating to “materiality,” or “Material Adverse Effect”, shall be true on and as of the Closing Date, except where the failure of such representations or warranties to be so true and correct, individually or in the aggregate, has not had or would not reasonably be expected to have a Material Adverse Effect on the APNT Parties, and each of the APNT Parties shall have performed and complied in all material respects with all covenants and agreements required by this Agreement to be performed or complied with by each of them on or prior to the Closing Date, and the APNT Parties shall have delivered to Nano a certificate, dated the Closing Date, to the foregoing effect.

(b) *No Litigation, Injunctions*. No action, suit or proceeding shall have been instituted before any court or governmental or regulatory body or instituted by any Governmental Authorities to restrain, modify or prevent the carrying out of the Transactions, or to seek material damages or a discovery order in connection with such Transactions, and there shall exist no injunction or other order issued by any Governmental Authority or court of competent jurisdiction which prohibits the consummation of any of the Transactions.

(c) *No Material Adverse Change*. There shall not have been any occurrence, event, incident, action, failure to act, or transaction since September 30, 2013 which has had or is reasonably likely to cause a Material Adverse Effect on APNT.

(d) *Filing of Proxy Statement*. APNT shall have filed the definitive Proxy Statement with the SEC and mailed it to APNT’s stockholders.

(e) *Approval by APNT’s Stockholders*. The Transactions shall have been approved by the holders of Common Stock in accordance with the DGCL and the TBOC, other applicable Legal Requirements, and the APNT Constituent Instruments.

(f) *Resignations*. Effective as of the Closing, the directors and officers of APNT who will not be continuing directors and officers of PEN will have resigned and the copies of the resignation letters of such directors and officers shall have been delivered to PEN, together with a written release from each such resigning director and officer to the effect that such person has no claim for employment or other compensation in any form from APNT except for reimbursement of outstanding expenses existing as of the date of such person’s resignation.

(g) *SEC Reports*. APNT shall have filed all reports and other documents required to be filed by APNT under the U.S. federal securities laws through the Closing Date.

(h) *Secretary’s Certificate*. Nano shall have received a certificate from APNT, signed by its Secretary, certifying that the attached copies of the APNT Constituent Instruments and resolutions of the APNT Board approving the Agreement and the Transactions are all true, complete and correct and remain in full force and effect, and certifying as to the incumbency of its officers.

(i) *Deliveries*. The deliveries required to be made by APNT in Article V shall have been made by APNT.

(j) *Governmental Approval*. The Parties shall have timely obtained from each Governmental Authority all approvals, waivers and consents, if any, necessary for consummation of or in connection with this Agreement and the Transactions contemplated hereby, including such approvals, waivers and consents as may be required under applicable Legal Requirements.

(k) *Redomestication Merger and NanoMerger Documents*. The following documents shall have been executed and delivered by the APNT Parties: (i) Certificate of Redomestication Merger to be filed in accordance with the DGCL as of the Redomestication Merger Effective Time; (ii) Certificate of Redomestication Merger to be filed in accordance with the TBOC as of the Redomestication Merger Effective Time; and (iii) Certificate of Nano Merger to be filed in accordance with the DGCL as of the Nano Merger Effective Time.

(m) *Certificate of Good Standing*. Nano shall have received a certificate of good standing (or its equivalent) under the applicable Legal Requirements of each of the APNT Parties.

(n) *Bridge Financing*. APNT shall have closed on the Bridge Financing and applied the proceeds as provided in Section 11.9 hereof.

(o) *Convertible Securities*. Evidence reasonably satisfactory to Nano that all debts or other obligations of APNT which are convertible into equity securities of APNT that are outstanding on the Closing Date (exclusive of the any securities issued as part of the Bridge Financing) have been paid in full or converted into APNT Shares in accordance with their terms or the Convertible Debt Agreement Amendments.

(p) *Required Consents*. All consents, authorizations and approvals of the owners of Nano and the Persons set forth in Schedule 12.1(p) of this Agreement shall have been obtained.

SECTION 12.2 *APNT Conditions Precedent*. The obligations of APNT to complete the Closing are subject to the fulfillment on or prior to the Closing Date of the following conditions by Nano, any one or more of which may be waived by APNT in writing:

(a) *Representations and Covenants*. The representations and warranties of Nano contained in this Agreement, when read without any qualifications relating to “materiality,” or “Material Adverse Effect”, shall be true on and as of the Closing Date, except where the failure of such representations or warranties to be so true and correct, individually or in the aggregate, has not had or would not reasonably be expected to have a Material Adverse Effect on Nano, and Nano shall have performed and complied in all material respects with all covenants and agreements required by this Agreement to be performed or complied with by each of them on or prior to the Closing Date, and Nano shall have delivered to APNT a certificate, dated the Closing Date, to the foregoing effect.

(b) *No Litigation, Injunctions*. No action, suit or proceeding shall have been instituted before any court or governmental or regulatory body or instituted by any Governmental Authorities to restrain, modify or prevent the carrying out of the Transactions, or to seek material damages or a discovery order in connection with such Transactions, and there shall exist no injunction or other order issued by any Governmental Authority or court of competent jurisdiction which prohibits the consummation of any of the Transactions.

(c) *No Material Adverse Change*. There shall not have been any occurrence, event, incident, action, failure to act, or transaction since September 30, 2013 which has had or is reasonably likely to cause a Material Adverse Effect on the Nano Entities, taken as a whole.



(d) *Approval by APNT's Stockholders.* The Transactions shall have been approved by the holders of Common Stock in accordance with the DGCL and the TBOC, other applicable Legal Requirements, and the APNT Constituent Instruments.

(e) *Officer's Certificates.* APNT shall have received a certificate from Nano signed by an authorized officer certifying that the attached copies of each such Party's constituent instruments and resolutions or other authorizing documents approving the Agreement and the Transactions are all true, complete and correct and remain in full force and effect, and certifying as to the incumbency of its officers.

(f) *Certificate of Good Standing.* APNT shall have received a certificate of good standing of Nano.

(g) *Deliveries.* All other deliveries required to be made by Nano in Article V shall have been made by them.

(h) *Governmental Approval.* The Parties shall have timely obtained from each Governmental Authority all approvals, waivers and consents, if any, necessary for consummation of or in connection with this Agreement and the Transactions contemplated hereby, including such approvals, waivers and consents as may be required under applicable Legal Requirements.

(i) *Required Consents.* All consents, authorizations and approvals, of the Persons set forth in Schedule 12.2(j) of this Agreement shall have been obtained.

SECTION 12.3 *PEN Conditions Precedent.* The obligations of PEN to complete the Exchange is subject to the fulfillment on or prior to the Closing Date of the following conditions by Zeiss, any one or more of which may be waived by PEN in writing:

(a) *Representations and Covenants.* The representations and warranties of Zeiss contained in this Agreement, when read without any qualifications relating to "materiality," or "Material Adverse Effect", shall be true on and as of the Closing Date except where the failure of such representations or warranties to be true and correct, individually or in the aggregate, has not had or would not reasonably be expected to have a Material Adverse Effect on Zeiss or on its ability to consummate the Exchange, other than those set forth in Section 13.1(d) which shall be true and correct on and as of the Closing Date, and Zeiss shall have delivered to PEN a certificate, dated the Closing Date, to the foregoing effect.

(b) *No Litigation, Injunctions.* No action, suit or proceeding shall have been instituted before any court or governmental or regulatory body or instituted by any Governmental Authorities to restrain, modify or prevent the carrying out of the Transactions, or to seek material damages or a discovery order in connection with such Transactions, and there shall exist no injunction or other order issued by any Governmental Authority or court of competent jurisdiction which prohibits the consummation of any of the Transactions.

(c) *Officer's Certificates.* PEN shall have received a certificate from Zeiss signed by an authorized officer certifying that the attached copies of Zeiss's resolutions or other authorizing documents approving the Agreement and the Exchange are all true, complete and correct and remain in full force and effect, and certifying as to the incumbency of its officers.

(d) *Governmental Approval.* The Parties shall have timely obtained from each Governmental Authority all approvals, waivers and consents, if any, necessary for consummation of or in connection with this Agreement and the Transactions contemplated hereby, including such approvals, waivers and consents as may be required under applicable Legal Requirements.

SECTION 12.4 *Zeiss Conditions Precedent*. The obligations of Zeiss to complete the Exchange is subject to the fulfillment on or prior to the Closing Date of the following conditions by the Parties, any one or more of which may be waived by Zeiss in writing:

(a) *Representations and Covenants*. The representations and warranties of APNT contained in Section 7.1(f) of this Agreement, shall be true on and as of the Closing Date, and APNT shall have delivered to Zeiss a certificate, dated the Closing Date, to the foregoing effect.

(b) *No Litigation, Injunctions*. No action, suit or proceeding shall have been instituted before any court or governmental or regulatory body or instituted by any Governmental Authorities to restrain, modify or prevent the carrying out of the Transactions, or to seek material damages or a discovery order in connection with such Transactions, and there shall exist no injunction or other order issued by any Governmental Authority or court of competent jurisdiction which prohibits the consummation of any of the Transactions.

(c) *Governmental Approval*. The Parties shall have timely obtained from each Governmental Authority all approvals, waivers and consents, if any, necessary for consummation of or in connection with this Agreement and the Transactions contemplated hereby, including such approvals, waivers and consents as may be required under applicable Legal Requirements.

### **ARTICLE XIII** **Representations and Warranties of Zeiss**

13.1 *Representations and Warranties of Zeiss*. Zeiss represents and warrants to the APNT Parties that:

(a) Zeiss is a corporation duly organized and validly existing under the laws of the State of New York and has all requisite corporate power and authority to execute and deliver this Agreement and any Transaction Documents to which it is a party and to consummate the Transactions contemplated hereby and thereby. The execution, delivery and performance by Zeiss of this Agreement and its consummation of the Transactions have been duly authorized and approved by all necessary corporate action of Zeiss, such authorization and approval remains in effect and has not been rescinded or qualified in any way, and no other proceedings on the part of Zeiss is necessary to authorize this Agreement and the Transactions.

(b) Each of this Agreement and the Transaction Documents to which Zeiss is a party has been, or on the Closing Date will be, duly executed and delivered by such party and constitutes the valid, binding, and enforceable obligation of Zeiss, enforceable in accordance with its terms, except as enforceability may be limited by applicable bankruptcy, insolvency, reorganization, moratorium, fraudulent transfer or similar laws of general application now or hereafter in effect affecting the rights and remedies of creditors and by general principles of equity (regardless of whether enforcement is sought in a proceeding at law or in equity).

(c) The execution and delivery of this Agreement or any of the Transaction Documents by Zeiss and the consummation of the Transactions and compliance with the terms hereof and thereof will not, (a) conflict with, or result in any violation of or default (with or without notice or lapse of time, or both) under, or give rise to a right of termination, cancellation or acceleration of any obligation or to loss of a material benefit under, or result in the creation of any Lien (other than a Permitted Lien) upon the Z Units under any provision of: (i) any Zeiss Constituent Instrument or (ii) any material contract to which Zeiss is a party or to or by which it (or any of its assets and properties) is subject or bound, other than as would not affect in any material respect the ability of Zeiss to consummate the Exchange.

(d) Zeiss is, and as of the Closing Date will be, the record and beneficial owner of the Z Units, free and clear of any and all Liens (except for any Liens created under the Operating Agreement, as amended, of Nanofilm LLC or under this Agreement). Zeiss has the power and authority to sell, transfer, assign and deliver the Z Units as provided in this Agreement and such delivery will convey to PEN the Z Units free and clear of any and all Liens (except for any Liens created under the Operating Agreement, as amended, of Nanofilm LLC).

**ARTICLE XIV**  
**Termination**

SECTION 14.1 *Methods of Termination.* Unless waived by the Parties hereto in writing, the Transactions may be terminated and/or abandoned at any time but not later than the Closing:

(a) by mutual written consent of Nano and APNT;

(b) by either APNT or Nano if the Closing has not occurred by the later of (i) July 31, 2014 or (ii) such other date that has been agreed in writing by Nano and APNT (the “*End Date*”); except that the right to terminate this Agreement under this Section 14.1(b) shall not be available to any Party whose failure to comply with any provision of this Agreement has been the cause of, or resulted in, the failure of the Closing Date to occur on or before such date.

(c) by Nano if there has been a breach by the APNT Parties of any representation, warranty, covenant or agreement contained in this Agreement which has prevented the satisfaction of the conditions to the obligations of Nano at the Closing under Section 12.1(a) (which shall be deemed to have occurred in the event of a material breach of Section 8.2(c)(i)) and such violation or breach has not been waived by Nano or cured by the APNT Parties within thirty (30) days after written notice thereof from Nano;

(d) by APNT, if there has been a breach by Nano of any representation, warranty, covenant or agreement contained in this Agreement which has prevented the satisfaction of the conditions to the obligations of the APNT Parties at the Closing under Section 12.2(a) and such violation or breach has not been waived by APNT or cured by Nano within thirty (30) days after written notice thereof from the APNT Parties;

(e) by either APNT or Nano if the Stockholder Approval is not obtained; or

(f) by either APNT or Nano if a court of competent jurisdiction or other Governmental Authority shall have issued an order or injunction or taken any other action (which order, injunction or action the Parties shall use their use their commercially reasonable efforts to lift) permanently restraining, enjoining or otherwise prohibiting the Transactions or any of them and such order or action shall have become final and nonappealable.

SECTION 14.2 *Effect of Termination.*

(a) In the event of termination by either APNT or Nano, or both of them, pursuant to Section 14.1 hereof, written notice thereof shall forthwith be given to the other Parties, and except as set forth in this Section 14.2, (i) all further obligations of the Parties shall terminate, (ii) each Party shall bear its own fees and expenses relating to the Transactions contemplated hereby, and (iii) none of the Parties shall have any liability in respect of such termination of this Agreement.

(b) If the Transactions contemplated by this Agreement are terminated and/or abandoned as provided herein:

(i) each Party hereto will destroy all documents, work papers and other material (and all copies thereof except for one copy that may be retained by outside counsel for each Party) of the other Parties relating to the Transactions contemplated hereby, whether so obtained before or after the execution hereof; and

(ii) all confidential information received by any Party hereto with respect to the business of the other Parties hereto shall be treated in accordance with Section 11.2 hereof, which shall survive such termination. The following other provisions shall also survive termination of this Agreement: this Article XIV (Termination) and Article XV (Miscellaneous).

(c) Scott Rickert shall resign as a director of PEN and of MergerSub. APNT shall cause the name of PEN to be changed by filing appropriate articles of amendment in compliance with the DGCL, shall take all applicable steps in satisfaction of the Legal Requirements to allow Nano to immediately use the corporate name PEN in the state of Delaware, and shall execute and deliver any instrument Nano may reasonably request to transfer to Nano all rights in the name PEN.

**ARTICLE XV**  
**Miscellaneous**

SECTION 15.1 *Notices*. All notices, requests, waivers and other communications made pursuant to this Agreement will be in writing, at the addresses set forth on the signature pages hereto (or at such other address for a Party as shall be specified in writing to all other Parties), and will be conclusively deemed to have been duly given (i) when hand delivered to the recipient Party; (ii) upon receipt, when sent by facsimile with written confirmation of transmission; or (iii) the next business day after deposit with a national overnight delivery service, postage prepaid, with next business day delivery guaranteed. Each Person making a communication hereunder will promptly confirm by e-mail to the Person to whom such communication was addressed each communication made pursuant hereto. In addition to delivery of notice to a Party, copies of such notice shall be provided as follows:

If to any of the APNT Parties::

Donald T. Locke, Esq.  
421 Fayetteville Street, Suite 1100  
Raleigh, NC 27601  
Email: dtlocke@emcapsolutions.com  
Telephone: (919) 264-4081  
Facsimile: (919) 882-1851

And

Herbert F. Kozlov, Esq.  
Reed Smith LLP  
599 Lexington Avenue  
New York, NY 10022-7560  
Email: hkozlov@reedsmith.com  
Telephone: (212) 549-0241  
Facsimile (212) 521-5450

If to Zeiss:

Scott Margolin, Esq.  
Carl Zeiss, Inc.  
One Zeiss Drive  
Thornwood, NY 10594  
Telephone: (914) 681-7880  
Facsimile: (914) 681-7485

If to Nano:

Legal & Compliance, LLC  
330 Clematis Street, Suite 217  
West Palm Beach, FL 33401  
Attention: Laura Anthony, Esq.  
Email:lanthony@legalandcompliance.com  
Telephone: (561) 514-0832  
Facsimile: (561) 512-8224

And:

Jeanne M. Rickert, Esq.  
Nanofilm Ltd.  
9 Diamond Drive  
Key West FL 33040  
Email: jeannemrickert@msn.com  
Telephone: (305) 647-2576  
Facsimile: none

With a copy to:

John F. Baron, Esq.  
Alston & Bird  
Bank of America Plaza  
101 South Tryon Street  
Suite 4000  
Charlotte, NC 28280  
Telephone: (704) 444-1434  
Facsimile: (704) 444-1774

SECTION 15.2 *Amendments; Waivers; No Additional Consideration.* No provision of this Agreement may be waived or amended except in a written instrument signed by APNT, Nano and Zeiss. No waiver of any default with respect to any provision, condition or requirement of this Agreement shall be deemed to be a continuing waiver in the future or a waiver of any subsequent default or a waiver of any other provision, condition or requirement hereof, nor shall any delay or omission of any Party to exercise any right hereunder in any manner impair the exercise of any such right.

SECTION 15.3 *Estimates, Projections and Forecasts.* The Parties acknowledge and agree that (a) they are not making nor have they made any representations or warranties to each other whatsoever with respect to any estimates, projections or other forecasts and plans (including the reasonableness of the assumptions underlying such estimates, projections or forecasts) regarding their respective businesses, revenues, earnings, gross margins, launch of new or existing products or any other matters, (b) that there are uncertainties inherent in attempting to make any estimates, projections or other forecasts and plans, that each Party is familiar with such uncertainties, that each of the respective Parties is taking full responsibility for making its own evaluation of the adequacy and accuracy of all estimates, projections and other forecasts and plans (including the reasonableness of the assumptions underlying such estimates, projections and forecasts), and (c) that neither Party has a claim against the other or anyone else with respect thereto.

SECTION 15.4 *Interpretation.* Unless the express context otherwise requires:

(a) the words “hereof,” “herein,” and “hereunder” and words of similar import, when used in this Agreement, shall refer to this Agreement as a whole and not to any particular provision of this Agreement;

(b) terms defined in the singular shall have a comparable meaning when used in the plural, and vice versa;

(c) the terms “Dollars” and “\$” mean United States Dollars;

(d) references herein to a specific Section, Subsection, Background, Preamble, Schedule, Annex or Exhibit shall refer, respectively, to Sections, Subsections, the Background, the Preamble, Schedules, Annexes or Exhibits of this Agreement;

(e) wherever the word “include,” “includes,” or “including” is used in this Agreement, it shall be deemed to be followed by the words “without limitation” ;

(f) references to any gender shall include each other gender;

(g) references to any Person shall include such Person’s heirs, executors, personal representatives, administrators, successors and permitted assigns;

(h) references herein to a Person in a particular capacity or capacities shall exclude such Person in any other capacity;

(i) references herein to any Contract or agreement (including this Agreement) mean such contract or agreement as amended, supplemented or modified from time to time in accordance with the terms thereof;

(j) references herein to any Legal Requirement or any license mean such Legal Requirement or license as amended, modified, codified, reenacted, supplemented or superseded in whole or in part, and in effect from time to time; and

(k) references herein to any Legal Requirement shall be deemed also to refer to all rules and regulations promulgated thereunder.

SECTION 15.5 *Severability*. If any term or other provision of this Agreement is invalid, illegal or incapable of being enforced by any Legal Requirement or public policy, all other conditions and provisions of this Agreement shall nevertheless remain in full force and effect so long as the economic or legal substance of the Transactions is not affected in any manner materially adverse to any Party.

SECTION 15.6 *Counterparts; Electronic Execution*. This Agreement may be executed in one or more counterparts, all of which shall be considered one and the same agreement and shall become effective when one or more counterparts have been signed by each of the Parties and delivered to the other Parties. Facsimile, "pdf" or other electronic transmission or execution and delivery of this Agreement is legal, valid and binding for all purposes.

SECTION 15.7 *Entire Agreement; Third-Party Beneficiaries*. This Agreement and the letter agreement of even date by and among Zeiss, Nano and Nanofilm LLC, taken together with all Exhibits, Annexes and Schedules hereto (a) constitute the entire agreement, and supersede all prior agreements and understandings, both written and oral, among the Parties with respect to the Transactions and (b) except as otherwise provided herein, are not intended to confer upon any Person other than the Parties any rights or remedies.

SECTION 15.8 *Governing Law; Venue and Forum*. This Agreement shall be governed by, and construed in accordance with, the laws of the State of Delaware regardless of the laws that might otherwise govern under applicable principles of conflicts of laws thereof. Any action arising out of or relating to this Agreement shall be **heard exclusively in federal or state court located in the State of Delaware, and expressly consent to the jurisdiction and venue of the courts sitting in the State Delaware for the adjudication of any such action.**

SECTION 15.9 *Assignment*. Neither this Agreement nor any of the rights, interests or obligations under this Agreement shall be assigned, in whole or in part, by operation of law or otherwise by any of the Parties without the prior written consent of the other Parties. Any purported assignment without such consent shall be void. Subject to the preceding sentences, this Agreement will be binding upon, inure to the benefit of, and be enforceable by, the Parties and their respective successors and assigns. Without limiting the generality of the foregoing, any covenants of APNT hereunder that are to be performed by APNT following the Effective Time of the Redomestication Merger are covenants that will be performed by PEN as the successor to APNT.

SECTION 15.10 *Liability Not Affected by Knowledge or Waiver*. The right to recovery of losses or other remedy based upon breach of representations, warranties, or covenants will not be affected by any investigation conducted with respect to, or knowledge acquired (or capable of being acquired) at any time, whether before or after the execution and delivery of this Agreement, with respect to the accuracy or inaccuracy of or compliance with any such representation, warranty, or covenant.

SECTION 15.11 *Exhibits and Schedules.*

(a) Any matter, information or item disclosed in this Agreement or the Disclosure Schedules delivered by a Party or in any of the Annexes, Schedules or Exhibits attached hereto, under any specific representation, warranty, covenant or Schedule heading number, shall be deemed to have been disclosed for all purposes of this Agreement in response to every representation, warranty or covenant in this Agreement in respect of which such disclosure is reasonably apparent on its face. The inclusion of any matter, information or item in any Schedule to this Agreement shall not be deemed to constitute an admission of any liability to any third party or otherwise imply, that any such matter, information or item is material or creates a measure for materiality for the purposes of this Agreement or otherwise.

(b) The parties hereto intend that each representation, warranty and covenant contained herein will have independent significance. If any party hereto has breached any representation, warranty, or covenant contained herein in any respect, the fact that there exists another representation, warranty, or covenant relating to the same subject matter (regardless of the relative levels of specificity) which the party has not breached will not detract from or mitigate the fact that the party is in breach of the first representation, warranty or covenant.

(c) The Annexes, Schedules and Exhibits hereto are hereby incorporated into this Agreement and are hereby made a part hereof as if set out in full in this Agreement.

*[Signatures begin next page]*

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be duly executed by their respective authorized signatories as of the date first indicated above.

APPLIED NANOTECH HOLDINGS, INC.

By: /s/ Robert Ronstadt  
Name: Robert Ronstadt  
Title: Chairman of the Board

PEN INC.

By: /s/ Robert Ronstadt  
Name: Robert Ronstadt  
Title: Chairman of the Board

NANOMERGER SUB INC.

By: /s/ Robert Ronstadt  
Name: Robert Ronstadt  
Title: Chairman of the Board

NANO HOLDINGS INC.

By: /s/ Scott Rickert  
Name: Scott Rickert  
Title: Chief Executive Officer

CARL ZEISS, INC.

By: /s/ James A. Sharp  
Name: James A. Sharp  
Title: President



## ANNEX A

## Definitions

“*Action*” has the meaning set forth in Section 6.10 of the Agreement.

“*Affiliates*” shall mean any Person that directly or indirectly through one or more intermediaries, controls or is controlled by or is under common control with the Person specified. For purposes of this definition, control of a Person means the power, direct or indirect, to direct or cause the direction of the management and policies of such Person whether by Contract or otherwise and, in any event and without limitation of the previous sentence, any Person owning fifty percent (50%) or more of the voting securities of a second Person shall be deemed to control that second Person. For the purposes of this definition, a Person shall be deemed to control any of his or her immediate family members.

“*Amended Compensation Agreements*” has the meaning set forth in the preamble to the Agreement.

“*APNT*” has the meaning set forth in the preamble to the Agreement.

“*APNT Board*” means the board of directors of APNT prior to the Redomestication Merger.

“*APNT Constituent Instruments*” has the meaning set forth in Section 7.2 of the Agreement.

“*APNT Disclosure Schedule*” has the meaning set forth in Article VII of the Agreement.

“*APNT Intellectual Property Rights*” means the APNT Patents, APNT Marks, APNT Copyrights and trade secrets, discoveries and inventions owned by APNT.

“*APNT Material Contract*” has the meaning set forth in Section 7.20 of the Agreement.

“*APNT Parties*” has the meaning set forth in the background to the Agreement, and for purposes of any covenant or representation or warranty includes the Subsidiaries of APNT and “*APNT Party*” means any of them.

“*APNT SEC Documents*” has the meaning set forth in Section 7.7 of the Agreement.

“*APNT Share(s)*” means the APNT common stock, par value \$.001 per share.

“*Agreement*” means this Agreement as it may be amended from time to time in accordance with its terms.

“*APNT Certificates*” has the meaning set forth in Section 4.3 of the Agreement.

“*Audited Financial Statements*” has the meaning set forth in Section 6.7(a) of the Agreement.

“*Bridge Financing*” has the meaning set forth in Section 11.9 of the Agreement.

“*Certificate of Redomestication Merger*” has the meaning set forth in Section 1.2 of the Agreement.

“*Certificate of Nano Merger*” has the meaning set forth in Section 2.2 of the Agreement.

“*Closing*” has the meaning set forth in Section 5.1 of the Agreement.

“*Closing Date*” has the meaning set forth in Section 5.1 of the Agreement.

“*Code*” means the United States Internal Revenue Code of 1986, as amended.

“*Combined Board*” means the board of directors of PEN following the Closing.

“*Common Stock*” means the APNT Common Stock, \$0.001 par value per share.

“*Confidential Information*” means confidential and proprietary data and information relating to the Party providing such information and its Subsidiaries and Affiliates; other than any data or information that (i) has been voluntarily disclosed to the general public by the disclosing party or its Affiliates, (ii) has been independently developed and disclosed to the general public by others, (iii) otherwise enters the public domain through lawful means and not in violation of any confidentiality obligation to any Person or (iv) has been disclosed pursuant to legal process.

“*Consent*” has the meaning set forth in Section 6.6 of the Agreement.

“*Contract*” means a contract, lease, license, indenture, note, bond, agreement, permit, concession, franchise or other instrument, whether written or verbal.

“*Convertible Debt Agreement Amendments*” means the documents that evidence the payment in full or the terms of the conversion for all outstanding convertible debt of APNT as contemplated by Section 12.1(o).

“*DGCL*” has the meaning set forth in the background to the Agreement.

“*Director Nominees*” has the meaning set forth in Section 11.4(a) of the Agreement.

“*Dissenting Shares*” has the meaning set forth in Section 4.1(c) of the Agreement.

“*Disclosure Schedules*” means the Nano Disclosure Schedule and the APNT Disclosure Schedule.

“*End Date*” has the meaning set forth in Section 14.1(b) of the Agreement.

“*Environment*” means soil, land surface or subsurface strata, surface waters (including navigable waters, ocean waters, streams, ponds, drainage basins, and wetlands), groundwaters, drinking water supply, stream sediments, ambient air (including indoor air), plant and animal life, and any other environmental medium or natural resource.

“*Environmental Law*” shall mean any Legal Requirement that requires or relates to:

(a) advising appropriate authorities, employees, and the public of threatened or actual releases of pollutants or hazardous substances or materials, violations of discharge limits, or other prohibitions and of the commencements of activities, such as resource extraction or construction, that could have significant impact on the Environment;

(b) preventing or reducing to acceptable levels the release of pollutants or hazardous substances or materials into the Environment;

(c) reducing the quantities, preventing the release, or minimizing the hazardous characteristics of wastes that are generated;

(d) assuring that products are designed, formulated, packaged, and used so that they do not present unreasonable risks to human health or the Environment when used or disposed of;

(e) protecting resources, species, or ecological amenities;

(f) reducing to acceptable levels the risks inherent in the transportation of hazardous substances, pollutants, oil, or other potentially harmful substances;

(g) cleaning up pollutants that have been released, preventing the threat of release, or paying the costs of such clean up or prevention; or

(h) making responsible parties pay private parties, or groups of them, for damages done to their health or the Environment, or permitting self-appointed representatives of the public interest to recover for injuries done to public assets.

“*Exchange*” has the meaning set forth in the preamble of the Agreement.

“*Exchange Act*” means the Securities Exchange Act of 1934, as amended.

“*Exchange Ratio*” means (1) the Fully Diluted APNT Shares multiplied by (2) 1.6316, divided by (3) the Fully Diluted Nano Units.

“*FINRA*” means the Financial Industry Regulatory Authority.

“*Fully Diluted APNT Shares*” means the sum of: the number of APNT shares outstanding, plus the total number of APNT Shares reserved for issuance upon the exercise of any convertible instrument or right to receive APNT shares other than the options to purchase 5,908,000 shares which shall be excluded, but including any potential warrant exercise, plus the number of shares required for conversion of APNT debt pursuant to the Convertible Debt Agreement Amendments, plus the number of APNT Shares issued or reserved pursuant to the Amended Compensation Agreements, plus the number of APNT shares issued or reserved for issuance pursuant to the Voting and Conversion Agreements and for the “merger fee” payable to the Special Committee of the APNT Board, calculated immediately before the Nano Merger Effective Time.

“*Fully Diluted Nano Units*” means the sum of the number of Units of Nano outstanding plus the Units required upon conversion of the Equity Credits previously granted by Nanofilm LLC as calculated immediately before the Nano Merger Effective Time.

“*Governmental Authority*” means any national, federal, state, provincial, local or foreign government, governmental, regulatory or administrative authority, agency or commission or any court, tribunal or judicial or arbitral body of competent jurisdiction, or other governmental authority or instrumentality, domestic or foreign.

“*PEN*” has the meaning set forth in the preamble to the Agreement.

“*PEN Share(s)*” means the PEN Class A Common Stock, par value \$0.0001 per share, the PEN Class B Common Stock, par value \$0.0001 per share, or the PEN Class Z Common Stock, par value \$0.0001 per share, as the context may require.

“*Independent Director(s)*” has the meaning set forth in Section 11.4(a) of the Agreement.

“*Judgment*” means any judgment, order or decree of a court, arbitrator, administrative agency or other tribunal.

*“Knowledge,”* (i) with respect to the Nano Entities, means the actual knowledge of the Chairman of the board of directors, the Chief Executive Officer, the Chief Financial Officer, the Chief Operating Officer and the Vice Presidents of Nano, and (ii) with respect to APNT, means the actual knowledge of those its named executive officers as set forth in its Form 10-K for the period ended December 31, 2012 as filed with the SEC who are employed by APNT on February 28, 2014 and the members of the APNT Board of Directors.

*“Legal Requirement”* means any federal, state, local, municipal, provincial, foreign or other law, statute, constitution, principle of common law, resolution, ordinance, code, edict, decree, rule, regulation, ruling or requirement issued, enacted, adopted, promulgated, implemented or otherwise put into effect by or under the authority of any Governmental Authorities (or under the authority of any national securities exchange upon which APNT Shares (or PEN Shares) are then listed or traded).

*“Liens”* means any liens, security interests, pledges, equities and claims of any kind, voting trusts, shareholder agreements and other encumbrances.

*“Lock-Up Agreement”* means the lock-up agreement to be entered into by each of the directors of PEN.

*“Material Adverse Effect”* means any event, change or effect that is materially adverse to the condition (financial or otherwise), properties, assets, liabilities, business, operations or results of operations of A Person and its Subsidiaries, taken as a whole. Notwithstanding the foregoing, the definition of Material Adverse Effect shall not include events caused by (A) changes in general economic conditions or capital or credit markets, except to the extent that the same disproportionately impact such Person as compared to other similarly situated Persons; (B) changes to the economic conditions affecting the industries in which such Person operates, except to the extent that the same disproportionately impact such Person as compared to other Persons in such industries; (C) changes related to or arising from the execution, announcement or performance of, or compliance with, this Agreement or the consummation of the Transactions; (D) changes in accounting requirements or principles or any change in applicable Legal Requirements or the interpretation thereof; (E) the failure to meet any projections.

*“Material Contract”* has the meaning set forth in Section 6.14 of the Agreement.

*“Nano Merger”* has the meaning set forth in the background to the Agreement.

*“Nano Balance Sheet”* has the meaning set forth in Section 6.9 of the Agreement.

*“Nano”* has the meaning set forth in the preamble to the Agreement.

*“Nano Constituent Instruments”* means Nano’s Operating Agreement, Bylaws, and Tax Appendix as they may exist, each as amended to the date of the Agreement.

*“Nano Disclosure Schedule”* has the meaning set forth in Article VI of the Agreement.

*“Nano Entities”* means, collectively, Nano and its Subsidiaries, and *“Nano Entity”* means any of them.

*“Nano Financial Statements”* has the meaning set forth in Section 6.7(a) of the Agreement.

*“Nano Intellectual Property Rights”* means the Nano Patents, Nano Marks, copyrights and trade secrets, discoveries and inventions owned by Nano.

“*Nano Shares*” has the meaning set forth in Section 4.4 of the Agreement.

“*Nanofilm LLC*” has the meaning set forth in the preamble to the Agreement.

“OFAC” has the meaning set forth in Section 7.25 of the Agreement.

“*Off-Balance Sheet Arrangement*” means with respect to any Person, any securitization transaction to which that Person or its Subsidiaries is party and any other transaction, agreement or other contractual arrangement to which an entity unconsolidated with that Person is a party, under which that Person or its Subsidiaries, whether or not a party to the arrangement, has, or in the future may have: (a) any obligation under a direct or indirect guarantee or similar arrangement; (b) a retained or contingent interest in assets transferred to an unconsolidated entity or similar arrangement; or (c) derivatives to the extent that the fair value thereof is not fully reflected as a liability or asset in the financial statements.

“*Party*” or “*Parties*” has the meaning set forth in the preamble to the Agreement.

“*Permits*” mean all governmental franchises, licenses, permits, authorizations and approvals necessary to enable a Person to own, lease or otherwise hold its properties and assets and to conduct its businesses as presently conducted.

“*Permitted Lien*” shall mean (a) any restriction on transfer arising under applicable securities Legal Requirements; (b) any Liens for Taxes not yet due or delinquent or being contested in good faith by appropriate proceedings for which adequate reserves have been established in accordance with U.S. GAAP; (c) any statutory Liens arising in the ordinary course of business by operation of law with respect to a liability that is not yet due and delinquent and which are not, individually or in the aggregate, significant; (d) covenants, conditions, restrictions, easements and other similar matters of record affecting title to real estate which do not materially impair the occupancy or use of any real estate for the purposes for which it is currently used or proposed to be used in connection with the such relevant Person’s business; (e) Liens arising under worker’s compensation, unemployment insurance, social security, retirement and similar legislation; (f) those Liens set forth in the Nano Disclosure Schedule and (g) those Liens set forth in the APNT Disclosure Schedule.

“*Person*” shall mean an individual, partnership, corporation, joint venture, unincorporated organization, cooperative other entity, or a Governmental Authority or agency thereof.

“Proxy Statement” has the meanings set forth in Section 7.6 of the Agreement.

“*Real Estate Leases*” has the meaning set forth in Section 7.23 of the Agreement.

“*Redomestication Merger*” has the meaning set forth in the background to the Agreement.

“*Redomestication Merger Effective Time*” has the meaning set forth in Section 1.2 of the Agreement.

“*Regulation S-K*” means Regulation S-K promulgated under the Securities Act of 1933, as amended.

“*Representatives*” of any Party shall mean such Party’s employees, accountants, auditors, actuaries, counsel, financial advisors, bankers, investment bankers and consultants and any other person acting on behalf of such Party.

“*Research Contract*” means a Contract in effect on the date hereof that obligates a Person to conduct research activities on behalf of another Person.

“*Sarbanes-Oxley Act*” has the meaning set forth in Section 7.13 of the Agreement.

“SEC” means the U.S. Securities and Exchange Commission.

“Securities Act” means the Securities Act of 1933, as amended.

“Superior Proposal” means any bona fide (i) proposal or offer for a merger, consolidation, dissolution, recapitalization or other business combination involving APNT, (ii) proposal for the issuance by APNT of over 50% of the Common Stock as consideration for the assets or securities of another Person or (iii) proposal or offer (including a merger, tender offer or exchange offer) to acquire in any manner, directly or indirectly, over 50% of the Common Stock or consolidated total assets of APNT, in each case other than the Transactions, made by a third party, and which is otherwise on terms and conditions which the APNT Board or any committee thereof determines in its reasonable judgment (after consultation with financial advisors) to be more favorable to holders of Common Stock than the Transactions.

“Stockholder Approval” has the meaning set forth in Section 10.1(a) of the Agreement.

“Stockholders’ Meeting” has the meaning set forth in Section 10.1(a) of the Agreement.

“Subsidiary” an entity shall be deemed to be a “Subsidiary” of another Person if such Person directly or indirectly owns, beneficially or of record, (a) an amount of voting securities or other interests in such entity that is sufficient to enable such Person to elect at least a majority of the members of such entity’s board of directors or other governing body, or (b) at least 50% of the outstanding equity or financial interests of such entity.

“Tax Return” means all federal, state, local, provincial and foreign Tax returns, declarations, statements, reports, schedules, forms and information returns and any amended Tax return relating to Taxes.

“Taxes” includes all forms of taxation, whenever created or imposed, and whether of the United States or elsewhere, and whether imposed by a local, municipal, governmental, state, foreign, federal or other Governmental Authority, or in connection with any agreement with respect to Taxes, including all interest, penalties and additions imposed with respect to such amounts.

“TBOC” means the Texas Business Organizations Code, as amended.

“Trade Secrets” means all trade secrets under applicable law and other rights in know-how and confidential or proprietary information, processing, manufacturing or marketing information, including new developments, inventions, processes, ideas or other proprietary information that provides advantages over competitors who do not know or use it.

“Transaction Documents” shall have the meaning set forth in Section 11.8 of the Agreement.

“Transactions” has the meaning set forth in Section 5.1 of the Agreement.

“U.S. GAAP” means generally accepted accounting principles of the United States.

“Unaudited Financial Statements” has the meaning set forth in Section 6.7(a) of the Agreement.

“Voting and Conversion Agreements” has the meaning set forth in the Recitals.

“Voting APNT Debt” has the meaning set forth in Section 7.1(c) of the Agreement.

*“Voting Nano Debt”* has the meaning set forth in Section 6.1(a) of the Agreement.

*“Z Units”* has the meaning set forth in the preamble of the Agreement.

*“Zeiss”* has the meaning set forth in the preamble of the Agreement.

**VOTING AND CONVERSION AGREEMENT**

This VOTING AND CONVERSION AGREEMENT, dated as of this 10th day of March 2014, (the “*Agreement*”), by and among NanoHolding Inc., a Delaware corporation (“*Nano*”), and each of the shareholders and other security holders of APNT identified on the signature pages hereto (each, a “*Sponsor*,” and collectively the “*Sponsors*”). All capitalized terms used but not defined in this Agreement shall have the meanings ascribed to them in the Merger Agreement (as defined below).

WHEREAS, Applied Nanotech Holdings, Inc., a Texas corporation (“*APNT*”), PEN Inc., NanoMerger Sub Inc., Nano and Carl Zeiss, Inc. are entering into an Agreement and Plan of Merger and Exchange of even date (the “*Merger Agreement*”) that provides for the redomestication of APNT into PEN a Delaware corporation and for the merger of NanoMerger Sub Inc. into Nanofilm; and

WHEREAS, in order to induce Nano to enter into the Merger Agreement and as condition to close as provided for therein, Nano and the Sponsors have agreed to enter into this Agreement.

NOW, THEREFORE, in consideration of the covenants, promises and representations set forth herein, and other good and valuable consideration, the receipt and sufficiency of which are hereby expressly and mutually acknowledged, and intending to be legally bound hereby, the parties hereto agree as follows:

**1. REPRESENTATIONS AND WARRANTIES.**

Each of the parties hereto, by their respective execution and delivery of this Agreement, hereby represents and warrants to the other party hereto that:

(a) such party has the full right, capacity and authority to enter into, deliver and perform this Agreement;

(b) this Agreement has been duly executed and delivered by such party and is a binding and enforceable obligation of such party, enforceable against such party in accordance with the terms of this Agreement; and

(c) the execution, delivery and performance of such party’s obligations under this Agreement will not require such party to obtain the consent, waiver or approval of any Person and will not violate, result in a breach of, or constitute a default under any statute, regulation, agreement, judgment, consent, or decree by which such party is bound.

**2. SHARES SUBJECT TO AGREEMENT**

Each Sponsor, severally and not jointly, agrees to vote all of his, her or its voting shares of APNT then owned by such Sponsor, whether now owned or hereafter acquired (hereafter referred to as the “*Voting Shares*”), in accordance with the provisions of this Agreement.

**3. OBLIGATIONS TO VOTE VOTING SHARES FOR APPROVAL OF THE MERGER AGREEMENT**

At any annual or special meeting called, or in connection with any other action (including the execution of written consents) taken for the purpose of approving the Merger Agreement, the Redomestication Merger, the Nano Merger and any of the transaction or matter contemplated by the Merger Agreement (the “*Merger Events*”), each of the Sponsors agrees to:



(i) vote in favor of the adoption and approval of the Merger Agreement and the Merger Events;

(ii) vote against any proposal made in opposition to, or in competition with, the Merger Agreement and the Merger Events; and

(c) vote against any other action that is intended, or would reasonably be expected to, unreasonably impede, interfere with, delay, postpone, discourage or adversely affect the Merger Agreement and the Merger Events.

#### 4. COVENANT TO VOTE

Each Sponsor shall appear in person or by proxy at any annual or special meeting of shareholders of the APNT for the purpose of obtaining a quorum and shall vote all Voting Shares owned by such Sponsor, either in person or by proxy, at any annual or special meeting of shareholders of the APNT called for the purpose of voting on and approving the transactions contemplated by the Merger Agreement. In addition, each Sponsor shall appear in person or proxy at any annual or special meeting of shareholders of the APNT for the purpose of obtaining a quorum and shall vote, or shall execute and deliver a written consent with respect to, all Voting Shares owned by such Sponsor, entitled to vote upon any other matter submitted to a vote of shareholders of the APNT in a manner so as to be consistent and not in conflict with, and to implement, the terms of this Agreement.

#### 5. ADDITIONAL SHARES

If, after the effective date hereof, the Sponsors or any of their affiliates acquire beneficial or record ownership of any additional shares of the APNT (any such shares, “*Additional Shares*”), including, without limitation, upon conversion of any debt or other obligation of APNT into its common stock, exercise of any option, warrant or right to acquire shares of the APNT or through any stock dividend or stock split, the provisions of this Agreement shall thereafter be applicable to such Additional Shares as if such Additional Shares had been held by the Sponsors as of the effective date hereof. The provisions of the immediately preceding sentence shall be effective with respect to Additional Shares without action by any person or entity immediately upon the acquisition by the Sponsors of the beneficial ownership of the Additional Shares. The Sponsors shall require any affiliate that acquires Voting Shares or Additional Shares to vote as the Sponsor is required to vote under this Agreement and shall use reasonable efforts to cause any affiliate that acquires Additional Shares to enter into a written joinder to this Agreement substantially in the form attached hereto as Exhibit A.

#### 6. TRANSFER RESTRICTIONS

Each Sponsor agrees that he, she or it shall not transfer any Voting Shares unless he, she or it shall cause any transferee who acquires such shares to execute and deliver a joinder substantially in the form of Exhibit A hereto to the APNT. Each certificate, if any, representing any shares of the APNT held by either party shall be endorsed with a legend reading substantially as follows:

“THE SHARES EVIDENCED HEREBY ARE SUBJECT TO A VOTING AGREEMENT (A COPY OF WHICH MAY BE OBTAINED UPON WRITTEN REQUEST FROM THE ISSUER), AND BY ACCEPTING ANY INTEREST IN SUCH SHARES THE PERSON ACCEPTING SUCH INTEREST SHALL BE DEEMED TO AGREE TO AND SHALL BECOME BOUND BY ALL THE PROVISIONS OF SAID VOTING AGREEMENT.”

## 7. CONVERSION OF ACCRUED COMPENSATION

(a) Each of the Sponsors listed on the Signature Page to this Agreement hereby acknowledge that APNT owes him, or in the case of Sichuan Anxian Yinhee Chemical and Construction Company (“SAYCC”), its representative, certain accrued compensation related to services rendered as a director as of the date hereof in an amount set forth beneath their respective names on the Signature Page to this Agreement (the “*Accrued Compensation*”). Shareholder acknowledges that no other compensation, stock awards, vacation pay, sick pay or any other money is currently owed to Sponsor related to service as a Director other than (i) out-of-pocket expenses reimbursable to such Sponsor under expense reimbursement policies previously approved by the Board of Directors of APNT, and (ii) for those Directors who served on the Merger Committee the one-time fee that will be paid in stock if and when the closing occurs under the Merger Agreement. Sponsor agrees additional compensation for service as a director will accrue after the date of this Agreement based on the fee schedule attached as Annex A.

(b) Immediately prior to the Nano Merger as defined in the Merger Agreement the Accrued Compensation plus compensation for service as a Director earned after the date hereof until the day of the Redomestication Merger will automatically be converted into shares of PEN’s Class A Common Stock (the “*Class A Common Stock*”) at the Conversion Price. The number of shares of the Class A Common Stock to be issued to the representative of SAYCC and to each individual Sponsor upon conversion shall be determined by dividing (x) the amount due to the Sponsor (or its representative) by (y) the Conversion Price. The “*Conversion Price*” shall be equal to \$0.05 per share.

(c) The obligations of the Sponsors under Section 7(a) and to convert their Accrued Compensation into shares of PEN as provided for in this Section 7 is contingent upon the Closing under the Merger Agreement and in the event the Closing under the Merger Agreement does not occur or such agreement is terminated through no fault of APNT, Sponsor shall have no obligation under this Section 7.

## 8. TERMINATION

This Agreement shall commence on the date hereof and continue in force and effect until the earlier of (i) the Closing Date of the Merger Agreement, or (ii) the End Date as provided for in the Merger Agreement. Upon the termination of this Agreement, except as otherwise set forth herein, the restrictions and obligations set forth herein shall terminate and be of no further effect, except that such termination shall not affect rights perfected or obligations incurred under this Agreement prior to such termination.

## 9. GENERAL PROVISIONS

(a) *Notices.* Unless otherwise provided herein, all notices, requests, waivers and other communications made pursuant to this Agreement will be in writing and will be given in accordance with the notice provisions of the Merger Agreement.

(b) *Enforceability; Severability.* The parties hereto agree that each provision of this Agreement will be interpreted in such a manner as to be effective and valid under applicable law. If one or more provisions of this Agreement are nevertheless held to be prohibited, invalid or unenforceable under applicable law, such provision will be effective to the fullest extent possible excluding the terms affected by such prohibition, invalidity or unenforceability, without invalidating the remainder of such provision or the remaining provisions of this Agreement. If the prohibition, invalidity or unenforceability referred to in the prior sentence requires such provision to be excluded from this Agreement in its entirety, the balance of the Agreement will be interpreted as if such provision were so excluded and will be enforceable in accordance with its terms.

(c) *Entire Agreement.* This Agreement constitutes the entire agreement among the parties with respect to the subject matter hereof.

(d) *Equitable Relief.* The parties hereto recognize that, if such party fails to perform or discharge any of its obligations under this Agreement, any remedy at law may prove to be inadequate relief to the other parties. Each party hereto therefore agrees that the other parties are entitled to seek temporary and permanent injunctive relief and any other equitable remedy a court of competent jurisdiction may deem appropriate in any such case.

(e) *Manner of Voting.* The voting of shares pursuant to this Agreement may be effected in person, by proxy, by written consent or in any other manner permitted by applicable law.

(f) *Governing Law.* This Agreement shall be construed in accordance with, and governed in all respects by, the laws of the State of Delaware.

(g) *Delays or Omissions.* No delay or omission to exercise any right, power or remedy accruing to any party under this Agreement, or upon any breach or default of any other party under this Agreement, will impair any such right, power or remedy of such non-breaching or non-defaulting party nor will it be construed to be a waiver of any such breach or default, or an acquiescence therein, or of or in any similar breach or default thereafter occurring; nor will any waiver of any single breach or default be deemed a waiver of any other breach or default theretofore or thereafter occurring. Any waiver, permit, consent or approval of any kind or character on the part of any party of any provisions or conditions of this Agreement, must be in writing and will be effective only to the extent specifically set forth in such writing. Except as otherwise set forth herein, all remedies, either under this Agreement or by Law or otherwise afforded to any party, will be cumulative and not alternative.

(h) *Counterparts.* This Agreement may be executed in any number of counterparts, each of which shall be deemed an original, and all of which together shall constitute one instrument.

(i) *Amendments.* Any term of this Agreement may be amended only with the written consent of the parties hereto.

(j) *Controlling Agreement.* To the extent the terms of this Agreement (as amended, supplemented, restated or otherwise modified from time to time) directly conflicts with a provision in the Merger Agreement, the terms of this Agreement shall control.

*[Signatures begin on next page.]*

IN WITNESS WHEREOF, the Parties hereto have executed or caused this Agreement to be duly executed by their respective authorized signatories as of the date first indicated above.

NANOHOLDING INC.

By: \_\_\_\_\_  
Name: Scott E Rickert  
Title: President

**SPONSORS**

SICHUAN ANXIAN YINHEE CHEMICAL AND CONSTRUCTION COMPANY

By: \_\_\_\_\_  
Its:  
Address:  
Facsimile:

Its representative: David (Xin) Li

\_\_\_\_\_  
Xin Li  
Address:  
Facsimile:  
Accrued Compensation: \$36,667

\_\_\_\_\_  
Doug Baker  
Address:  
Facsimile:  
Accrued Compensation: none

\_\_\_\_\_  
Paul Rocheleau  
Address:  
Facsimile:  
Accrued Compensation: \$26,335

\_\_\_\_\_  
Robert Ronstadt  
Address:  
Facsimile:  
Accrued Compensation: \$54,977

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Howard Westerman

Address:  
Facsimile:  
Accrued Compensation: \$26,335

---

Zvi Yaniv

Address:  
Facsimile:  
Accrued Compensation: none

---

Ronald Berman

Address:  
Facsimile:  
Accrued Compensation: \$32,927

**Exhibit A**

**Joinder to Voting Agreement**

By execution of this Joinder, the undersigned (the "Sponsor") hereby joins in, agrees to become a party to, be bound by, and subject to, all of the covenants, terms and conditions of that certain Voting Agreement, dated as of March 10, 2014 (as the same may be amended, supplemented or otherwise modified from time to time, the "Voting Agreement"), by and among [\_\_\_\_\_], a \_\_\_\_\_ company, and certain of its shareholders in the same manner as if the Sponsor were an original signatory to such Voting Agreement.

The Sponsor shall have all the rights, and shall observe all the obligations, applicable to a Sponsor under the Voting Agreement.

The Sponsor represents and warrants that he/she/it has received a copy of, and has reviewed the terms of, the Voting Agreement.

All questions concerning the construction, validity and interpretation of this Joinder will be governed by and construed in accordance with the internal laws of the state of Delaware.

**IN WITNESS WHEREOF**, the Sponsor has executed this Joinder as of this \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_ .

**SHAREHOLDER**

with copies to:

\_\_\_\_\_

By:

Address for  
Notices:

Exhibits B-1 and B-2 have been superseded by Exhibits B-1 and B-2 in Annex C of this proxy statement.

**AMENDED AND RESTATED  
CERTIFICATE OF INCORPORATION  
OF  
NANOFILM HOLDING INC.**

FIRST: The name of the corporation (the “*Corporation*”) is:

Nanofilm Holding Inc.

SECOND: The address of the Corporation’s registered office in the State of Delaware is 800 Delaware Avenue, City of Wilmington, County of New Castle, Delaware 19801. The name of the Corporation’s registered agent at such address is Delaware Corporations LLC.

THIRD: The purpose of the Corporation is to engage in any lawful act or activity for which corporations may be organized under the General Corporation Law of the State of Delaware.

FOURTH: The total number of shares that the Corporation has authority to issue is 1,000 shares of Common Stock, par value of \$0.001 per share.

FIFTH: Elections of directors need not be by written ballot except and to the extent provided in the bylaws of the Corporation.

SIXTH: To the full extent permitted by the General Corporation Law of the State of Delaware or any other applicable laws presently or hereafter in effect, no director of the Corporation will be personally liable to the Corporation or its stockholders for or with respect to any acts or omissions in the performance of his or her duties as a director of the Corporation. Any repeal or modification of this Article Sixth will not adversely affect any right or protection of a director of the Corporation existing immediately prior to such repeal or modification.

SEVENTH: Each person who is or was or had agreed to become a director or officer of the Corporation, or each such person who is or was serving or who had agreed to serve at the request of the Board of Directors or an officer of the Corporation as an employee or agent of the Corporation or as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise (including the heirs, executors, administrators or estate of such person), shall be indemnified by the Corporation to the full extent permitted by the General Corporation Law of the State of Delaware or any other applicable laws as presently or hereafter in effect. Without limiting the generality or the effect of the foregoing, the Corporation may enter into one or more agreements with any person which provide for indemnification greater or different than that provided in this Article Seventh. Any repeal or modification of this Article Seventh shall not adversely affect any right or protection existing hereunder immediately prior to such repeal or modification.



EIGHTH: In furtherance and not in limitation of the rights, powers, privileges, and discretionary authority granted or conferred by the General Corporation Law of the State of Delaware or other statutes or laws of the State of Delaware, the Board of Directors is expressly authorized to make, alter, amend or repeal the bylaws of the Corporation, without any action on the part of the stockholders, but the stockholders may make additional bylaws and may alter, amend or repeal any bylaw whether adopted by them or otherwise. The Corporation may in its bylaws confer powers upon its Board of Directors in addition to the foregoing and in addition to the powers and authorities expressly conferred upon the Board of Directors by applicable law.

NINTH: The Corporation reserves the right at any time and from time to time to amend, alter, change or repeal any provision contained in this Certificate of Incorporation, and other provisions authorized by the laws of the State of Delaware at the time in force may be added or inserted, in the manner now or hereafter prescribed herein or by applicable law; and all rights, preferences and privileges of whatsoever nature conferred upon stockholders, directors or any other persons whomsoever by and pursuant to this Certificate of Incorporation in its present form or as hereafter amended are granted subject to this reservation.

## NanoMerger Sub Inc.

## BYLAWS

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**BYLAWS****MEETINGS OF STOCKHOLDERS**

**Section 1. Time and Place of Meetings.** All meetings of the stockholders for the election of directors or for any other purpose shall be held at such time and place, within or without the State of Delaware, as may be designated by the Board of Directors, or by the President or the Secretary in the absence of a designation by the Board of Directors, and stated in the notice of the meeting or in a duly executed waiver of notice thereof. Stockholders may participate in an annual or special meeting of the stockholders by use of any means of communication by which all stockholders participating may simultaneously hear each other during the meeting. A stockholder's participation in a meeting by any such means of communication constitutes presence in person at the meeting.

**Section 2. Annual Meeting.** An annual meeting of the stockholders shall be held at such date and time as shall be designated from time to time by the Board of Directors, at which meeting the stockholders shall elect by a plurality vote the directors to succeed those whose terms expire and shall transact such other business as may properly be brought before the meeting.

**Section 3. Special Meetings.** Special meetings of the stockholders, for any purpose or purposes, unless otherwise prescribed by law or by the Certificate of Incorporation, may be called by the Board of Directors.

**Section 4. Notice of Meetings.** Notice of every meeting of the stockholders, stating the place, if any, date and hour of the meeting, the means of remote communication, if any, and, in the case of a special meeting, the purpose or purposes for which the meeting is called, shall be given not less than ten, nor more than sixty days before the date of the meeting to each stockholder entitled to vote at such meeting, except as otherwise provided herein or by law. When a meeting is adjourned to another place, date or time, written notice need not be given of the adjourned meeting if the place, date and time thereof and the means of remote communication, if any, are announced at the meeting at which the adjournment is taken; except, that if the adjournment is for more than thirty days, or if after the adjournment a new record date is fixed for the adjourned meeting, written notice of the place, date and time of the adjourned meeting shall be given. At any adjourned meeting, any business may be transacted which might have been transacted at the original meeting.

**Section 5. Quorum.** The holders of a majority of the stock issued and outstanding and entitled to vote thereat, present in person or represented by proxy, shall constitute a quorum at all meetings of the stockholders for the transaction of business except as otherwise provided by law or by the Certificate of Incorporation. If, however, a quorum shall not be present or represented at any meeting of the stockholders, the stockholders entitled to vote thereat, present in person or represented by proxy, shall have power to adjourn the meeting from time to time, without notice other than announcement at the meeting, until a quorum shall be present or represented.

**Section 6. Voting** Except as otherwise provided by law or by the Certificate of Incorporation, each stockholder shall be entitled at every meeting of the stockholders to one vote for each share of stock having voting power standing in the name of such stockholder on the books of the Corporation on the record date for the meeting and such votes may be cast either in person or by written proxy. Every proxy must be duly executed and filed with the Secretary of the Corporation. A stockholder may revoke any proxy which is not irrevocable by attending the meeting and voting in person or by filing an instrument in writing revoking the proxy or another duly executed proxy bearing a later date with the Secretary of the Corporation. The vote upon any question brought before a meeting of the stockholders may be by voice vote, unless the holders of a majority of the outstanding shares of all classes of stock entitled to vote thereon present in person or by proxy at such meeting shall so determine. When a quorum is present at any meeting, the vote of the holders of a majority of the stock that has voting power present in person or represented by proxy shall decide any question properly brought before such meeting, unless the question is one upon which by express provision of law, the Certificate of Incorporation or these bylaws, a different vote is required, in which case such express provision shall govern and control the decision of such question.

## DIRECTORS

**Section 7. Powers** The business and affairs of the Corporation shall be managed by or under the direction of its Board of Directors, which may exercise all such powers of the Corporation and do all such lawful acts and things as are not by law or by the Certificate of Incorporation directed or required to be exercised or done by the stockholders.

**Section 8. Number and Term of Office** The Board of Directors shall consist of one or more members and the number of directors shall be fixed by resolution from time to time of the Board of Directors or by the stockholders at the annual meeting or a special meeting. Except as provided in Section 9, the directors shall be elected at the annual meeting of the stockholders and each director elected shall hold office until such director's successor is elected and qualified or until such director's earlier resignation or removal, in each case except as required by law. Any decrease in the authorized number of directors shall not be effective until the expiration of the term of the directors then in office, unless, at the time of such decrease, there shall be vacancies on the Board of Directors which are being eliminated by such decrease.

**Section 9. Vacancies and New Directorships** Vacancies and newly created directorships resulting from any increase in the authorized number of directors which occur between annual meetings of the stockholders may be filled by a majority of the directors then in office, though less than a quorum, or by a sole remaining director, and the directors so elected shall hold office until the next annual meeting of the stockholders and until their successors are elected and qualified, except as required by law.

**Section 10. Regular Meetings.** Regular meetings of the Board of Directors may be held without notice immediately after the annual meeting of the stockholders and at such other time and place as shall from time to time be determined by the Board of Directors.

**Section 11. Special Meetings.** Special meetings of the Board of Directors may be called by a majority of the Directors on one day's notice to each director by whom such notice is not waived, given in accordance with Section 18, and shall be called by the President or the Secretary in like manner and on like notice on the written request of any director.

**Section 12. Quorum.** At all meetings of the Board of Directors, a majority of the total number of directors then in office shall constitute a quorum for the transaction of business, and the act of a majority of the directors present at any meeting at which there is a quorum shall be the act of the Board of Directors. If a quorum shall not be present at any meeting of the Board of Directors, the directors present thereat may adjourn the meeting from time to time to another place, time or date, without notice other than announcement at the meeting, until a quorum shall be present.

**Section 13. Written Action.** Any action required or permitted to be taken at any meeting of the Board of Directors or of any committee thereof may be taken without a meeting if all members of the Board of Directors or committee, as the case may be, consent thereto in writing or by electronic transmission, and the writing or writings or electronic transmission or transmissions are filed with the minutes of proceedings of the Board of Directors or Committee.

**Section 14. Participation in Meetings by Conference Telephone.** Members of the Board of Directors, or any committee designated by the Board of Directors, may participate in a meeting of the Board of Directors, or a meeting of any such committee, by means of conference telephone or similar communications equipment by means of which all persons participating in the meeting can hear each other, and such participation in a meeting shall constitute presence in person at the meeting.

**Section 15. Committees.** The Board of Directors may, by resolution passed by a majority of the whole Board of Directors, designate one or more committees, each committee to consist of one or more of the directors of the Corporation and each to have such lawfully delegable powers and duties as the Board of Directors may confer and each such committee shall serve at the pleasure of the Board of Directors. The Board of Directors may designate one or more directors as alternate members of any committee, who may replace any absent or disqualified member at any meeting of the committee. Except as otherwise provided by law, any such committee, to the extent provided in the resolution of the Board of Directors, shall have and may exercise all the powers and authority of the Board of Directors in the management of the business and affairs of the Corporation, and may authorize the seal of the Corporation to be affixed to all papers which may require it. Any committee or committees so designated by the Board of Directors shall have such name or names as may be determined from time to time by resolution adopted by the Board of Directors. Unless otherwise prescribed by the Board of Directors, a majority of the members of the committee shall constitute a quorum for the transaction of business, and the act of a majority of the members present at a meeting at which there is a quorum shall be the act of such committee. Each committee shall prescribe its own rules for calling and holding meetings and its method of procedure, subject to any rules prescribed by the Board of Directors, and shall keep a written record of all actions taken by it.

**Section 16. Compensation.** The Board of Directors may establish such compensation for, and reimbursement of the expenses of, directors for attendance at meetings of the Board of Directors or committees, or for other services by directors to the Corporation, as the Board of Directors may determine.

**Section 17. Rules.** The Board of Directors may adopt such special rules and regulations for the conduct of their meetings and the management of the affairs of the Corporation as they may deem proper, not inconsistent with law or these bylaws.

#### NOTICES

**Section 18. Generally.** Whenever by law or under the provisions of the Certificate of Incorporation or these bylaws, notice is required to be given to any director or stockholder, it shall not be construed to mean personal notice, but such notice may be given in writing, by mail, addressed to such director or stockholder, at such director's or stockholder's address as it appears on the records of the Corporation, with postage thereon prepaid, and such notice shall be deemed to be given at the time when the same shall be deposited in the United States mail. Except as otherwise required or prohibited by law, notice to directors and stockholders may also be given by facsimile, by telephone, electronic mail, posting on an electronic network together with separate notice to the director or stockholder of such specific posting (which notice shall be deemed given upon the later of such posting and the giving of such separate notice), or by any other form of electronic transmission consented to by the stockholder or director to whom the notice is given. Except as otherwise stated therein, notice pursuant to the preceding sentence will be deemed to be given at the time when the same is sent.

**Section 19. Waivers.** Whenever any notice is required to be given by law or under the provisions of the Certificate of Incorporation or these bylaws, a waiver thereof in writing, signed by the person or persons entitled to such notice, or a waiver by electronic transmission by the person entitled to such notice, in each case, whether before or after the time of the event for which notice is to be given, shall be deemed equivalent to such notice. Attendance of a person at a meeting shall constitute a waiver of notice of such meeting, except when the person attends a meeting for the express purpose of objecting, at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened.

#### OFFICERS

**Section 20. Generally.** The officers of the Corporation shall be elected by the Board of Directors and shall consist of a President, a Secretary and a Treasurer. The Board of Directors may also elect such other officers, as the Board of Directors deems desirable, including, without limitation, the election of a Chief Executive Officer and a Chief Financial Officer. Any number of offices may be held by the same person.

**Section 21. Compensation.** The compensation of all officers and agents of the Corporation who are also directors of the Corporation shall be fixed by the Board of Directors. The Board of Directors may delegate the power to fix the compensation of other officers and agents of the Corporation to an officer of the Corporation.

**Section 22. Succession.** The officers of the Corporation shall hold office until their successors are elected and qualified or until such officer's earlier resignation or removal. Any officer elected or appointed by the Board of Directors may be removed at any time by the affirmative vote of a majority of the directors. Any vacancy occurring in any office of the Corporation may be filled by the Board of Directors.

**Section 23. Authority and Duties.** Each of the officers of the Corporation shall have such authority and shall perform such duties as are customarily incident to their respective offices, or as may be specified from time to time by the Board of Directors in a resolution which is not inconsistent with these bylaws.

**Section 24. Execution of Documents and Action with Respect to Securities of Other Corporations.** The President shall have and is hereby given, full power and authority, except as otherwise required by law or directed by the Board of Directors, to execute, on behalf of the Corporation, all duly authorized contracts, agreements, deeds, conveyances or other obligations of the Corporation, applications, consents, proxies and other powers of attorney, and other documents and instruments. In addition, the President may delegate to other officers, employees and agents of the Corporation the power and authority to take any action which the President is authorized to take under this Section 24, with such limitations as the President may specify; such authority so delegated by the President shall not be re-delegated by the person to whom such execution authority has been delegated.

## STOCK

**Section 25. Certificates.** If the Board of Directors acts by resolution to issue certificates representing shares of stock of the Corporation, the form of the certificate shall be in such form as shall be determined by the Board of Directors, subject to applicable legal requirements. Such certificates shall be numbered and their issuance recorded in the books of the Corporation, and each such certificate shall exhibit the holder's name and the number of shares and shall be signed by, or in the name of the Corporation by such officers as the Board of Directors may designate. Any or all of the signatures upon such certificates may be facsimiles, engraved or printed.

**Section 26. Transfer.** Upon surrender to the Corporation or the transfer agent of the Corporation of a certificate for shares duly endorsed or other proper evidence of succession, assignment or authority to transfer, it shall be the duty of the Corporation to issue, or to cause its transfer agent to issue, a new certificate or other evidence of ownership to the person entitled thereto, cancel any old certificate and record the transaction upon its books.



**Section 27. Lost, Stolen or Destroyed Certificates.** The Secretary may direct a new certificate or certificates to be issued in place of any certificate or certificates theretofore issued by the Corporation alleged to have been lost, stolen or destroyed upon the making of an affidavit of that fact, satisfactory to the Secretary, by the person claiming the certificate of stock to be lost, stolen or destroyed. As a condition precedent to the issuance of a new certificate or certificates the Secretary may require the owner of such lost, stolen or destroyed certificate or certificates, or such owner's legal representative, to give the Corporation a bond in such sum and with such surety or sureties as the Secretary may direct as indemnity against any claims that may be made against the Corporation with respect to the certificate alleged to have been lost, stolen or destroyed or the issuance of the new certificate.

**Section 28. Record Date.** (a) In order that the Corporation is able to determine the stockholders entitled to notice of or to vote at any meeting of stockholders or any adjournment thereof, the Board of Directors may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted by the Board of Directors, and which record date shall not be more than sixty nor less than ten days before the date of such meeting. If no record date is fixed by the Board of Directors, the record date for determining stockholders entitled to notice of or to vote at a meeting of stockholders shall be at the close of business on the day next preceding the day on which notice is given, or, if notice is waived, at the close of business on the day next preceding the day on which the meeting is held. A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders shall apply to any adjournment of the meeting; provided, however, that the Board of Directors may fix a new record date for the adjourned meeting.

(b) In order that the Corporation may determine the stockholders entitled to receive payment of any dividend or other distribution or allotment of any rights or the stockholders entitled to exercise any rights in respect of any change, conversion or exchange of stock, or for the purpose of any other lawful action, the Board of Directors may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted, and which record date shall be not more than sixty days prior to such action. If no record date is fixed, the record date for determining stockholders for any such purpose shall be at the close of business on the day on which the Board of Directors adopts the resolution relating thereto.

#### GENERAL PROVISIONS

**Section 29. Fiscal Year.** The fiscal year of the Corporation shall be fixed from time to time by the Board of Directors.

**Section 30. Corporate Seal.** The Board of Directors may adopt a corporate seal and use the same by causing it or a facsimile thereof to be impressed or affixed or reproduced or otherwise.

**Section 31. Reliance upon Books, Reports and Records.** Each director, each member of a committee designated by the Board of Directors and each officer of the Corporation will, in the performance of his or her duties, be fully protected in relying in good faith upon the records of the Corporation and upon such information, opinions, reports or statements presented to the Corporation by any of the Corporation's officers or employees, or committees of the Board of Directors, or by any other person as to matters the director, committee member or officer reasonably believes are within such other person's professional or expert competence and who has been selected with reasonable care by or on behalf of the Corporation.

**Section 32. Time Periods.** In applying any provision of these bylaws which requires that an act be done or not be done a specified number of days prior to an event or that an act be done during a period of a specified number of days prior to an event, calendar days shall be used, the day of the doing of the act shall be excluded and the day of the event shall be included.

#### AMENDMENTS

**Section 33. Amendments.** These bylaws may be altered, amended or repealed, or new bylaws may be adopted, by the stockholders or by the Board of Directors.

**VOTING AND CONVERSION AGREEMENT**

This VOTING AND CONVERSION AGREEMENT, dated as of this 10th day of March 2014, (the “*Agreement*”), by and among NanoHolding Inc., a Delaware corporation (“*Nano*”), and each of the shareholders and other security holders of APNT identified on the signature pages hereto (each, a “*Sponsor*,” and collectively the “*Sponsors*”). All capitalized terms used but not defined in this Agreement shall have the meanings ascribed to them in the Merger Agreement (as defined below).

WHEREAS, Applied Nanotech Holdings, Inc., a Texas corporation (“*APNT*”), PEN Inc., NanoMerger Sub Inc., Nano and Carl Zeiss, Inc. are entering into an Agreement and Plan of Merger and Exchange of even date (the “*Merger Agreement*”) that provides for the redomestication of APNT into PEN a Delaware corporation and for the merger of NanoMerger Sub Inc. into Nanofilm; and

WHEREAS, in order to induce Nano to enter into the Merger Agreement and as condition to close as provided for therein, Nano and the Sponsors have agreed to enter into this Agreement.

NOW, THEREFORE, in consideration of the covenants, promises and representations set forth herein, and other good and valuable consideration, the receipt and sufficiency of which are hereby expressly and mutually acknowledged, and intending to be legally bound hereby, the parties hereto agree as follows:

**1. REPRESENTATIONS AND WARRANTIES.**

Each of the parties hereto, by their respective execution and delivery of this Agreement, hereby represents and warrants to the other party hereto that:

(a) such party has the full right, capacity and authority to enter into, deliver and perform this Agreement;

(b) this Agreement has been duly executed and delivered by such party and is a binding and enforceable obligation of such party, enforceable against such party in accordance with the terms of this Agreement; and

(c) the execution, delivery and performance of such party’s obligations under this Agreement will not require such party to obtain the consent, waiver or approval of any Person and will not violate, result in a breach of, or constitute a default under any statute, regulation, agreement, judgment, consent, or decree by which such party is bound.

**2. SHARES SUBJECT TO AGREEMENT**

Each Sponsor, severally and not jointly, agrees to vote all of his, her or its voting shares of APNT then owned by such Sponsor, whether now owned or hereafter acquired (hereafter referred to as the “*Voting Shares*”), in accordance with the provisions of this Agreement.

**3. OBLIGATIONS TO VOTE VOTING SHARES FOR APPROVAL OF THE MERGER AGREEMENT**

At any annual or special meeting called, or in connection with any other action (including the execution of written consents) taken for the purpose of approving the Merger Agreement, the Redomestication Merger, the Nano Merger and any of the transaction or matter contemplated by the Merger Agreement (the “*Merger Events*”), each of the Sponsors agrees to:

(i) vote in favor of the adoption and approval of the Merger Agreement and the Merger Events;

(ii) vote against any proposal made in opposition to, or in competition with, the Merger Agreement and the Merger Events; and

(c) vote against any other action that is intended, or would reasonably be expected to, unreasonably impede, interfere with, delay, postpone, discourage or adversely affect the Merger Agreement and the Merger Events.

#### 4. COVENANT TO VOTE

Each Sponsor shall appear in person or by proxy at any annual or special meeting of shareholders of the APNT for the purpose of obtaining a quorum and shall vote all Voting Shares owned by such Sponsor, either in person or by proxy, at any annual or special meeting of shareholders of the APNT called for the purpose of voting on and approving the transactions contemplated by the Merger Agreement. In addition, each Sponsor shall appear in person or proxy at any annual or special meeting of shareholders of the APNT for the purpose of obtaining a quorum and shall vote, or shall execute and deliver a written consent with respect to, all Voting Shares owned by such Sponsor, entitled to vote upon any other matter submitted to a vote of shareholders of the APNT in a manner so as to be consistent and not in conflict with, and to implement, the terms of this Agreement.

#### 5. ADDITIONAL SHARES

If, after the effective date hereof, the Sponsors or any of their affiliates acquire beneficial or record ownership of any additional shares of the APNT (any such shares, "*Additional Shares*"), including, without limitation, upon conversion of any debt or other obligation of APNT into its common stock, exercise of any option, warrant or right to acquire shares of the APNT or through any stock dividend or stock split, the provisions of this Agreement shall thereafter be applicable to such Additional Shares as if such Additional Shares had been held by the Sponsors as of the effective date hereof. The provisions of the immediately preceding sentence shall be effective with respect to Additional Shares without action by any person or entity immediately upon the acquisition by the Sponsors of the beneficial ownership of the Additional Shares. The Sponsors shall require any affiliate that acquires Voting Shares or Additional Shares to vote as the Sponsor is required to vote under this Agreement and shall use reasonable efforts to cause any affiliate that acquires Additional Shares to enter into a written joinder to this Agreement substantially in the form attached hereto as Exhibit A.

#### 6. TRANSFER RESTRICTIONS

Each Sponsor agrees that he, she or it shall not transfer any Voting Shares unless he, she or it shall cause any transferee who acquires such shares to execute and deliver a joinder substantially in the form of Exhibit A hereto to the APNT. Each certificate, if any, representing any shares of the APNT held by either party shall be endorsed with a legend reading substantially as follows:

“THE SHARES EVIDENCED HEREBY ARE SUBJECT TO A VOTING AGREEMENT (A COPY OF WHICH MAY BE OBTAINED UPON WRITTEN REQUEST FROM THE ISSUER), AND BY ACCEPTING ANY INTEREST IN SUCH SHARES THE PERSON ACCEPTING SUCH INTEREST SHALL BE DEEMED TO AGREE TO AND SHALL BECOME BOUND BY ALL THE PROVISIONS OF SAID VOTING AGREEMENT.”

## 7. CONVERSION OF ACCRUED COMPENSATION

(a) Each of the Sponsors listed on the Signature Page to this Agreement hereby acknowledge that APNT owes him, or in the case of Sichuan Anxian Yinhee Chemical and Construction Company (“SAYCC”), its representative, certain accrued compensation related to services rendered as a director as of the date hereof in an amount set forth beneath their respective names on the Signature Page to this Agreement (the “*Accrued Compensation*”). Shareholder acknowledges that no other compensation, stock awards, vacation pay, sick pay or any other money is currently owed to Sponsor related to service as a Director other than (i) out-of-pocket expenses reimbursable to such Sponsor under expense reimbursement policies previously approved by the Board of Directors of APNT, and (ii) for those Directors who served on the Merger Committee the one-time fee that will be paid in stock if and when the closing occurs under the Merger Agreement. Sponsor agrees additional compensation for service as a director will accrue after the date of this Agreement based on the fee schedule attached as Annex A.

(b) Immediately prior to the Nano Merger as defined in the Merger Agreement the Accrued Compensation plus compensation for service as a Director earned after the date hereof until the day of the Redomestication Merger will automatically be converted into shares of PEN’s Class A Common Stock (the “*Class A Common Stock*”) at the Conversion Price. The number of shares of the Class A Common Stock to be issued to the representative of SAYCC and to each individual Sponsor upon conversion shall be determined by dividing (x) the amount due to the Sponsor (or its representative) by (y) the Conversion Price. The “*Conversion Price*” shall be equal to \$0.05 per share.

(c) The obligations of the Sponsors under Section 7(a) and to convert their Accrued Compensation into shares of PEN as provided for in this Section 7 is contingent upon the Closing under the Merger Agreement and in the event the Closing under the Merger Agreement does not occur or such agreement is terminated through no fault of APNT, Sponsor shall have no obligation under this Section 7.

## 8. TERMINATION

This Agreement shall commence on the date hereof and continue in force and effect until the earlier of (i) the Closing Date of the Merger Agreement, or (ii) the End Date as provided for in the Merger Agreement. Upon the termination of this Agreement, except as otherwise set forth herein, the restrictions and obligations set forth herein shall terminate and be of no further effect, except that such termination shall not affect rights perfected or obligations incurred under this Agreement prior to such termination.

## 9. GENERAL PROVISIONS

(a) *Notices.* Unless otherwise provided herein, all notices, requests, waivers and other communications made pursuant to this Agreement will be in writing and will be given in accordance with the notice provisions of the Merger Agreement.

(b) *Enforceability; Severability.* The parties hereto agree that each provision of this Agreement will be interpreted in such a manner as to be effective and valid under applicable law. If one or more provisions of this Agreement are nevertheless held to be prohibited, invalid or unenforceable under applicable law, such provision will be effective to the fullest extent possible excluding the terms affected by such prohibition, invalidity or unenforceability, without invalidating the remainder of such provision or the remaining provisions of this Agreement. If the prohibition, invalidity or unenforceability referred to in the prior sentence requires such provision to be excluded from this Agreement in its entirety, the balance of the Agreement will be interpreted as if such provision were so excluded and will be enforceable in accordance with its terms.

(c) *Entire Agreement.* This Agreement constitutes the entire agreement among the parties with respect to the subject matter hereof.

(d) *Equitable Relief.* The parties hereto recognize that, if such party fails to perform or discharge any of its obligations under this Agreement, any remedy at law may prove to be inadequate relief to the other parties. Each party hereto therefore agrees that the other parties are entitled to seek temporary and permanent injunctive relief and any other equitable remedy a court of competent jurisdiction may deem appropriate in any such case.

(e) *Manner of Voting.* The voting of shares pursuant to this Agreement may be effected in person, by proxy, by written consent or in any other manner permitted by applicable law.

(f) *Governing Law.* This Agreement shall be construed in accordance with, and governed in all respects by, the laws of the State of Delaware.

(g) *Delays or Omissions.* No delay or omission to exercise any right, power or remedy accruing to any party under this Agreement, or upon any breach or default of any other party under this Agreement, will impair any such right, power or remedy of such non-breaching or non-defaulting party nor will it be construed to be a waiver of any such breach or default, or an acquiescence therein, or of or in any similar breach or default thereafter occurring; nor will any waiver of any single breach or default be deemed a waiver of any other breach or default theretofore or thereafter occurring. Any waiver, permit, consent or approval of any kind or character on the part of any party of any provisions or conditions of this Agreement, must be in writing and will be effective only to the extent specifically set forth in such writing. Except as otherwise set forth herein, all remedies, either under this Agreement or by Law or otherwise afforded to any party, will be cumulative and not alternative.

(h) *Counterparts.* This Agreement may be executed in any number of counterparts, each of which shall be deemed an original, and all of which together shall constitute one instrument.

(i) *Amendments.* Any term of this Agreement may be amended only with the written consent of the parties hereto.

(j) *Controlling Agreement.* To the extent the terms of this Agreement (as amended, supplemented, restated or otherwise modified from time to time) directly conflicts with a provision in the Merger Agreement, the terms of this Agreement shall control.

*[Signatures begin on next page.]*

IN WITNESS WHEREOF, the Parties hereto have executed or caused this Agreement to be duly executed by their respective authorized signatories as of the date first indicated above.

NANOHOLDING INC.

By: /s/ Scott E Rickert  
Name: Scott E Rickert  
Title: President

**SPONSORS**

SICHUAN YINHE CHEMICAL CO., LTD.

By: /s/ Its CEO  
Its: CEO  
Address: Jushui Town, Anxian, Sichuan, China  
Facsimile:

Its representative: David (Xin) Li

/s/ Xin Li  
Xin Li  
Address: Kexing Rd., Anxian, Sichuan, China  
Facsimile:  
Accrued Compensation: \$36,667

/s/ Doug Baker  
Doug Baker  
  
Address: 3006 Longhorn Blvd. Suite 107, Austin, TX 78758  
Facsimile: (512) 339 – 5021  
Accrued Compensation: none

/s/ Paul Rocheleau  
Paul Rocheleau  
  
Address: 3006 Longhorn Blvd. Suite 107, Austin, TX 78758  
Facsimile: (512) 339 – 5021  
Accrued Compensation: \$26,335

/s/Robert Ronstadt  
Robert Ronstadt  
  
Address: 3006 Longhorn Blvd. Suite 107, Austin, TX 78758  
Facsimile: (512) 339 – 5021  
Accrued Compensation: \$54,977

/s/ Howard Westerman

Howard Westerman

Address: 3006 Longhorn Blvd. Suite 107, Austin, TX 7875

Facsimile: (512) 339 – 5021

Accrued Compensation: \$26,335

/s/Zvi Yaniv

Zvi Yaniv

Address: 3006 Longhorn Blvd. Suite 107, Austin, TX 7875

Facsimile: (512) 339 – 5021

Accrued Compensation: none

/s/ Ronald Berman

Ronald Berman

Address: 3006 Longhorn Blvd. Suite 107, Austin, TX 7875

Facsimile: (512) 339 – 5021

Accrued Compensation: \$32,927



**Exhibit A**

**Joinder to Voting Agreement**

By execution of this Joinder, the undersigned (the "Sponsor") hereby joins in, agrees to become a party to, be bound by, and subject to, all of the covenants, terms and conditions of that certain Voting Agreement, dated as of March 10, 2014 (as the same may be amended, supplemented or otherwise modified from time to time, the "Voting Agreement"), by and among [\_\_\_\_\_], a \_\_\_\_\_ company, and certain of its shareholders in the same manner as if the Sponsor were an original signatory to such Voting Agreement.

The Sponsor shall have all the rights, and shall observe all the obligations, applicable to a Sponsor under the Voting Agreement.

The Sponsor represents and warrants that he/she/it has received a copy of, and has reviewed the terms of, the Voting Agreement.

All questions concerning the construction, validity and interpretation of this Joinder will be governed by and construed in accordance with the internal laws of the state of Delaware.

**IN WITNESS WHEREOF**, the Sponsor has executed this Joinder as of this \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_ .

**SHAREHOLDER**

with copies to:

\_\_\_\_\_

\_\_\_\_\_ By:

Address for  
Notices:

\_\_\_\_\_

\_\_\_\_\_

**AMENDMENT TO  
AGREEMENT AND PLAN OF MERGER  
AND EXCHANGE**

This AMENDMENT TO AGREEMENT AND PLAN OF MERGER AND EXCHANGE, dated as of May 28, 2014 is entered into by and among APPLIED NANOTECH HOLDINGS, INC., a corporation incorporated in the State of Texas, USA ("**APNT**"), PEN INC., a corporation incorporated in the State of Delaware and a wholly-owned subsidiary of APNT ("**PEN**"), NANOMERGER SUB INC., a corporation incorporated in the State of Delaware and a wholly-owned subsidiary of APNT ("**MergerSub**"), NANOHOLDING INC., a Delaware corporation ("**Nano**") AND CARL ZEISS INC., a New York corporation ("**Zeiss**").

WHEREAS, APNT, PEN, MergerSub, Nano and Zeiss are parties to an Agreement and Plan of Merger and Exchange dated as of March 10, 2014 (the "**Merger & Exchange Agreement**").

WHEREAS, the parties desire to amend the Merger & Exchange Agreement to change certain terms of the certificate of incorporation and bylaws of PEN following the closing.

NOW, THEREFORE, in consideration of the agreements contained in this Amendment and other good and valuable consideration, the parties agree that Exhibit B-1 and Exhibit B-2 to the Merger & Exchange Agreement are hereby deleted and Exhibit B-1 and Exhibit B-2 attached to this Amendment are substituted therefor. Except as stated in the preceding sentence, the Merger & Exchange Agreement remains in full force and effect.

*[Signatures begin next page]*

IN WITNESS WHEREOF, the Parties hereto have caused this Amendment to be duly executed by their respective authorized signatories as of the date first indicated above.

APPLIED NANOTECH HOLDINGS, INC.

By: /s/ Robert Ronstadt  
Robert Ronstadt, Chairman

PEN INC.

By: /s/ Robert Ronstadt  
Robert Ronstadt, Chairman

NANOMERGER SUB INC.

By: /s/ Robert Ronstadt  
Robert Ronstadt, Chairman

NANO HOLDINGS INC.

By: /s/ Scott E. Rickert  
Scott E. Rickert, President

CARL ZEISS, INC.

By: /s/ James A. Sharp

AMENDED AND RESTATED  
CERTIFICATE OF INCORPORATION  
OF

PEN INC.

**ARTICLE 1**

The name of the Corporation is PEN Inc.

**ARTICLE 2**

The address of the registered office of the Corporation in the State of Delaware is 800 Delaware Ave, City of Wilmington, County of New Castle, Delaware 19801. The name of the Corporation's registered agent at such address is Delaware Corporations LLC.

**ARTICLE 3**

The purpose of the Corporation is to engage in any lawful act or activity for which corporations may be organized under the General Corporation Law of the State of Delaware ("**DGCL**").

**ARTICLE 4**

Section 4.1. Authorized Capital Stock. The Corporation is authorized to issue four classes of capital stock, designated as Preferred Stock (as defined below), Class A Common Stock (as defined below), Class B Common Stock (as defined below), and Class Z Common Stock (as defined below). The total number of shares of capital stock that the Corporation is authorized to issue is [1,820,000,000], consisting of 20,000,000 shares of Preferred Stock, par value \$0.0001 per share ("**Preferred Stock**"), [1,300,000,000] shares of Class A Common Stock, par value \$0.0001 per share ("**Class A Common Stock**"), [400,000,000] shares of Class B Common Stock, par value \$0.0001 per share ("**Class B Common Stock**"), and [100,000,000] shares of Class Z Common Stock, par value \$0.0001 per share ("**Class Z Common Stock**").

Section 4.2. Preferred Stock. The Preferred Stock may be issued in one or more series. The Board of the Corporation (the "**Board**") is hereby authorized to issue the shares of Preferred Stock in such series and to fix from time to time before issuance thereof the number of shares to be included in any such series and the designation, powers, preferences and relative, participating, optional or other rights, and the qualifications, limitations or restrictions thereof, of such series. The authority of the Board with respect to each such series will include, without limiting the generality of the foregoing, the determination of any or all of the following:

1. the number of shares of any series and the designation to distinguish the shares of such series from the shares of all other series;
2. the voting powers, if any, of the shares of such series and whether such voting powers are full or limited;
2. the redemption provisions, if any, applicable to such series, including the redemption price or prices to be paid;
4. whether dividends, if any, will be cumulative or noncumulative, the dividend rate or rates of such series and the dates and preferences of dividends on such series;
5. the rights of such series upon the voluntary or involuntary dissolution of, or upon any distribution of the assets of, the Corporation;
6. the provisions, if any, pursuant to which the shares of such series are convertible into, or exchangeable for, shares of any other class or classes or of any other series of the same or any other class or classes of stock, or any other security, of the Corporation or any other corporation or other entity, and the rates or other determinants of conversion or exchange applicable thereto;

7. the right, if any, to subscribe for or to purchase any securities of the Corporation or any other corporation or other entity;
8. the provisions, if any, of a sinking fund applicable to such series; and
9. any other relative, participating, optional or other powers, preferences or rights, and any qualifications, limitations or restrictions thereof, of such series;

all as may be determined from time to time by the Board and stated or expressed in the resolution or resolutions providing for the issuance of such Preferred Stock (collectively, a “**Preferred Stock Designation**”).

Section 4.3. Common Stock. Subject to the rights of the holders of any series of Preferred Stock, the powers, preferences and rights, and the qualifications, limitations and restrictions, of the Class A Common Stock, Class B Common Stock, and Class Z Common Stock are as follows:

1. **Dividends**. Subject to the provisions of paragraph 7 of this Section 4.3, holders of Class A Common Stock, Class B Common Stock, and Class Z Common Stock shall be entitled to receive such dividends, payable in cash or otherwise, as may be declared thereon by the Board from time to time out of assets or funds of the Corporation legally available therefor to be distributed among and paid ratably, in accordance with the number of shares of Class A Common Stock, Class B Common Stock, and Class Z Common Stock held by each holder, to the holders of Class A Common Stock, Class B Common Stock, and Class Z Common Stock.
2. **Liquidation**. Subject to the rights of the holders of any series of Preferred Stock then outstanding, in the event of any dissolution, liquidation or winding up of the affairs of the Corporation, whether voluntary or involuntary, after payment or provision for payment of the debts and other liabilities of the Corporation, the remaining assets and funds of the Corporation shall be divided among and paid ratably, in accordance with the number of shares of Class A Common Stock, Class B Common Stock, and Class Z Common Stock held by each such holder, to the holders of Class A Common Stock, Class B Common Stock, and Class Z Common Stock.
3. **Voting**. Subject to the rights of the holders of any series of Preferred Stock then outstanding, on all matters presented to stockholders, every holder of Class A Common Stock shall be entitled to one vote in person or by proxy for each share of Class A Common Stock held by such holder and every holder of Class B Common Stock shall be entitled to one hundred votes in person or by proxy for each share of Class B Common Stock held by such holder. Holders of Class Z Common Stock shall have the rights set forth in this Amended and Restated Certificate of Incorporation but such Class Z Common Stock shall otherwise be non-voting.
4. **Permitted holders for Class B**. (a) The Corporation may issue shares of Class B Common Stock to the holders of Class B Common Stock in connection with the merger of the Corporation’s wholly owned subsidiary with NanoHoldings Inc. (the “**Merger**”), as contemplated by that certain Agreement and Plan of Merger and Exchange, among the Corporation, its wholly-owned subsidiary, NanoHoldings Inc., Applied Nanotech Holdings, Inc., and Carl Zeiss, Inc. (as it may be amended, the “**Merger and Exchange Agreement**”). After the issuance of Class B Common Stock pursuant to the Merger, the Corporation may issue Class B Common Stock only to holders of Class B Common Stock, their Permitted Transferees or as permitted by paragraph 9 of this Section 4.3. No person holding shares of Class B Common Stock (a “**Class B Holder**”) may transfer, and the Corporation shall not register the transfer of, such shares of Class B Common Stock, whether by sale, assignment, gift, bequest, appointment or otherwise, except to a Permitted Transferee of such Class B Holder, which term shall have the following meanings:

(i) In the case of the Class B Holder who is a natural person holding record and beneficial ownership of the shares of Class B Common Stock in question, “**Permitted Transferee**” means (A) a lineal descendant of the individuals who on the effective date of the Merger are partners in the limited partnership that is receiving Class B Common Stock in the Merger, (B) a spouse of a lineal descendant of a person described in clause (A), (C) the trustee of a trust (including without limitation a voting trust) for the benefit of one or more of such Class B Holders, any of the persons specified in subclause (A) or (B) of this clause (i), and any organization contributions to which are deductible for federal income, estate or gift tax purposes (hereinafter called a “Charitable Organization”), and for the benefit of no other person, provided that such trust may (x) grant a general or special power of appointment to such Class B Holder or such Class B Holder’s spouse, (y) permit trust assets to be used to pay taxes, legacies and other obligations of the trust or the estate of such Class B Holder or such Class B Holder’s spouse payable by reason of the death of such Class B Holder or such Class B Holder’s spouse, and (z) may hold assets other than shares of Class B Common Stock for the benefit of others who are not Permitted Transferees, (D) a Charitable Organization established by one or more of such Class B Holders, or any of the persons specified in this clause (i), (E) a corporation all of the outstanding capital stock of which is owned by, or a partnership all of the partners of which are, or a limited liability company, all of the members of which are, one or more of such Class B Holders, and any of the persons specified in this clause (i), provided that if any share of capital stock of such a corporation (or of any survivor of a merger, consolidation, conversion (a “**Survivor**”) of such a corporation), any partnership interest in such a partnership (or any Survivor of such a partnership) or any membership interest in such a limited liability company (or any Survivor of such a limited liability company) is acquired by any person who is not within such class of persons, all shares of Class B Common Stock then held by such corporation, partnership or limited liability company, as the case may be, shall be deemed without further act on anyone’s part to be converted into shares of Class A Common Stock, and stock certificates, if any, formerly representing such shares of Class B Common Stock shall thereupon and thereafter be deemed to represent the like number of shares of Class A Common Stock, and (F) any natural person with respect to whom such Class B Holder would be a Permitted Transferee if such person desired to transfer shares of Class B Common Stock to such Class B Holder.

(ii) In the case of a Class B Holder holding the shares of Class B Common Stock in question as trustee pursuant to a trust other than a trust described in clause (iii) below, “**Permitted Transferee**” means (A) the person or persons who established such trust and (B) a Permitted Transferee of any such person determined pursuant to clause (i) above.

(iii) In the case of a Class B Holder which is a partnership holding record and beneficial ownership of the shares of Class B Common Stock on the record date for the Merger (the “**Record Date**”) in question, “**Permitted Transferee**” means (A) any partner of such partnership, provided that such partner was a partner of such partnership on the Record Date or is a Permitted Transferee of at least one partner who was a partner of such partnership on the Record Date and (B) the Class B Holders who or that transferred the Class B Common Stock to such partnership and any Permitted Transferee of such Class B Holder who or that transferred the Class B Common Stock to said partnership, determined pursuant to clause (i) above. If any partnership interest of such a partnership (or of any Survivor of such a partnership), is acquired by any person who is not within such class of persons permitted by clauses (A) or (B) of this subsection (iii), all shares of Class B Common Stock then held by such partnership shall be deemed without further act on anyone’s part to be converted into shares of Class A Common Stock, and stock certificates, if any, formerly representing such shares of Class B Common Stock shall thereupon and thereafter be deemed to represent the like number of shares of Class A Common Stock.

(iv) In the case of a Class B Holder which is a corporation (other than a Charitable Organization described in subclause (D) of clause (i) above) holding record and beneficial ownership of the shares of Class B Common Stock in question, “**Permitted Transferee**” means (A) any stockholder of such corporation receiving shares of Class B Common Stock through a dividend or redemption or through a distribution made upon liquidation of such corporation, provided that such stockholder was a stockholder of such corporation on the Record Date or is a Permitted Transferee of at least one stockholder who was a stockholder of such corporation on the Record Date, (B) the Survivor of such corporation, provided that each equity owner of each other entity which is a party to such transaction is, at the time of such transaction, a stockholder of such corporation or a Permitted Transferee of at least one stockholder of such corporation, and (C) the Class B Holder who or that transferred the Class B Common Stock to such corporation and any Permitted Transferee of such Class B Holder who or that transferred the Class B Common Stock to such corporation, determined pursuant to clause (i) above. If any share of capital stock of such a corporation (or of any Survivor of such a corporation), is acquired by any person who is not within such class of persons permitted by clauses (A), (B) or (C) of this subsection (iv), all shares of Class B Common Stock then held by such corporation shall be deemed without further act on anyone’s part to be converted into shares of Class A Common Stock, and stock certificates, if any, formerly representing such shares of Class B Common Stock shall thereupon and thereafter be deemed to represent the like number of shares of Class A Common Stock.

(v) In the case of a Class B Holder which is a limited liability company holding record and beneficial ownership of the shares of Class B Common Stock in question, “**Permitted Transferee**” means (A) any member of such limited liability company, provided that such member was a member of such limited liability company on the Record Date or is a Permitted Transferee of at least one member who was a member of such limited liability company on the Record Date, (B) the Survivor of such corporation, provided that each equity owner of each other entity which is a party to such transaction is, at the time of such transaction, a member of such limited liability company or a Permitted Transferee of at least one member of limited liability company, and (C) the Class B Holders who or that transferred the Class B Common Stock to such limited liability company and any Permitted Transferee of such Class B Holder who or that transferred the Class B Common Stock to said limited liability company, determined pursuant to clause (i) above. If any membership interest in such a limited liability company (or of any Survivor of such a limited liability company), is acquired by any person who is not within such class of persons permitted by clauses (A), (B) or (C) of this subsection (v), all shares of Class B Common Stock then held by such limited liability company shall be deemed without further act on anyone’s part to be converted into shares of Class A Common Stock, and stock certificates, if any, formerly representing such shares of Class B Common Stock shall thereupon and thereafter be deemed to represent the like number of shares of Class A Common Stock.

- (vi) In the case of a Charitable Organization, “**Permitted Transferee**” means the person who transferred the shares of Class B Common Stock in question thereto and any Permitted Transferee of such person pursuant to clause (i) above.
- (vii) In the case of a Class B Holder which is the estate of a deceased or incompetent Class B Holder, or which is the estate of a bankrupt or insolvent Class B Holder, and provided such deceased, incompetent, bankrupt or insolvent Class B Holder, as the case may be, held record and beneficial ownership of the shares of Class B Common Stock in question, “**Permitted Transferee**” means a Permitted Transferee of such deceased, incompetent, bankrupt or insolvent Class B Holder as determined pursuant to clauses (i), (v) or (vi) above, as the case may be.
- (viii) In all events, the Corporation is a Permitted Transferee of Class B Common Stock from any Class B Holder.
- (b) Notwithstanding anything to the contrary set forth herein, any Class B Holder may pledge such Holder’s shares of Class B Common Stock to a pledgee pursuant to a bona fide pledge of such shares as collateral security for indebtedness due to the pledgee, provided that such shares shall not be transferred to or registered in the name of the pledgee and shall remain subject to the provisions of this paragraph 4. In the event of foreclosure or other similar action by the pledgee, such pledged shares of Class B Common Stock may only be transferred to a Permitted Transferee of the pledgor or converted into shares of Class A Common Stock, as the pledgee may elect.
- (c) For purposes of this paragraph 4:
- (i) The relationship of any person that is derived by or through legal adoption prior to age 18 shall be considered a natural one.
  - (ii) The term “**spouse**” shall include a widow or widower.
  - (iii) Each joint owner of shares of Class B Common Stock shall be considered a “**Class B Holder**” of such shares.
  - (iv) A minor for whom shares of Class B Common Stock are held pursuant to a Uniform Gifts to Minors Act or similar law shall be considered a Class B Holder of such shares.
  - (v) Unless otherwise specified, the term “**person**” means both natural and legal entities.
  - (vii) The term “**natural person**” in Section 4.3, paragraph 4(a)(i) shall include the estate of such natural person in the event such natural person dies or becomes incompetent, bankrupt or insolvent.
- (d) Any purported transfer of shares of Class B Common Stock not permitted hereunder shall be void and of no effect and the purported transferee shall have no rights as stockholder of the Corporation and no other right against or with respect to the Corporation. The Corporation may, as a condition to the transfer or the registration of transfer of shares of Class B Common Stock to a purported Permitted Transferee, require the furnishing of such affidavits or other proof as it deems necessary to establish that such transferee is a Permitted Transferee. The Corporation shall note in a written statement with respect to, or on the certificates for, shares of Class B Common Stock (or in the case of uncertificated shares of Class B Common Stock, on the written notice sent pursuant to Section 151(f) of the DGCL) the restrictions on transfer and registration of transfer imposed by this paragraph 4.

**5. Permitted holders, anti-dilutive & other rights for Class Z.** (a) The Corporation may issue shares of Class Z Common Stock to Carl Zeiss Inc. (the “Zeiss Stockholder”) in exchange for Class Z Units in Nanofilm, Ltd., an Ohio limited liability company (the “**Exchange**”) under the Merger and Exchange Agreement. After the issuance of Class Z Common Stock pursuant to the Exchange, the Corporation may issue Class Z Common Stock only to holders of Class Z Common Stock, their Permitted Transferees or as permitted by paragraph 9 of this Section 4.3. No person holding shares of Class Z Common Stock (a “**Class Z Holder**”) may transfer, and the Corporation shall not register the transfer of, such shares of Class Z Common Stock, whether by sale, assignment, gift, bequest, appointment or otherwise, except to an entity that is, directly or indirectly, wholly owned by the ultimate parent of the Zeiss Stockholder, and if any equity interest in such a wholly-owned entity (or in a Survivor of such entity) is acquired by any person who is not so controlled, all shares of Class Z Common Stock then outstanding shall without further act on anyone’s part to be converted into shares of Class A Common Stock, and stock certificates, if any, formerly representing such shares of Class Z Common Stock shall thereupon and thereafter be deemed to represent the like number of shares of Class A Common Stock.

(b) Any purported transfer of shares of Class Z Common Stock not permitted hereunder shall be void and of no effect and the purported transferee shall have no rights as stockholder of the Corporation and no other right against or with respect to the Corporation. The Corporation may, as a condition to the transfer or the registration of transfer of shares of Class Z Common Stock to a purported permitted transferee under this paragraph 5, require the furnishing of such affidavits or other proof as it deems necessary to establish that such transferee is a permitted transferee. The Corporation shall note in a written statement with respect to, or on the certificates for, shares of Class Z Common Stock (or in the case of uncertificated shares of Class Z Common Stock, on the written notice sent pursuant to Section 151(f) of the DGCL) the restrictions on transfer and registration of transfer imposed by this paragraph 5.

(c) If the Corporation issues additional shares or equity rights that are the economic equivalent of the Class A Common Stock, the Class B Common Stock or the Class Z Common Stock or have the right to subscribe for, purchase or acquire, convert into, be exchangeable or exercisable for or otherwise participate in distributions (whether interim or liquidating) with the Class A Common Stock, the Class B Common Stock or the Class Z Common Stock (such shares, together with the Class A Common Stock, Class B Common Stock and Class Z Common Stock, “**Common Equivalents**”), Class Z Holders and their Permitted Transferees are entitled to purchase the Common Equivalents being issued (unless the Common Equivalents include Class B Common Stock or rights that may become Class B Common Stock in which event the Class Z Holders will be entitled to the equivalent economics without regard to voting rights with respect to Class Z Common Stock) to prevent dilution of the Class Z Common Stock (together with any other Common Equivalents held by the Class Z Holders) as a percentage of the total Common Equivalents. Additional Common Equivalents or Class Z Units, as applicable, may be purchased only if and to the extent necessary to ensure that the economic interest of the Class Z Common Stock (together with any other Common Equivalents held by the Class Z Holders) as a percentage of the total of the Common Equivalents of the Corporation will not be diluted. To exercise its rights, a Class Z Holder must notify the Company, not more than 20 days after receiving the notice, whether or not it elects to make a purchase. Unless the Corporation and the Class Z Holder(s) electing to purchase agree otherwise, a purchase under this paragraph will close not more than 10 days after the election or, if later, the day that the other Common Equivalents are issued. The purchase price for the additional shares of Common Equivalents or Class Z Common Stock, as applicable, will be equal to the price for which the Corporation issues the Common Equivalents to others. The antidilutive rights of this paragraph (c) do not apply to (i) the issuance of Class A Common Stock and Class B Common Stock up to 10% of the Common Equivalents in connection with employee compensation programs approved by the Board, or (ii) the issuance of Common Equivalents that do not reduce the outstanding shares of Class Z Common Stock below 8% of the Common Equivalents. The Corporation covenants that it will at all times prior to taking any action that would trigger the rights set forth in this paragraph 5(c) or paragraph 7 of this Section 4.3 ensure that it has reserved and available such number of shares of Class Z Common Stock as shall be necessary for the holders of Class Z Common Stock to exercise their rights hereunder or enjoying their rights under paragraph 7 of this Section 4.3. The Corporation shall not permit any of its direct or indirect subsidiaries to take any action that would circumvent or frustrate the rights of the holders of Class Z Common Stock under this paragraph 5(c) by issuing equity of any subsidiary without offering the Class Z Holders the right to purchase their pro-rata share thereof on the terms described herein.

(d) The holders of Class Z Common Stock are entitled to receive a copy of any notice sent to the holders of Class A Common Stock or Class B Common Stock, as and when the notice is sent to such holders.

(e) If the Class Z Holders have converted into shares of Class A Common Stock more than one-half of the shares of Class Z Common Stock issued in the Exchange (as that number may have been adjusted under paragraph 7 of this Section 4.3) then all shares of Class Z Common Stock then outstanding shall without further act on anyone’s part to be converted into shares of Class A Common Stock, and stock certificates, if any, formerly representing such shares of Class Z Common Stock shall thereupon and thereafter be deemed to represent the like number of shares of Class A Common Stock, *mutatis mutandis*.



**6. Conversion of Class B or Class Z into Class A.** (a) Each share of Class B Common Stock and each share of Class Z Common Stock may at any time, at the option of the holder, be converted into one fully paid and nonassessable share of Class A Common Stock. Such right shall be exercised by the delivery by the holder to the Corporation at any time during normal business hours at the principal executive offices of the Corporation, or if an agent for the registration of transfer of shares of Class B Common Stock or Class Z Common Stock is then duly appointed and acting (said agent being hereinafter called the “**Transfer Agent**”) then at the office of the Transfer Agent, of a written notice of the election by the holder thereof to convert such share of Class B Common Stock or Class Z Common Stock and (if so required by the Corporation or the Transfer Agent) instruments of transfer, in form satisfactory to the Corporation and to the Transfer Agent, duly executed by such holder or his duly authorized attorney, and transfer tax stamps or funds therefor, if required pursuant to subparagraph (e) below, accompanied by the certificate, if any, representing such share of Class B Common Stock or Class Z Common Stock or, in lieu thereof, an affidavit that the certificate has been lost, stolen or destroyed in a form reasonably requested by the Corporation which may include an indemnity by which the holder indemnifies the Corporation against any claim that may be made against it relating to the missing certificate.

(b) As promptly as practicable after the (i) delivery of the notice of election to convert shares of Class B Common Stock or Class Z Common Stock and the related documentation as contemplated by and in the manner provided in subparagraph (a) above, (ii) if applicable, surrender for conversion of a certificate representing such shares in the manner provided in subparagraph (a) above, and (iii) payment in cash of any amount required by the provisions of subparagraphs (a) and (e), the Corporation shall deliver or cause to be delivered to the office of the Transfer Agent upon the written order of the holder of such shares uncertificated shares, or upon request, a certificate or certificates, representing the number of full shares of Class A Common Stock issuable upon such conversion, issued in such name or names as such holder may direct. Such conversion shall be deemed to have been made immediately prior to the close of business on the date of the last to occur of (i), (ii) and (iii) above, and all rights of the holder of such shares as such holder shall cease at such time (other than rights to any declared but unpaid dividends) and the person or persons in whose name or names the shares of Class A Common Stock are to be issued shall be treated for all purposes as having become the record holder or holders of such shares of Class A Common Stock at such time; **except**, that any holder who makes such delivery, surrender and payment on any date when the stock transfer books of the Corporation shall be closed shall constitute the person or persons in whose name or names shares of Class A Common Stock are to be issued as the record holder or holders thereof for all purposes immediately prior to the open of business on the next succeeding day on which such stock transfer books are open.

(c) No adjustments in respect of dividends shall be made upon the conversion of any share of Class B Common Stock or Class Z Common Stock, **except** that if a share shall be converted subsequent to the record date for determining the identity of the holder thereof entitled to payment of a dividend or other distribution on shares of Class B Common Stock or Class Z Common Stock but prior to such payment, the registered holder of such share at the close of business on such record date shall be entitled to receive the dividend or other distribution payable on such share on such date notwithstanding the conversion thereof or the Corporation’s default in payment of the dividend due on such date.

(d) The Corporation covenants that it will at all times reserve and keep available, solely for the purpose of issue upon conversion of the outstanding shares of Class B Common Stock and Class Z Common Stock, such number of shares of Class A Common Stock as shall be issuable upon the conversion of all such outstanding shares, provided, that nothing contained herein shall be construed to preclude the Corporation from satisfying its obligations in respect of the conversion of the outstanding shares of Class B Common Stock or Class Z Common Stock by delivery of purchased shares of Class A Common Stock which are held in the treasury of the Corporation. The Corporation covenants that if any shares of Class A Common Stock, required to be reserved for purposes of conversion hereunder, require registration with or approval of any governmental authority under any federal or state law before such shares of Class A Common Stock may be issued upon conversion, the Corporation will use its best efforts to cause such shares to be duly registered or approved, as the case may be. The Corporation covenants that all shares of Class A Common Stock will, upon issue, be fully paid and nonassessable and not subject to any preemptive rights.

(e) The issuance of shares of Class A Common Stock upon conversion of shares of Class B Common Stock or upon conversion of shares of Class Z Common Stock shall be made without charge for any stamp or other similar tax in respect of such issuance which, to the extent applicable, shall be paid by the Corporation. However, if any such shares are to be issued in a name other than that of the holder of the shares of Class B Common Stock or Class Z Common Stock converted, the person or persons requesting the issuance thereof shall pay to the Corporation the amount of any tax which may be payable in respect of any transfer involved in such issuance or shall establish to the reasonable satisfaction of the Corporation that such tax has been paid or is not required to be paid.

7. **Share distributions or splits.** Each share of Class A Common Stock, Class B Common Stock, and Class Z Common Stock shall be equal in respect of rights to dividends and other distributions in cash, stock or property of the Corporation, provided that in the case of dividends or other distributions payable in stock of the Corporation, including distributions pursuant to stock split-ups or divisions of stock of the Corporation, or any other distributions of stock of any subsidiary of the Corporation only shares of Class A Common Stock shall be distributed with respect to Class A Common Stock, only shares of Class B Common Stock shall be distributed with respect to Class B Common Stock, and only shares of Class Z Common Stock shall be distributed with respect to Class Z Common Stock. Without limiting the foregoing, if there is a stock split, reverse stock split or similar reorganization affecting the Class A Common Stock, the Class B Common Stock or the Class Z Common Stock, the number of shares of Class A Common Stock, Class B Common Stock and Class Z Common Stock shall each be increased or decreased proportionately.

8. **Merger, Conversion or Sale.** In case of any consolidation, merger, conversion, or sale of all or substantially all of the assets of the Corporation as a result of which stockholders of the Corporation shall be entitled to receive cash, stock, other securities or other property with respect to or in exchange for their stock of the Corporation, each holder of Class A Common Stock, Class B Common Stock, and Class Z Common Stock shall be entitled to receive, with respect to each share, (A) an equal amount of consideration, (B) the same form of consideration, and (C) voting and other rights consistent with those held under this Amended and Restated Certificate of Incorporation prior to the consolidation, merger, conversion or sale.

9. **Retirement after conversion, special vote for new Class B or Class Z shares.** Except (i) as otherwise provided in paragraph 5 of this Section 4.3, (ii) pursuant to compensation programs for employees of the Corporation (or its direct or indirect subsidiaries) resulting in the issuance of Class B Common Stock to Permitted Holders of such shares for a value not less than the value of a share of Class A Common Stock on the date of grant or issuance, (iii) shares of Class B Common Stock issued to Permitted Holders of such shares as a result of the conversion of notes issued in the Bridge Financing (as that term is used in the Merger and Exchange Agreement) but only if the purchase price and other terms of such notes are the same as the terms for other purchasers in the Bridge Financing, and (iv) as approved by the affirmative vote of the holders of a majority of the voting power of the outstanding voting stock voting together as a single class, the Corporation shall not issue additional shares of Class B Common Stock or of Class Z Common Stock after the date of the Merger and Exchange and all shares of Class B Common Stock or Class Z Common Stock surrendered for conversion or otherwise acquired by the Corporation shall be retired.

10. **Vote to Increase Authorized Shares.** The number of authorized shares of any class or classes of stock of the Corporation may be increased or decreased (but not below the total number of shares thereof then outstanding plus those reserved as required by this Amended and Restated Certificate of Incorporation) by the affirmative vote of the holders of a majority of the outstanding voting stock of the Corporation entitled to vote thereon irrespective of the provisions of Section 242(b)(2) of the DGCL (or any successor provision thereto).

12. **Record Owner.** The Corporation shall be entitled to treat the person in whose name any share of its stock is registered as the owner thereof for all purposes, and shall not be bound to recognize any equitable or other claims to, or interest in, such share on the part of any other person, whether or not the Corporation shall have notice thereof, except as expressly provided by applicable law.

## ARTICLE 5

Section 5.1. **Number, Election and Terms of Directors.** (a) Subject to the rights, if any, of the holders of any series of Preferred Stock to elect additional Directors under circumstances specified in a Preferred Stock Designation and the rights, if any, of the holders of Class Z Common Stock described in paragraph (b) of this section 5.1, (i) the number of the Directors of the Corporation will not be less than one, except that the number will be not less than three so long as the holders of Class Z Common Stock have the right to designate a director under paragraph (b) of this Section 5.1, and (ii) subject to clause (i), the authorized number of Directors may be determined from time to time only by a vote of a majority of the total number of Directors then in office. Election of directors need not be by written ballot.

(b) So long as Class Z Common Shares have not all been converted into Class A Common Shares under paragraph 5 or 6 of section 4.3 the holders of Class Z Common Shares may designate an individual to serve as a director of the Corporation and any vacancy in that position shall be filled only by the Class Z Holders. If the Class Z Holders no longer have the right to designate a director, any director designated by the Class Z Holders will (without any further action) be removed from office.

Section 5.2. Nomination of Director Candidates. Advance notice of stockholder nominations for the election of Directors must be given in the manner provided in the Bylaws of the Corporation.

Section 5.3. Removal. Subject to the rights, if any, of the holders of any series of Preferred Stock to elect additional Directors under circumstances specified in a Preferred Stock Designation, any Director (other than a Director designated by the holders of Class Z Common Shares who may be removed by, and only by, those holders (with or without cause) or as described in Section 5.1(b)) may be removed from office by the stockholders with or without cause.

## ARTICLE 6

The affirmative vote of the holders of at least a majority of the quorum, voting together as a single class, is required to amend or repeal this Amended and Restated Certificate of Incorporation. In addition, the affirmative vote of the holders of at least 50% of the outstanding shares of Class Z Common Stock is required for any amendment, repeal or change to: (i) Section 5.1(b) or to the parenthetical phrase of Section 5.3; (ii) the distribution provisions of paragraphs 1 and 2 of Section 4.3; (iii) paragraphs 5, 6, 7 and 8 of Section 4.3; (iv) Article 10; (v) to create other differences under this Amended and Restated Certificate to the rights, powers, duties or restrictions applicable to the Class Z Common Stock and either the Class A Common Stock or the Class B Common Stock; or (vi) this sentence.

The Board may make, amend and repeal the Bylaws of the Corporation. Any Bylaw made by the Board under the powers conferred hereby may be amended or repealed by the Board (except as specified in any such Bylaw so made or amended) or by the stockholders in the manner provided in the Bylaws of the Corporation.

## ARTICLE 7

To the fullest extent permitted by the DGCL or any other applicable laws as presently or hereafter in effect, no member of the Board shall be personally liable to the Corporation or its stockholders for monetary damages for breach of fiduciary duty as a director with respect to any acts or omissions in the performance of his or her duties as a member of the Board. No amendment to or repeal of this Article 7 shall apply to or have any effect on the liability or alleged liability of any member of the Board for or with respect to any acts or omissions of such member occurring prior to such amendment or repeal.

## ARTICLE 8

Section 8.1. Right to Indemnification. The Corporation shall indemnify to the fullest extent permitted by the DGCL, as it now exists or may be amended, any current or former director or officer of the Corporation who is made, or threatened to be made, a party to or is otherwise involved in an action, suit or proceeding, whether civil, criminal, administrative, investigative or other (including an action, suit or proceeding by or in the right of the Corporation) (collectively, a “**proceeding**”), by reason of the fact that such person is or was a director or officer of the Corporation or an administrator or fiduciary with respect to any employee benefit plan of the Corporation, or serves or served at the request of the Corporation as a director, officer, employee or agent, or as an administrator or fiduciary of an employee benefit plan, of another corporation, partnership, joint venture, trust or other enterprise (a “**beneficiary**”) against all expense, liability and loss (including attorneys’ fees, judgments, fines, Employee Retirement Income Security Act of 1974 (or comparable non-U.S. law) excise taxes or penalties and amounts paid in settlement) reasonably incurred or suffered by such beneficiary in connection therewith; **except** that the Corporation shall indemnify any such beneficiary in connection with a proceeding (or part thereof) initiated by such beneficiary only if such proceeding (or part thereof) was authorized by the Board or is initiated to enforce a beneficiary’s rights under this Section 8.1 or Section 8.2. No amendment to this Article 8 that limits the Corporation’s obligation to indemnify any person shall have any effect on such obligation for any act or omission that occurs prior to the later of the effective date of the amendment or the date notice of the amendment is given to the person.

Section 8.2. Right to Advancement of Expenses. The rights granted under Section 1 of this Article 8 shall include the right to be paid by the Corporation the expenses (including, without limitation, attorneys’ fees and expenses) incurred in defending any such proceeding in advance of its final disposition (an “**advancement of expenses**”); **except** that, if the DGCL so requires, an advancement of expenses incurred by an beneficiary in his or her capacity as a director or officer (and not in any other capacity in which service was or is rendered by such beneficiary, including, without limitation, service to an employee benefit plan) shall be made only upon delivery to the Corporation of an undertaking, by or on behalf of such beneficiary, to repay all amounts so advanced if it shall ultimately be determined by final judicial decision from which there is no further right to appeal that such beneficiary is not entitled to be indemnified for such expenses under this Section 2 or otherwise. The rights to indemnification and to the advancement of expenses conferred in Sections 8.1 and 8.2 shall be contract rights and such rights shall continue as to a beneficiary who has ceased to be a director or officer and shall inure to the benefit of the beneficiary’s heirs, executors and administrators. No amendment to this Article 8 that limits the Corporation’s obligation regarding advancement of expenses shall have any effect on that right for a claim arising out of an act or omission that occurs prior to the date of the amendment.

Section 8.3. Indemnification of Employees and Agents of the Corporation. The Corporation may, to the extent authorized from time to time by the Board, grant rights to indemnification and to the advancement of expenses to any employee or agent of the Corporation or an administrator or fiduciary with respect to any employee benefit plan to the fullest extent of the provisions of this Article 8 with respect to the indemnification and advancement of expenses of directors and officers of the Corporation.

Section 8.4. Non-Exclusivity of Rights. Any indemnification or advancement of expenses made pursuant to this Article 8 shall not be exclusive of any other right that any person may have or hereafter acquire under any statute, this Amended and Restated Certificate of Incorporation, the Bylaws or any agreement, vote of stockholders or disinterested directors or otherwise.

Section 8.5. Insurance. The Corporation may maintain insurance, at its expense, to protect itself and any director, officer, employee or agent of the Corporation or another corporation, partnership, joint venture, trust or other enterprise against any expense, liability or loss, whether or not the Corporation would have the power to indemnify such person against such expense, liability or loss under the DGCL.

#### ARTICLE 9

Unless the Corporation consents in writing to the selection of an alternative forum, the sole and exclusive forum for (i) any derivative action or proceeding brought on behalf of the Corporation, (ii) any action asserting a claim of breach of a fiduciary duty owed by any director, officer or other employee of the Corporation to the Corporation or the Corporation's stockholders, (iii) an action asserting a claim arising pursuant to any provision of the DGCL, or (iv) any action asserting a claim governed by the internal affairs doctrine shall be a state or federal court located within the state of Delaware, in all cases subject to the court's having personal jurisdiction over the indispensable parties named as defendants.

#### ARTICLE 10

To the fullest extent permitted by Section 122(17) of the DGCL (or any successor provision) and except as may be otherwise expressly agreed in writing by the Corporation and the Zeiss Stockholder, the Corporation, on behalf of itself and its subsidiaries, renounces any interest or expectancy of the Corporation and its subsidiaries in, or in being offered an opportunity to participate in, business opportunities, that are from time to time presented to the Zeiss Stockholder or to any of its controlled affiliates or to any of their designees on the Corporation's Board of Directors, even if the opportunity is one that the Corporation or its subsidiaries might reasonably be deemed to have pursued or had the ability or desire to pursue if granted the opportunity to do so, and no such person shall be liable to the Corporation or any of its subsidiaries for breach of any fiduciary or other duty, as a director or otherwise, by reason of the fact that such person pursues or acquires the business opportunity, directs the business opportunity to another person or fails to present the business opportunity, or information regarding the business opportunity, to the Corporation or its subsidiaries unless, in the case of any such person who is a director of the Corporation, the business opportunity is (i) first presented to that individual by the Corporation in good faith in connection with its operations or strategic activities, or (ii) expressly offered to such director in writing solely in his or her capacity as a director of the Corporation; provided, that, in no event shall the foregoing subclauses (i) or (ii) be deemed to expand, and they shall only apply to the extent of, the duties such person would otherwise have under Delaware law. Any person purchasing or otherwise acquiring any interest in any shares of stock of the Corporation shall be deemed to have notice of and consented to the provisions of this Article 10. Neither the alteration, amendment or repeal of this Article 10, nor the adoption of any provision of this Amended and Restated Certificate of Incorporation inconsistent with this Article 10, nor, to the fullest extent permitted by Delaware law, any modification of law, shall eliminate or reduce the effect of this Article 10 in respect of any business opportunity first identified or any other matter occurring, or any cause of action, suit or claim that, but for this Article 10, would accrue or arise, prior to the alteration, amendment, repeal, adoption or modification. If any provision or provisions of this Article 10 shall be held to be invalid, illegal or unenforceable as applied to any circumstance for any reason whatsoever: (a) the validity, legality and enforceability of such provisions in any other circumstance and of the remaining provisions of this Article 10 (including, without limitation, each portion of any paragraph of this Article 10 containing any such provision held to be invalid, illegal or unenforceable that is not itself held to be invalid, illegal or unenforceable) shall not in any way be affected or impaired thereby and (b) to the fullest extent possible, the provisions of this Article 10 (including, without limitation, each such portion of any paragraph of this Article 10 containing any such provision held to be invalid, illegal or unenforceable) shall be construed so as to permit the Corporation to protect its directors from personal liability in respect of their good faith service to or for the benefit of the Corporation to the fullest extent permitted by law. This Article 10 shall not limit any protections or defenses available to, or indemnification or advancement rights of, any director of the Corporation under this Amended and Restated Certificate of Incorporation, the Corporation's Bylaws, any other agreement between the Corporation and such director or applicable law.

**BYLAWS OF  
PEN INC.**

**1. OFFICES & AGENT**

**Section 1.01. Registered Office and Agent .** The Corporation shall have and continuously maintain a registered office and registered agent in accordance with the Delaware General Corporation Law (“DGCL”).

**Section 1.02 Other Offices.** The Corporation may have offices at such place or places within or without the State of Delaware as the Board of Directors may from time to time appoint or the business of the Corporation may require or make desirable.

**2. SHAREHOLDERS’ MEETINGS**

**Section 2.01. Place of Meetings .** All meetings of the shareholders shall be held at a place or in a manner as may be fixed from time to time by the Board of Directors.

**Section 2.02. Annual Meetings.** An annual meeting of the shareholders shall be held at such date and time as may be fixed by resolution of the Board of Directors for the purpose of electing Directors and transacting such other business as may properly be brought before the meeting.

**Section 2.03. Special Meetings.** Special meetings of the shareholders, for any purpose or purposes, unless otherwise prescribed by the DGCL or the Certificate of Incorporation, may be called by the Chairman of the Board (the “Chairman”) or the Corporation’s Chief Executive Officer; and shall be called by the Chairman or the Secretary: (i) when so directed by the Board of Directors, or (ii) at the written request of shareholders owning shares representing at least twenty-five percent of voting power of the Corporation in the election of Directors. A request for a special meeting shall state the purpose or purposes of the proposed meeting.

**Section 2.04. Notice of Meetings .** Except as otherwise required or permitted by the DGCL or the Certificate of Incorporation, written notice of each meeting of the shareholders, whether annual or special, shall be served either personally, by mail or electronic transmission, upon each shareholder of record entitled to vote at such meeting, not less than 10 nor more than 60 days before such meeting. If mailed or sent by electronic transmission, such notice shall be directed to a shareholder at the shareholder’s post office address or electronic address last shown on the records of the Corporation. Notice of any special meeting of shareholders shall state the purpose or purposes for which the meeting is called. Notice of any meeting of shareholders shall not be required to be given to any shareholder who, in person or by his attorney thereunto authorized, either before or after such meeting, shall waive such notice by means of a signed writing. Attendance of a shareholder at a meeting, either in person or by proxy, shall of itself constitute waiver of notice and waiver of any and all objections to the place of the meeting, the time of the meeting, and the manner in which it has been called or convened, except when a shareholder attends a meeting solely for the purpose of stating, at the beginning of the meeting, any such objection or objections to the transaction of business. Notice of any adjourned meeting need not be given otherwise than by announcement at the meeting at which the adjournment is taken.

**Section 2.05. Quorum.** Shareholders owning shares entitling them to exercise at least one third of the voting power in the election of directors shall constitute a quorum at any meeting of the shareholders for the transaction of business, except as otherwise provided by the DGCL, by the Certificate of Incorporation, or by these Bylaws. If, however, the required number shall not be present or represented at any meeting of the shareholders, the shareholders present and entitled to vote shall have power to adjourn the meeting from time to time, without notice other than announcement at the meeting, until a quorum shall be present. At any adjourned meeting at which a quorum is present any business may be transacted that might have been transacted at the meeting as originally called.

**Section 2.06. Voting.** If a quorum exists, action on a matter by the shareholders (other than the election of Directors) is approved if the votes cast by the holders of the shares represented at the meeting and entitled to vote on the subject matter favoring the action exceed the votes cast opposing the action (with ‘abstentions’ and ‘broker non-votes’ not counted as a vote cast with respect to that matter), unless a greater number of affirmative votes is required by the Certificate of Incorporation or is mandatory under the DGCL. Unless otherwise provided in the Certificate of Incorporation, Directors are elected by a plurality of the votes cast by the shares entitled to vote in the election at a meeting at which a quorum is present (with ‘abstentions’ and ‘broker non-votes’ not counted as a vote cast with respect to that director).

**Section 2.07. Conduct of Meetings .** The Chairman of the Board of Directors, or in his absence the Chief Executive Officer, or in their absence a person appointed by the Board of Directors, shall preside at meetings of the shareholders. The Secretary of the Corporation, or in the Secretary’s absence, any person appointed by the individual presiding at the meeting shall act as Secretary for meetings of the shareholders. Meetings shall be governed by procedures prescribed by the person presiding at the meeting or by the Board so long as they are not inconsistent with these Bylaws.

**Section 2.08. Written Consents.** Any action required or permitted to be taken at a meeting of the shareholders of the Corporation may be taken without a meeting if written consent, setting forth the action so taken, shall be signed by persons who would be entitled to vote at a meeting with the voting power necessary to authorize or take such action at a meeting at which all shares entitled to vote were present and voted.

**Section 2.09. Shareholder Nominees for Directors.** Any shareholder holding shares entitled to vote in the election of directors with an aggregate value of at least \$2,000 may nominate one or more directors if the shareholder gives written notice to the corporate secretary and the notice is received not less than 60 days nor more than 90 days prior to the dater of the shareholder meeting; except that, if the Corporation gives less than 75 days' notice of the meeting date or if public disclosure of the date of the meeting is made less than 75 days before the meeting, the notice must be received not later than the close of business on the 10th day following the day on which notice of the date of the meeting was mailed or public disclosure was made, whichever first occurs. The notice must set forth: (i) the name and address of the shareholder making the nomination; (ii) the name, age, principal occupation or employment, business address and residence address of each person to be nominated; (iii) the class and number of shares of stock held of record, owned beneficially and represented by proxy by such shareholder or any person directly or indirectly controlling, controlled by, under common control with or acting in concert with such shareholder (a "Shareholder Associated Person"), and by each person to be nominated as of the record date for the meeting and as of the date of such notice; (iv) a description of all contracts, arrangements, understandings or relationships between (a) the shareholder making the nomination and any Shareholder Associated Person that relate to the nomination, (b) the shareholder making the nomination and the proposed nominee and (c) the shareholder making the nomination, the proposed nominee or any Shareholder Associated Person and any other person or persons that relate to the nomination; (v) such other information regarding each nominee that would be required to be disclosed in a proxy statement; and (vi) the consent of each nominee to serve as a director of the corporation if elected and that nominee's representation that the nominee is qualified under section 3.06 of the Bylaws of the Corporation.

**Section 2.10. Shareholder Proposals.** Any shareholder holding shares entitled to vote in the election of directors with an aggregate value of at least \$2,000 may present a proposal at a meeting of the shareholder of the Corporation if the shareholder gives written notice to the corporate secretary and the notice is received not less than 60 days nor more than 90 days prior to the dater of the shareholder meeting; except that if the Corporation gives less than 75 days' notice of the meeting date or if public disclosure of the date of the meeting is made less than 75 days before the meeting, the notice must be received not later than the close of business on the 10th day following the day on which notice of the date of the meeting was mailed or public disclosure was made, whichever first occurs. Each notice must set forth as to each matter the shareholder proposes to bring before the meeting: (i) a description of each proposed item of business and the reasons for conducting that business at the annual meeting; (ii) any material interest in that business of that shareholder or any Shareholder Associated Person, including any anticipated benefit to the shareholder or any Shareholder Associated Person; (iii) the name and record address of the shareholder proposing to bring that item of business before the meeting; (iv) the class and number of shares of stock held of record, owned beneficially and represented by proxy by that shareholder or any Shareholder Associated Person as of the record date for the meeting and as of the date of the notice; (v) whether and the extent to which any derivative instrument, hedging or other transaction or transactions has been entered into by or on behalf of, or any other agreement or understanding has been made to increase or decrease economic interest in the corporation's stock or manage the risk or benefit of share price changes for, or to increase or decrease the voting power of, that shareholder or any Shareholder Associated Persons with respect to the corporation's stock; (vi) a description of all contracts, arrangements, understandings or relationships between that shareholder and any Shareholder Associated Persons or between that shareholder or any Shareholder Associated Persons and any other person or persons that relate to the proposal of that business by that shareholder; and (vii) all other information which would be required to be included in a proxy statement.

### 3. BOARD OF DIRECTORS

**Section 3.01. Authority.** The property and business of the Corporation shall be managed by its Board of Directors. In addition to the powers and authority expressly conferred by these Bylaws, the Board of Directors may exercise all powers of the Corporation and do all such lawful acts and things as are not by the DGCL, by the Certificate of Incorporation, or by these Bylaws directed or required to be exercised or done by the shareholders.

**Section 3.02. Number and Term.** The Board of Directors shall consist of a set number of members to be fixed by a resolution of the Board of Directors from time to time. Except as provided in the Certificate of Incorporation, each Director (whether elected at an annual meeting of shareholders or otherwise) shall hold office until the annual meeting of shareholders held next after this election, and until a successor shall be elected and qualified, or until his earlier death, resignation, incapacity to serve, or removal. Directors need not be shareholders.

**Section 3.03. Vacancies.** A vacancy on the Board of Directors shall exist upon the death, resignation, removal, or incapacity to serve of any Director; upon the increase in the number of authorized Directors; and upon the failure of the shareholders to elect the full number of Directors authorized. During a vacancy or vacancies, the remaining Directors shall continue to act. Except as required by the Certificate of Incorporation, vacancies may be filled by the Directors, at any meeting held during the existence of such vacancy. Any Director appointed by the Board of Directors to fill a vacancy, shall serve as a Director until the next annual meeting of the shareholders.

**Section 3.04. Place of Meetings.** The Board of Directors may hold its meetings at any place or places within or without the State of Delaware or by remote communication.

**Section 3.05. Compensation of Directors.** Directors may be allowed such compensation for attendance at regular or special meetings of the Board of Directors and of any special or standing committees of the Board of Directors as may from time to time be determined by the Board of Directors.

**Section 3.06. Qualifications.** No person shall qualify for service as a Director if he or she is a party to any compensatory, payment or other financial agreement, arrangement or understanding with any person or entity other than the Corporation, or has received any such compensation or other payment from any person or entity other than the Corporation, in each case in connection with candidacy or service as a director of the Corporation. Agreements providing only for indemnification and/or reimbursement of out-of-pocket expenses in connection with candidacy as a director (but not, for the avoidance of doubt, in connection with service as a director) and any pre-existing employment agreement a candidate has with his or her employer (not entered into in contemplation of the employer's investment in the Corporation or such employee's candidacy as a director), shall not be disqualifying under this bylaw.

**Section 3.07. Resignation.** Any Director may resign by giving written notice to the Board of Directors. The resignation shall be effective on receipt, unless the notice specifies a later time for the effective date. If the resignation is effective at a future time, a successor may be elected before that time to take office when the resignation becomes effective.

**Section 3.08. Removal.** Except as stated in the Certificate of Incorporation, the Shareholders may declare the position of a Director vacant, and may remove such Director for cause if the Director has been declared of unsound mind by a final order of court; the Director has been convicted of a felony; the Director has failed to attend at least 75% of the meetings of the Board during a twelve month period or the Director has been presented with one or more written charges, has been given at least ten days' notice of a hearing at which he may have legal counsel present, and has been given opportunity for such a hearing at a meeting of the Shareholders. Except as stated in the Certificate of Incorporation, the Shareholders may also declare the position of a Director vacant, and may remove such Director without cause, by a majority vote cast at a meeting at which a quorum is present.

**Section 3.09. Notice of Meetings.** Regular meetings of the Board of Directors may be held at such time and place within or without the State of Delaware as shall from time to time be determined by the Board of Directors by resolution, and that resolution, without more, will constitute notice

**Section 3.10. Special Meetings.** Special meetings of the Board of Directors may be called by the Chairman of the Board or the Chief Executive Officer on not less than one day's notice by mail, electronic transmission or personal delivery to each Director and shall be called by the Chairman of the Board, the Chief Executive Officer, or the Secretary in like manner and on like notice on the written request of any four or more Directors.

**Section 3.11. Notice - Purpose of Meeting.** No notice of any special meeting of the Board of Directors need state the purposes for the meeting, and notice is sufficient if it states the time and place or manner of participating in the meeting and the person or persons calling such meeting.

**Section 3.12. Quorum.** At all meetings of the Board of Directors, the presence of a majority of the Directors then serving shall be necessary and sufficient to constitute a quorum for the transaction of business. The act of a majority of the Directors present at any meeting at which there is a quorum shall be the act of the Board of Directors, except as may be otherwise specifically required by the DGCL, by the Certificate of Incorporation or by these Bylaws. In the absence of a quorum, a majority of the Directors present at any meeting may adjourn the meeting from time to time until a quorum is present. Notice of my adjourned meeting need only be given by announcement at the meeting at which the adjournment is taken.

**Section 3.13. Telephonic Participation.** Directors may participate in meetings of the Board of Directors through use of conference telephone or other remote communications equipment, so long as all Directors participating in the meeting can hear and speak to each other. Such participation is equivalent to personal presence at the meeting.

**Section 3.14. Action by Written Consent.** Any action required or permitted to be taken at any meeting of the Board of Directors or of any committee thereof may be taken without a meeting if a written consent is signed by all members of the Board or of such committee, as the case may be, and the written consent is filed with the minutes of the proceedings of the Board or committee.

#### 4. COMMITTEES OF THE BOARD

**Section 4.01. Executive Committee.** The Board of Directors may, by resolution adopted by a majority of the entire Board, designate an Executive Committee of three or more Directors. Each member of the Executive Committee shall hold office until the first meeting of the Board of Directors after the annual meeting of the shareholders next following his election and until his successor member of the Executive Committee is elected, or until his death, resignation, removal, or until he shall cease to be a Director.

**Section 4.02. Executive Committee-Powers.** During the intervals between the meetings of the Board of Directors, the Executive Committee may exercise all the powers of the Board of Directors in the management of the business affairs of the Corporation, including all powers specifically granted to the Board of Directors by these Bylaws or by the Certificate of Incorporation, and may authorize the seal of the Corporation to be affixed to all papers which may require it; provided, however, that the Executive Committee shall not have the power to amend or repeal any resolution of the Board of Directors that by its terms does not provide for amendment or repeal by the Executive Committee, and the Executive Committee shall not have the authority of the Board of Directors in reference to (i) approving or adopting, or recommending to the stockholders, any action or matter (other than the election or removal of directors) expressly required by the DGCL to be submitted to stockholders for approval or (ii) adopting, amending or repealing any of these Bylaws.

**Section 4.03. Executive Committee-Meetings.** The Executive Committee shall meet from time to time on call of the Chairman of the Board, the Chief Executive Officer, or of any two or more members of the Executive Committee. Meetings of the Executive Committee may be held at such place or places, within or without the State of Delaware, as the Executive Committee shall determine or as may be specified or fixed in the respective notices of such meetings. The executive Committee may fix its own rules of procedure, including provision for notice of its meetings, shall keep a record of its proceedings, and shall report these proceedings to the Board of Directors at the meeting thereof held next after such meeting of the Executive Committee. All such proceedings shall be subject to revision or alteration by the Board of Directors except to the extent that action shall have been taken pursuant to or in reliance upon such proceedings prior to any such revision or alteration. The Executive Committee shall act by majority vote of its members.

**Section 4.04. Executive Committee-Alternate Members.** The Board of Directors, by resolution adopted in accordance with Section 4.01, may designate one or more Directors as alternate members of the Executive Committee, who may act in the place and stead of any absent member or members at any meeting of such committee.

**Section 4.05. Other Committees.** The Board of Directors, by resolution adopted by a majority of the entire Board, may designate one or more additional committees, each committee to consist of one or more of the Directors of the Corporation, which shall have such name or names and shall have and may exercise such powers of the Board of Directors in the management of the business and affairs of the Corporation, except the powers denied to the Executive Committee, as may be determined from time to time by the Board of Directors.

**Section 4.06. Removal of Committee Members.** The Board of Directors shall have power at any time to remove any or all of the members of any committee, with or without cause, and to fill vacancies in and to dissolve any committee.

#### 5. OFFICERS

**Section 5.01. Election of Officers.** The Board of Directors, at its first meeting after each annual meeting of shareholders, shall elect a Chief Executive Officer and may elect such other Officers as it shall deem necessary who shall hold their offices for such terms as shall be determined by the Board of Directors, and shall exercise such powers and perform such duties as shall be determined from time to time by the Board of Directors or the Chairman of the Board.

**Section 5.02. Compensation.** The salaries of the Officers of the Corporation shall be fixed by the Board of Directors, except that the Board of Directors may delegate to any Officer or Officers the power to fix the compensation of any Officer.

**Section 5.03. Term. Removal. Resignation.** Each Officer of the Corporation shall hold office until his successor is chosen or until his earlier resignation, death, removal, or termination of his office. Any Officer may be removed with or without cause by a majority vote of the Board of Directors whenever in its judgment the best interests of the Corporation will be served thereby. Any Officer may resign by giving written notice to the Board of Directors. The resignation shall be effective upon receipt, or at such time as may be specified in such notice.

**Section 5.04. Chairman of the Board.** The Chairman of the Board shall be the Chief Executive Officer of the Corporation and shall have general and active management of the business of the Corporation and shall see that all orders and resolutions of the Board of Directors are carried into effect. He shall be ex officio a member of all standing committees, unless otherwise provided in the resolution appointing the same. The Chairman of the Board shall determine the meeting agenda, call meetings of the shareholders, the Board of Directors, and the Executive Committee to order and shall act as chairman of such meetings.



**Section 5.05. Chief Executive Officer.** When no Chairman of the Board has been elected, or if a Chairman has been elected and not declared to be the Chief Executive Officer, or in the event of the death or disability of the Chairman of the Board or at his request, the Chief Executive Officer (if such an officer is appointed) shall have all of the powers and perform the duties of the Chairman of the Board. The Chief Executive Officer shall also have such powers and perform such duties as are specifically imposed upon him by law and as may be assigned to him by the Board of Directors or the Chairman of the Board. In the absence of a Chairman of the Board serving as Chief Executive Officer, the Chief Executive Officer shall determine the meeting agenda, call meetings of the shareholders, the Board of Directors, and the Executive Committee to order and shall act as chairman of such meetings. If no other Officers are elected, the Chief Executive Officer shall also have all of the powers and perform the duties of Secretary and Treasurer.

**Section 5.06. Secretary.** The Secretary shall attend all meetings of the Board of Directors, all meetings of the shareholders, and record all votes and the minutes of all proceedings in books to be kept for that purpose, and shall perform like duties for the standing committees when required. He shall give, or cause to be given, any notice required to be given of any meetings of the shareholders and of the Board of Directors. The Assistant Secretary or Assistant Secretaries shall, in the absence or disability of the Secretary, or at the Secretary's request, perform the duties and exercise the powers and authority granted to the Secretary.

**Section 5.07. Treasurer.** The Treasurer shall have charge and be responsible for all funds, securities, receipts, and disbursements of the Corporation; he shall render to the Chairman of the Board, the Chief Executive Officer, and to the Board of Directors, whenever requested, an account of the financial condition of the Corporation, and in general, he shall perform all the duties incident to the office of a treasurer of a Corporation, and such other duties as may be assigned to him by the Chairman of the Board, or the Chief Executive Officer.

**Section 5.08. Duties.** Except as otherwise provided in this Article 5, the corporate officers of the Corporation elected to office by the Board of Directors shall have such powers and perform such duties incident to each of their respective offices and such other duties as may from time to time be conferred upon or assigned to them by the Board of Directors.

## 6. CAPITAL STOCK

**Section 6.01. Share Certificates.** Unless the Certificate of Incorporation otherwise provides, or unless the Board of Directors provides by resolution or resolutions that some or all of the shares of any class or classes, or series thereof, of the Corporation's capital stock shall be certificated, the Corporation shall not issue certificates to evidence shares of stock in the Corporation. If under the preceding sentence shares of any class or classes of the Corporation's capital stock are to be certificated, the interest of each shareholder shall be evidenced by a certificate or certificates representing shares of stock of the Corporation in such form as the Board of Directors may from time to time adopt. The certificates shall be consecutively numbered, and the issuance of shares shall be duly recorded in the books of the Corporation as they are issued. Each certificate shall indicate the holder's name, the number of shares, the class of shares and series, if any, represented thereby, a statement that the Corporation is organized under the laws of the State of Delaware, and the par value of each share or a statement that the shares are without par value. Each certificate shall be signed by (i) the Chairman of the Board, the Chief Executive Officer, or the President (if any) and (ii) the Treasurer, Assistant Treasurer, Secretary or Assistant Secretary, if such officer or officers have been elected or appointed by the Corporation, and shall be sealed with the seal of the Corporation; *except* that if such certificate is signed by a transfer agent, or by a transfer clerk acting on behalf of the Corporation, and a registrar, the signature of any Officer of the Corporation, whether because of death, resignation, or otherwise, prior to the delivery of such share certificate by the Corporation, such certificate may nevertheless be delivered as though the person who signed whose facsimile signatures shall have been used thereon had not ceased to be such Officer or Officers.

**Section 6.02. Fractional Shares.** The Corporation may, but shall not be required to, issue fractional shares of its capital stock if necessary or appropriate to effect authorized transactions. If the Corporation does not issue fractional shares, it shall (i) arrange for the disposition of fractional interests on behalf of those that otherwise would be entitled thereto, (ii) pay in cash the fair value of fractions of a share as of the time when those who otherwise would be entitled to receive such fractions are determined, or (iii) issue scrip or warrants in registered form (either represented by a certificate or uncertificated) or in bearer form (represented by a certificate), which scrip or warrants shall entitle the holder to receive a full share upon surrender of such scrip or warrants aggregating a full share. Fractional shares shall, but scrip or warrants for fractional shares shall not (unless otherwise expressly provided therein), entitle the holder to exercise voting rights, to receive dividends thereon, to participate in the distribution of any assets in the event of liquidation, and otherwise to exercise rights as a holder of capital stock of the class or series to which such fractional shares belong.

**Section 6.03. Shareholder Records.** The names and addresses of the holders of record of the shares of each class and series of the Corporation's capital stock, together with the number of shares of each class and series held by each record holder, shall be entered on the books of the Corporation. Except as otherwise required by the DGCL or other applicable law, the Corporation shall be entitled to recognize the exclusive right of a person registered on its books as the owner of shares of capital stock of the Corporation as the person entitled to exercise the rights of a stockholder, including, without limitation, the right to receive any dividends or any other distributions and to vote in person or by proxy at any meeting of the stockholders of the Corporation. The Corporation shall not be bound to recognize any equitable or other claim to or interest in any such shares on the part of any other person, whether or not it shall have express or other notice thereof, except as otherwise expressly required by the DGCL or other applicable law.

**Section 6.04. Determination of Shareholders.**

(a) For the purpose of determining shareholders entitled to notice of or to vote at any meetings of shareholders or any adjournment thereof, or entitled to receive payment of any dividend, or in order to make a determination of shareholders for any other proper purpose, the Board of Directors may provide that stock transfer books shall be closed for a stated period not to exceed sixty days. If the stock transfer books shall be closed for the purpose of determining shareholders entitled to notice or to vote at a meeting of shareholders, such books shall be closed for at least ten days immediately preceding such meeting.

(b) In lieu of closing stock transfer books, the Board of Directors may fix in advance a date as the record date for any such determination of shareholders, such date to be not more than sixty days and, in case of a meeting of shareholders, not less than ten days, prior to the date on which the particular action requiring such determination of shareholders is to be taken.

**Section 6.06. Transfer Agent.** The Board of Directors may appoint one or more transfer agents and one or more registrars and may require each stock certificate to bear the signature or signatures of a transfer agent or a registrar or both.

**Section 6.07. Replacement Certificates.** Any person claiming a certificate of stock to be lost, stolen, or destroyed shall make an affidavit or affirmation of the fact in such manner as the Board of Directors may require and shall, if the Directors so require, give the Corporation a bond of indemnity. Such bond shall be in form and amount satisfactory to the Board of Directors, and shall be with one or more sureties, whereupon an appropriate new certificate may be issued in lieu of the one alleged to have been lost, stolen or destroyed.

## 7. MISCELLANEOUS

**Section 7.01. Inspection of Books.** The Board of Directors shall have power to determine which accounts and books of the Corporation, if any, shall be open to the inspection of the shareholders, except with respect to such accounts, books, and records as may by law be specifically open to inspection by the shareholders, and shall have power to fix reasonable rules and regulations not in conflict with the applicable law, if any, for the inspection of records, accounts, and books which by law or by determination of the Board of Directors shall be open to inspection, and the shareholders' rights to this respect are and shall be restricted and limited accordingly.

**Section 7.02. Fiscal Year.** The fiscal year of the Corporation shall be fixed from time to time by resolution of the Board of Directors.

**Section 7.03. Seal.** If required, the signature of the Corporation followed by the word "SEAL" or "CORPORATE SEAL" enclosed in parenthesis or scroll, shall be deemed to be the seal of the Corporation.

**Section 7.04. Appointment of Agents.** The Chairman of the Board, the Chief Executive Officer, or the Secretary shall be authorized and empowered in the name of and as the act and deed of the Corporation to name and appoint general and special agents, representatives, and attorneys to represent the Corporation in the United States or in any foreign country or countries; to name and appoint attorneys and proxies to vote any shares of stock in any other Corporation at any time owned or held of record by the Corporation; to prescribe, limit, and define the powers and duties of such agents, representatives, attorneys, and proxies; and to make substitution, revocation, or cancellation in whole or in part of any power or authority conferred on any such agent, representative, attorney, or proxy. All powers of attorney or other instruments under which such agents, representatives, attorneys, or proxies shall be so named and appointed shall be signed and executed by the Chairman of the Board, the Chief Executive Officer, or the Secretary, and the corporate seal shall be affixed thereto. Any substitution, revocation, or cancellation shall be signed in like manner, provided always that any agent, representative, attorney, or proxy, when so authorized by the instrument appointing him, may substitute or delegate his powers in whole or in part and revoke and cancel such substitutions or delegations. No special authorization by the Board of Directors shall be necessary in connection with the foregoing, but this Bylaw shall be deemed to constitute full and complete authority to the Officers above designated to do all the acts and things as they deem necessary or incidental thereto or in connection therewith.

## 8. AMENDMENTS

**Section 8.01. Amendment.** The Bylaws of the Corporation may be altered or amended and new Bylaws may be adopted by the shareholders at any annual or special meeting of the shareholders or by the Board of Directors at any regular or special meeting of the Board of Directors; *except* that, if such action is to be taken at a meeting of the shareholders, notice of the general nature of the proposed change in the Bylaws shall have been given in the notice of the meeting.

**ARTICLES OF AMENDMENT  
OF  
APPLIED NANOTECH HOLDINGS, INC.**

Pursuant to the provisions of Article 4.04 of the Texas Business Corporation Act (the "Act"), Applied Nanotech Holdings, Inc. (the "Corporation"), a corporation organized and existing under the laws of the State of Texas, adopts the following Articles of Amendment to its Amended and Restated Articles of Incorporation.

1. The authorized capital stock of the Company shall be increased to 502 million shares and the authorized common stock of the Company shall be increased to 500 million shares.

2. The Amended and Restated Articles of Incorporation of the Corporation shall be amended by deleting the first sentence of Article Four and replacing it in its entirety as follows:

"Article Four

The Corporation is hereby authorized to issue a total of 502,000,000 shares of capital stock which shall be subdivided into classes as follows – 500 million shares of common stock and 2 million shares of preferred stock."

3. The Amended and Restated Articles of Incorporation of the Corporation shall also be amended by deleting the first sentence under Article Four under the heading Division A - Common Stock and replacing it in its entirety as follows:

**"Division A – Common Stock**

Five Hundred Two Million (502,000,000) shares of the Corporation's capital stock shall be denominated as Common Stock, have a par value of \$0.001 per share, and have the rights, powers and preferences set forth in this paragraph."

4. This amendment was approved by the shareholders of the Corporation at a duly called and convened annual meeting held on July \_\_, 2014.

5. The number of shares of the Corporation's common stock outstanding and entitled to vote at the time of the adoption of this amendment was \_\_\_\_\_.

6. The number of shares voting to approve this amendment was \_\_\_\_\_, which was sufficient under the Act for the approval of such amendment.

7. The said amendment does not involve any exchange, reclassification, or cancellation of issued shares of the Corporation.

8. The said amendment does not involve a change in the amount of stated capital of the Corporation.

IN WITNESS WHEREOF, the Corporation has caused these Articles of Amendment to be executed in its name and on its behalf by its Chief Executive Officer and attested by its Corporate Secretary on this \_\_\_ day of \_\_\_\_\_, 2014, hereby declaring and certifying that this is the act and deed of the Corporation and that the statements contained herein are affirmed as true under penalties of perjury.

Applied Nanotech Holdings, Inc.

By: \_\_\_\_\_

**TEXAS BUSINESS ORGANIZATIONS CODE**  
**Chapter 10, Subchapter H**

**§10.352. Definitions**

In this subchapter:

- (1) "Dissenting owner" means an owner of an ownership interest in a domestic entity subject to dissenters' rights who:
  - (A) provides notice under Section 10.356; and
  - (B) complies with the requirements for perfecting that owner's right to dissent under this subchapter.
- (2) "Responsible organization" means:
  - (A) the organization responsible for:
    - (i) the provision of notices under this subchapter; and
    - (ii) the primary obligation of paying the fair value for an ownership interest held by a dissenting owner;
  - (B) with respect to a merger or conversion:
    - (i) for matters occurring before the merger or conversion, the organization that is merging or converting; and
    - (ii) for matters occurring after the merger or conversion, the surviving or new organization that is primarily obligated for the payment of the fair value of the dissenting owner's ownership interest in the merger or conversion;
  - (C) with respect to an interest exchange, the organization the ownership interests of which are being acquired in the interest exchange; and
  - (D) with respect to the sale of all or substantially all of the assets of an organization, the organization the assets of which are to be transferred by sale or in another manner.

**§ 10.353. Form And Validity Of Notice**

- (a) Notice required under this subchapter:
  - (1) must be in writing; and
  - (2) may be mailed, hand-delivered, or delivered by courier or electronic transmission.
- (b) Failure to provide notice as required by this subchapter does not invalidate any action taken.

**§ 10.354. Rights Of Dissent And Appraisal**

- (a) Subject to Subsection (b), an owner of an ownership interest in a domestic entity subject to dissenters' rights is entitled to:
  - (1) dissent from:
    - (A) a plan of merger to which the domestic entity is a party if owner approval is required by this code and the owner owns in the domestic entity an ownership interest that was entitled to vote on the plan of merger;
    - (B) a sale of all or substantially all of the assets of the domestic entity if owner approval is required by this code and the owner owns in the domestic entity an ownership interest that was entitled to vote on the sale;
    - (C) a plan of exchange in which the ownership interest of the owner is to be acquired;

- (D) a plan of conversion in which the domestic entity is the converting entity if owner approval is required by this code and the owner owns in the domestic entity an ownership interest that was entitled to vote on the plan of conversion; or
  - (E) a merger effected under Section 10.006 in which:
    - (i) the owner is entitled to vote on the merger; or
    - (ii) the ownership interest of the owner is converted or exchanged; and
  - (2) subject to compliance with the procedures set forth in this subchapter, obtain the fair value of that ownership interest through an appraisal.
- (b) Notwithstanding Subsection (a), subject to Subsection (c), an owner may not dissent from a plan of merger or conversion in which there is a single surviving or new domestic entity or non-code organization, or from a plan of exchange, if:
- (1) the ownership interest, or a depository receipt in respect of the ownership interest, held by the owner is part of a class or series of ownership interests, or depository receipts in respect of ownership interests, that are, on the record date set for purposes of determining which owners are entitled to vote on the plan of merger, conversion, or exchange, as appropriate:
    - (A) listed on a national securities exchange; or
    - (B) held of record by at least 2,000 owners;
  - (2) the owner is not required by the terms of the plan of merger, conversion, or exchange, as appropriate, to accept for the owner's ownership interest any consideration that is different from the consideration to be provided to any other holder of an ownership interest of the same class or series as the ownership interest held by the owner, other than cash instead of fractional shares or interests the owner would otherwise be entitled to receive; and
  - (3) the owner is not required by the terms of the plan of merger, conversion, or exchange, as appropriate, to accept for the owner's ownership interest any consideration other than:
    - (A) ownership interests, or depository receipts in respect of ownership interests, of a domestic entity or non-code organization of the same general organizational type that, immediately after the effective date of the merger, conversion, or exchange, as appropriate, will be part of a class or series of ownership interests, or depository receipts in respect of ownership interests, that are:
      - (i) listed on a national securities exchange or authorized for listing on the exchange on official notice of issuance; or
      - (ii) held of record by at least 2,000 owners;
    - (B) cash instead of fractional ownership interests the owner would otherwise be entitled to receive; or
    - (C) any combination of the ownership interests and cash described by Paragraphs (A) and (B).
- (c) Subsection (b) shall not apply to a domestic entity that is a subsidiary with respect to a merger under Section 10.006.

#### **§ 10.355. Notice Of Right Of Dissent And Appraisal**

- (a) A domestic entity subject to dissenters' rights that takes or proposes to take an action regarding which an owner has a right to dissent and obtain an appraisal under Section 10.354 shall notify each affected owner of the owner's rights under that section if:
  - (1) the action or proposed action is submitted to a vote of the owners at a meeting; or

- (2) approval of the action or proposed action is obtained by written consent of the owners instead of being submitted to a vote of the owners.
- (b) If a parent organization effects a merger under Section 10.006 and a subsidiary organization that is a party to the merger is a domestic entity subject to dissenters' rights, the responsible organization shall notify the owners of that subsidiary organization who have a right to dissent to the merger under Section 10.354 of their rights under this subchapter not later than the 10th day after the effective date of the merger. The notice must also include a copy of the certificate of merger and a statement that the merger has become effective.
- (c) A notice required to be provided under Subsection (a) or (b) must:
  - (1) be accompanied by a copy of this subchapter; and
  - (2) advise the owner of the location of the responsible organization's principal executive offices to which a notice required under Section 10.356(b)(1) or (3) may be provided.
- (d) In addition to the requirements prescribed by Subsection (c), a notice required to be provided under Subsection (a)(1) must accompany the notice of the meeting to consider the action, and a notice required under Subsection (a)(2) must be provided to:
  - (1) each owner who consents in writing to the action before the owner delivers the written consent; and
  - (2) each owner who is entitled to vote on the action and does not consent in writing to the action before the 11th day after the date the action takes effect.
- (e) Not later than the 10th day after the date an action described by Subsection (a)(1) takes effect, the responsible organization shall give notice that the action has been effected to each owner who voted against the action and sent notice under Section 10.356(b)(1).

**§ 10.356. Procedure For Dissent By Owners As To Actions; Perfection Of Right Of Dissent And Appraisal**

- (a) An owner of an ownership interest of a domestic entity subject to dissenters' rights who has the right to dissent and appraisal from any of the actions referred to in Section 10.354 may exercise that right to dissent and appraisal only by complying with the procedures specified in this subchapter. An owner's right of dissent and appraisal under Section 10.354 may be exercised by an owner only with respect to an ownership interest that is not voted in favor of the action.
- (b) To perfect the owner's rights of dissent and appraisal under Section 10.354, an owner:
  - (1) if the proposed action is to be submitted to a vote of the owners at a meeting, must give to the domestic entity a written notice of objection to the action that:
    - (A) is addressed to the entity's president and secretary;
    - (B) states that the owner's right to dissent will be exercised if the action takes effect;
    - (C) provides an address to which notice of effectiveness of the action should be delivered or mailed; and
    - (D) is delivered to the entity's principal executive offices before the meeting;
  - (2) with respect to the ownership interest for which the rights of dissent and appraisal are sought:
    - (A) must vote against the action if the owner is entitled to vote on the action and the action is approved at a meeting of the owners; and
    - (B) may not consent to the action if the action is approved by written consent; and

- (3) must give to the responsible organization a demand in writing that:
- (A) is addressed to the president and secretary of the responsible organization;
  - (B) demands payment of the fair value of the ownership interests for which the rights of dissent and appraisal are sought;
  - (C) provides to the responsible organization an address to which a notice relating to the dissent and appraisal procedures under this subchapter may be sent;
  - (D) states the number and class of the ownership interests of the domestic entity owned by the owner and the fair value of the ownership interests as estimated by the owner; and
  - (E) is delivered to the responsible organization at its principal executive offices at the following time:
    - (i) not later than the 20th day after the date the responsible organization sends to the owner the notice required by Section 10.355(e) that the action has taken effect, if the action was approved by a vote of the owners at a meeting;
    - (ii) not later than the 20th day after the date the responsible organization sends to the owner the notice required by Section 10.355(d)(2) that the action has taken effect, if the action was approved by the written consent of the owners; or
    - (iii) not later than the 20th day after the date the responsible organization sends to the owner a notice that the merger was effected, if the action is a merger effected under Section 10.006.
- (c) An owner who does not make a demand within the period required by Subsection (b)(3)(E) or, if Subsection (b)(1) is applicable, does not give the notice of objection before the meeting of the owners is bound by the action and is not entitled to exercise the rights of dissent and appraisal under Section 10.354.
- (d) Not later than the 20th day after the date an owner makes a demand under Subsection (b)(3), the owner must submit to the responsible organization any certificates representing the ownership interest to which the demand relates for purposes of making a notation on the certificates that a demand for the payment of the fair value of an ownership interest has been made under this section. An owner's failure to submit the certificates within the required period has the effect of terminating, at the option of the responsible organization, the owner's rights to dissent and appraisal under Section 10.354 unless a court, for good cause shown, directs otherwise.
- (e) If a domestic entity and responsible organization satisfy the requirements of this subchapter relating to the rights of owners of ownership interests in the entity to dissent to an action and seek appraisal of those ownership interests, an owner of an ownership interest who fails to perfect that owner's right of dissent in accordance with this subchapter may not bring suit to recover the value of the ownership interest or money damages relating to the action.

#### **§ 10.357. Withdrawal Of Demand For Fair Value Of Ownership Interest**

- (a) An owner may withdraw a demand for the payment of the fair value of an ownership interest made under Section 10.356 before:
- (1) payment for the ownership interest has been made under Sections 10.358 and 10.361; or
  - (2) a petition has been filed under Section 10.361.
- (b) Unless the responsible organization consents to the withdrawal of the demand, an owner may not withdraw a demand for payment under Subsection (a) after either of the events specified in Subsections (a)(1) and (2).

**§ 10.358. Response By Organization To Notice Of Dissent And Demand For Fair Value By Dissenting Owner**

- (a) Not later than the 20th day after the date a responsible organization receives a demand for payment made by a dissenting owner in accordance with Section 10.356(b)(3), the responsible organization shall respond to the dissenting owner in writing by:
  - (1) accepting the amount claimed in the demand as the fair value of the ownership interests specified in the notice; or
  - (2) rejecting the demand and including in the response the requirements prescribed by Subsection (c).
- (b) If the responsible organization accepts the amount claimed in the demand, the responsible organization shall pay the amount not later than the 90th day after the date the action that is the subject of the demand was effected if the owner delivers to the responsible organization:
  - (1) endorsed certificates representing the ownership interests if the ownership interests are certificated; or
  - (2) signed assignments of the ownership interests if the ownership interests are uncertificated.
- (c) If the responsible organization rejects the amount claimed in the demand, the responsible organization shall provide to the owner:
  - (1) an estimate by the responsible organization of the fair value of the ownership interests; and
  - (2) an offer to pay the amount of the estimate provided under Subdivision (1).
- (d) If the dissenting owner decides to accept the offer made by the responsible organization under Subsection (c)(2), the owner must provide to the responsible organization notice of the acceptance of the offer not later than the 90th day after the date the action that is the subject of the demand took effect.
- (e) If, not later than the 90th day after the date the action that is the subject of the demand took effect, a dissenting owner accepts an offer made by a responsible organization under Subsection (c)(2) or a dissenting owner and a responsible organization reach an agreement on the fair value of the ownership interests, the responsible organization shall pay the agreed amount not later than the 120th day after the date the action that is the subject of the demand took effect, if the dissenting owner delivers to the responsible organization:
  - (1) endorsed certificates representing the ownership interests if the ownership interests are certificated; or
  - (2) signed assignments of the ownership interests if the ownership interests are uncertificated.

**§ 10.359. Record Of Demand For Fair Value Of Ownership Interest**

- (a) A responsible organization shall note in the organization's ownership interest records maintained under Section 3.151 the receipt of a demand for payment from any dissenting owner made under Section 10.356.
- (b) If an ownership interest that is the subject of a demand for payment made under Section 10.356 is transferred, a new certificate representing that ownership interest must contain:
  - (1) a reference to the demand; and
  - (2) the name of the original dissenting owner of the ownership interest.

**§ 10.360. Rights Of Transferee Of Certain Ownership Interest**

A transferee of an ownership interest that is the subject of a demand for payment made under Section 10.356 does not acquire additional rights with respect to the responsible organization following the transfer. The transferee has only the rights the original dissenting owner had with respect to the responsible organization after making the demand.



**§ 10.361. Proceeding To Determine Fair Value Of Ownership Interest And Owners Entitled To Payment; Appointment Of Appraisers**

- (a) If a responsible organization rejects the amount demanded by a dissenting owner under Section 10.358 and the dissenting owner and responsible organization are unable to reach an agreement relating to the fair value of the ownership interests within the period prescribed by Section 10.358(d), the dissenting owner or responsible organization may file a petition requesting a finding and determination of the fair value of the owner's ownership interests in a court in:
- (1) the county in which the organization's principal office is located in this state; or
  - (2) the county in which the organization's registered office is located in this state, if the organization does not have a business office in this state.
- (b) A petition described by Subsection (a) must be filed not later than the 60th day after the expiration of the period required by Section 10.358(d).
- (c) On the filing of a petition by an owner under Subsection (a), service of a copy of the petition shall be made to the responsible organization. Not later than the 10th day after the date a responsible organization receives service under this subsection, the responsible organization shall file with the clerk of the court in which the petition was filed a list containing the names and addresses of each owner of the organization who has demanded payment for ownership interests under Section 10.356 and with whom agreement as to the value of the ownership interests has not been reached with the responsible organization. If the responsible organization files a petition under Subsection (a), the petition must be accompanied by this list.
- (d) The clerk of the court in which a petition is filed under this section shall provide by registered mail notice of the time and place set for the hearing to:
- (1) the responsible organization; and
  - (2) each owner named on the list described by Subsection (c) at the address shown for the owner on the list.
- (e) The court shall:
- (1) determine which owners have:
    - (A) perfected their rights by complying with this subchapter; and
    - (B) become subsequently entitled to receive payment for the fair value of their ownership interests; and
  - (2) appoint one or more qualified appraisers to determine the fair value of the ownership interests of the owners described by Subdivision (1).
- (f) The court shall approve the form of a notice required to be provided under this section. The judgment of the court is final and binding on the responsible organization, any other organization obligated to make payment under this subchapter for an ownership interest, and each owner who is notified as required by this section.
- (g) The beneficial owner of an ownership interest subject to dissenters' rights held in a voting trust or by a nominee on the beneficial owner's behalf may file a petition described by Subsection (a) if no agreement between the dissenting owner of the ownership interest and the responsible organization has been reached within the period prescribed by Section 10.358(d). When the beneficial owner files a petition described by Subsection (a):
- (1) the beneficial owner shall at that time be considered, for purposes of this subchapter, the owner, the dissenting owner, and the holder of the ownership interest subject to the petition; and
  - (2) the dissenting owner who demanded payment under Section 10.356 has no further rights regarding the ownership interest subject to the petition.

**§ 10.362. Computation And Determination Of Fair Value Of Ownership Interest**

- (a) For purposes of this subchapter, the fair value of an ownership interest of a domestic entity subject to dissenters' rights is the value of the ownership interest on the date preceding the date of the action that is the subject of the appraisal. Any appreciation or depreciation in the value of the ownership interest occurring in anticipation of the proposed action or as a result of the action must be specifically excluded from the computation of the fair value of the ownership interest.
- (b) In computing the fair value of an ownership interest under this subchapter, consideration must be given to the value of the domestic entity as a going concern without including in the computation of value any control premium, any minority ownership discount, or any discount for lack of marketability. If the domestic entity has different classes or series of ownership interests, the relative rights and preferences of and limitations placed on the class or series of ownership interests, other than relative voting rights, held by the dissenting owner must be taken into account in the computation of value.
- (c) The determination of the fair value of an ownership interest made for purposes of this subchapter may not be used for purposes of making a determination of the fair value of that ownership interest for another purpose or of the fair value of another ownership interest, including for purposes of determining any minority or liquidity discount that might apply to a sale of an ownership interest.

**§ 10.363. Powers And Duties Of Appraiser; Appraisal Procedures**

- (a) An appraiser appointed under Section 10.361 has the power and authority that:
  - (1) is granted by the court in the order appointing the appraiser; and
  - (2) may be conferred by a court to a master in chancery as provided by Rule 171, Texas Rules of Civil Procedure.
- (b) The appraiser shall:
  - (1) determine the fair value of an ownership interest of an owner adjudged by the court to be entitled to payment for the ownership interest; and
  - (2) file with the court a report of that determination.
- (c) The appraiser is entitled to examine the books and records of a responsible organization and may conduct investigations as the appraiser considers appropriate. A dissenting owner or responsible organization may submit to an appraiser evidence or other information relevant to the determination of the fair value of the ownership interest required by Subsection (b)(1).
- (d) The clerk of the court appointing the appraiser shall provide notice of the filing of the report under Subsection (b) to each dissenting owner named in the list filed under Section 10.361 and the responsible organization.

**§ 10.364. Objection To Appraisal; Hearing**

- (a) A dissenting owner or responsible organization may object, based on the law or the facts, to all or part of an appraisal report containing the fair value of an ownership interest determined under Section 10.363(b).
- (b) If an objection to a report is raised under Subsection (a), the court shall hold a hearing to determine the fair value of the ownership interest that is the subject of the report. After the hearing, the court shall require the responsible organization to pay to the holders of the ownership interest the amount of the determined value with interest, accruing from the 91st day after the date the applicable action for which the owner elected to dissent was effected until the date of the judgment.
- (c) Interest under Subsection (b) accrues at the same rate as is provided for the accrual of prejudgment interest in civil cases.
- (d) The responsible organization shall:
  - (1) immediately pay the amount of the judgment to a holder of an uncertificated ownership interest; and
  - (2) pay the amount of the judgment to a holder of a certificated ownership interest immediately after the certificate holder surrenders to the responsible organization an endorsed certificate representing the ownership interest.
- (e) On payment of the judgment, the dissenting owner does not have an interest in the:
  - (1) ownership interest for which the payment is made; or
  - (2) responsible organization with respect to that ownership interest.

**§ 10.365. Court Costs; Compensation For Appraiser**

- (a) An appraiser appointed under Section 10.361 is entitled to a reasonable fee payable from court costs.
- (b) All court costs shall be allocated between the responsible organization and the dissenting owners in the manner that the court determines to be fair and equitable.

**§ 10.366. Status Of Ownership Interest Held Or Formerly Held By Dissenting Owner**

- (a) An ownership interest of an organization acquired by a responsible organization under this subchapter:
  - (1) in the case of a merger, conversion, or interest exchange, shall be held or disposed of as provided in the plan of merger, conversion, or interest exchange; and
  - (2) in any other case, may be held or disposed of by the responsible organization in the same manner as other ownership interests acquired by the organization or held in its treasury.
- (b) An owner who has demanded payment for the owner's ownership interest under Section 10.356 is not entitled to vote or exercise any other rights of an owner with respect to the ownership interest except the right to:
  - (1) receive payment for the ownership interest under this subchapter; and
  - (2) bring an appropriate action to obtain relief on the ground that the action to which the demand relates would be or was fraudulent.
- (c) An ownership interest for which payment has been demanded under Section 10.356 may not be considered outstanding for purposes of any subsequent vote or action.

**§ 10.368. Exclusivity Of Remedy Of Dissent And Appraisal**

In the absence of fraud in the transaction, any right of an owner of an ownership interest to dissent from an action and obtain the fair value of the ownership interest under this subchapter is the exclusive remedy for recovery of:

- (1) the value of the ownership interest; or
- (2) money damages to the owner with respect to the action.

**APPLIED NANOTECH HOLDINGS, INC.**  
**PROXY SOLICITED BY THE BOARD OF DIRECTORS OF APPLIED NANOTECH HOLDINGS, INC.**  
**FOR A SPECIAL MEETING OF SHAREHOLDERS TO BE HELD ON JULY \_\_, 2014**

The undersigned shareholder(s) of Applied Nanotech Holdings, Inc., a Texas corporation, hereby acknowledges receipt of the Notice of Special Meeting of Shareholders and Proxy Statement, each dated June \_\_, 2014. The undersigned hereby appoints \_\_\_\_\_ and \_\_\_\_\_, or either of them, each with power of substitution and revocation, as the proxy or proxies of the undersigned to represent the undersigned and vote all shares of the common stock that the undersigned would be entitled to vote if personally present at the Special Meeting of Shareholders of Applied Nanotech Holdings, Inc., to be held at \_\_\_\_\_, Dallas, Texas \_\_\_\_, on Tuesday, July \_\_, 2014 at 10:00 a.m., Central Daylight Time, and at any adjournments thereof, upon the matters set forth and more fully described in the Notice and Proxy Statement for said Special Meeting and upon all other matters that may properly come before said Special Meeting.

PLEASE MARK VOTES AS IN THIS EXAMPLE.

**THE SHARES COVERED BY THIS PROXY WILL BE VOTED IN ACCORDANCE WITH THE CHOICES MADE. WHEN NO CHOICE IS MADE, THIS PROXY WILL BE VOTED "FOR" PROPOSALS 1, 2, 3 AND 4, AND ON SUCH OTHER MATTERS AS MAY PROPERLY COME BEFORE THE SPECIAL MEETING AS RECOMMENDED BY THE BOARD OF DIRECTORS, OR IF NO RECOMMENDATION IS GIVEN, IN THE PROXIES OWN DISCRETION.**

**THE BOARD OF DIRECTORS RECOMMENDS A VOTE "FOR" PROPOSALS 1, 2, 3 AND 4.**

	FOR	AGAINST	ABSTAIN
1. AGREEMENT AND PLAN OF MERGER AND SHARE EXCHANGE: To approve the Agreement and Plan of Merger and Share Exchange, as amended, and the business combination contemplated thereby;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. INCREASE IN AUTHORIZED SHARES: To approve a proposal to amend the Company's Articles of Incorporation to increase its authorized shares of capital stock from 162 million to [ ] million and its authorized shares of common stock from 160 million to [ ] million.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. CERTAIN COMPENSATION AGREEMENTS: To approve, on an advisory, non-binding basis, certain compensation arrangements with our current Chief Operating Officer that will become effective at the closing of the combination contemplated by Proposal 1.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. TO ADJOURN IF NECESSARY TO SOLICIT VOTES IN FAVOR OF PROPOSAL 1: To adjourn the meeting to solicit additional proxies if at the time of the meeting the proxies are not sufficient to approve Proposal 1.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MARK HERE IF YOU PLAN TO ATTEND THE SPECIAL MEETING	<input type="checkbox"/>		
MARK HERE FOR ADDRESS CHANGE AND NOTE AT RIGHT	<input type="checkbox"/>		

Each shareholder giving a proxy has the power to revoke it at any time before the shares it represents are voted. Revocation of a proxy is effective upon receipt by our Corporate Secretary, at or prior to the Special Meeting, of either (i) an instrument revoking the proxy or (ii) a duly executed proxy bearing a later date. Additionally, a shareholder may change or revoke a previously executed proxy by attending the Special Meeting and requesting to vote in person. Attendance at the Special Meeting will not by itself revoke a previously granted proxy.

CONTINUED ON REVERSE SIDE

**PLEASE MARK, SIGN, DATE, AND RETURN THE PROXY CARD PROMPTLY USING THE ENCLOSED ENVELOPE.**

Dated: \_\_\_\_\_

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Signature, if held jointly

Important: Please sign exactly as name appears on this proxy.  
When signing as Attorney, executor, trustee, guardian, corporate officer, etc., please indicate full title. Both joint tenants must sign.