

LUNA INNOVATIONS INC

Form S-4/A

February 17, 2015

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As filed with the Securities and Exchange Commission on February 17, 2015

Registration No. 333-201956

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

Amendment No. 1

To

Form S-4

REGISTRATION STATEMENT

UNDER

THE SECURITIES ACT OF 1933

LUNA INNOVATIONS INCORPORATED

(Exact name of registrant as specified in its charter)

Delaware (State or other jurisdiction of	8731 (Primary Standard Industrial	54-1560050 (I.R.S. Employer
incorporation or organization)	Classification Code Number) One Riverside Circle, Suite 400	Identification No.)

Roanoke, Virginia 24016

Telephone: (540) 769-8400

(Address, Including Zip Code, and Telephone Number, Including Area Code, of Registrant's Principal Executive Offices)

Talfourd H. Kemper, Jr.

General Counsel

One Riverside Circle, Suite 400

Roanoke, Virginia 24016

Telephone: (540) 769-8400

(Name, Address, Including Zip Code, and Telephone Number, Including Area Code, of Agent for Service)

Copies to:

Darren K. DeStefano

Cooley LLP

One Freedom Square, Reston Town Center

11951 Freedom Drive

Reston, VA 20190

Telephone: (703) 456-8034

Facsimile: (703) 456-8100

Landey Strongin

Tarter Krinsky & Drogin LLP

1350 Broadway

New York, NY 10018

Telephone: (212) 216-8000

Facsimile: (212) 216-8001

Approximate date of commencement of proposed sale to the public: As soon as practicable after the effective date of this Registration Statement and the satisfaction or waiver of all other conditions to the Merger described in the joint proxy statement/prospectus.

If the securities being registered on this Form are to be offered in connection with the formation of a holding company and there is compliance with General Instruction G, check the following box.

If this form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

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

Large accelerated filer <input type="checkbox"/>	Accelerated filer <input type="checkbox"/>
Non-accelerated filer <input type="checkbox"/> (Do not check if a smaller reporting company)	Smaller reporting company <input checked="" type="checkbox"/>

If applicable, place an X in the box to designate the appropriate rule provision relied upon in conducting this transaction:

Exchange Act Rule 13e-4(i) (Cross-Border Issue Tender Offer)

Exchange Act Rule 14d-1(d) (Cross-Border Third-Party Tender Offer)

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until the Registration Statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

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Information contained herein is subject to completion or amendment. A registration statement relating to the Luna Innovations common shares to be issued in the Merger has been filed with the Securities and Exchange Commission. These securities may not be sold nor may offers to buy be accepted prior to the time the registration statement becomes effective. This joint proxy statement/prospectus shall not constitute an offer to sell or the solicitation of an offer to buy nor shall there be any sale of these securities in any jurisdiction in which such offer, solicitation or sale is not permitted or would be unlawful prior to registration or qualification under the securities laws of any such jurisdiction.

SUBJECT TO COMPLETION, DATED FEBRUARY 17, 2015

PROXY STATEMENT FOR SPECIAL MEETING OF THE STOCKHOLDERS OF EACH OF LUNA INNOVATIONS INCORPORATED AND ADVANCED PHOTONIX, INC. PROSPECTUS FOR UP TO 12,961,602 SHARES OF COMMON STOCK OF LUNA INNOVATIONS INCORPORATED

PROPOSED MERGER

To the stockholders of each of Luna Innovations Incorporated and Advanced Photonix, Inc.:

The boards of directors of each of Luna Innovations Incorporated (Luna) and Advanced Photonix, Inc. (API) have approved a merger transaction (Merger) in which the businesses of Luna and API will be combined under the terms of a merger agreement (Merger Agreement). Luna and API are sending the accompanying joint proxy statement/prospectus to you to ask you to vote in favor of the adoption of the Merger Agreement and approval of the transactions contemplated thereby.

Luna is holding a special meeting of its stockholders in order to obtain the stockholder approval necessary to complete the Merger with API and certain related matters. At the Luna special meeting, which will be held at 9:00 a.m., local time, on March 31, 2015, at the Roanoke Higher Education Center, 108 N. Jefferson St., Roanoke, Virginia, 24016, unless postponed or adjourned to a later date, Luna will ask its stockholders to approve, among other items, the issuance of shares of Luna common stock to the securityholders of API in connection with the Merger, as described in the accompanying joint proxy statement/prospectus.

Luna's board of directors has approved the Merger, the Merger Agreement and the related issuance of shares of Luna common stock, par value \$0.001, and has determined that the Merger, the Merger Agreement and such issuance of shares is in the best interests of Luna and its stockholders. **Accordingly, Luna's board of directors unanimously recommends that the Luna stockholders vote FOR each of the proposals submitted to the Luna stockholders at the Luna special meeting, including, without limitation, the issuance of shares of Luna common stock to the securityholders of API in connection with the Merger.**

Luna directors and executive officers, and their affiliates, who in the aggregate own approximately 6.6% of the outstanding shares of Luna common stock, have entered into Voting Agreements whereby they have agreed to vote in favor of the issuance of Luna common stock to be issued under the terms of the Merger Agreement.

API is holding a special meeting of its stockholders in order to obtain the stockholder approval necessary to complete the Merger with Luna. At the API special meeting, which will be held at 9:00 a.m., local time, on March 31, 2015, at API's corporate headquarters located at 2925 Boardwalk Drive, Ann Arbor, Michigan 48104, unless postponed or adjourned to a later date, API will ask its stockholders to approve, among other items, the Merger and adoption of the Merger Agreement, as described in the accompanying joint proxy statement/prospectus.

API's board of directors has approved the Merger and the Merger Agreement and has determined that the Merger and the Merger Agreement are advisable and in the best interests of API and its stockholders. **Accordingly, API's board of directors unanimously recommends that the API stockholders vote FOR each of the proposals submitted to the API stockholders at the API special meeting, including, without limitation, adoption of the Merger Agreement and approval of the transactions contemplated thereby.**

Certain API directors and executive officers, and their affiliates, who in the aggregate own approximately 10.8% of the outstanding shares of API common stock, have entered into Voting Agreements whereby they have agreed to vote in favor of the adoption of the Merger Agreement and approval of the transactions contemplated thereby.

Luna's common stock is currently listed on the NASDAQ Capital Market under the symbol LUNA. On February 13, 2015, the last trading day before the date of this joint proxy statement/prospectus, the closing sale price of Luna common stock was \$1.48 per share.

API's common stock is currently listed on the NYSE MKT under the symbol API. On February 13, 2015, the last trading day before the date of this joint proxy statement/prospectus, the closing sale price of API common stock was \$0.41 per share.

More information about Luna, API and the proposed Merger is contained in the accompanying joint proxy statement/prospectus. **Luna and API urge you to read the accompanying joint proxy statement/prospectus carefully and in its entirety. In particular, you should carefully consider the matters discussed in the section entitled Risk Factors, beginning on page 20 of the accompanying joint proxy statement/prospectus.**

Your vote is very important, regardless of the number of shares of Luna or API you own. Please read the accompanying joint proxy statement/prospectus carefully and submit your proxy to have your shares voted as promptly as possible.

Luna and API are excited about the opportunities the proposed Merger may bring to the stockholders of Luna and API, and thank you for your consideration and continued support.

My E. Chung
President and Chief Executive Officer
Luna Innovations Incorporated

Richard D. Kurtz
President and Chief Executive Officer
Advanced Photonix, Inc.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved the Merger or the securities of Luna to be issued in connection with the Merger, or determined if this joint proxy statement/prospectus is adequate or accurate. Any representation to the contrary is a criminal offense.

The accompanying joint proxy statement/prospectus is dated February 17, 2015, and is first being mailed to the stockholders of Luna and API on or about February 20, 2015.

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Luna Innovations Incorporated

One Riverside Circle, Suite 400

Roanoke, Virginia 24016

NOTICE OF SPECIAL MEETING OF STOCKHOLDERS

To Be Held On March 31, 2015

To Luna Innovations Incorporated Stockholders:

NOTICE IS HEREBY GIVEN that a special meeting of stockholders of Luna Innovations Incorporated, a Delaware corporation (Luna), will be held at the Roanoke Higher Education Center, 108 N. Jefferson Street, Roanoke, Virginia 24016 on March 31, 2015 at 9:00 a.m., local time for the following purposes:

1. To consider and vote upon a proposal to approve the issuance of shares of Luna common stock, par value \$0.001 per share, to securityholders of Advanced Photonix, Inc. (API), in connection with the Merger contemplated by the Agreement and Plan of Merger and Reorganization, dated as of January 30, 2015, by and among Luna, API, and API Merger Sub, Inc., a wholly owned subsidiary of Luna, as amended from time to time, pursuant to which API will become a wholly owned subsidiary of Luna through the Merger;
2. To consider and vote upon an adjournment of the Luna special meeting from time to time, if necessary or appropriate (as determined by Luna), to solicit additional proxies if there are not sufficient votes to approve the proposal described immediately above; and
3. To transact such other business as may be properly brought before the special meeting, or any adjournment or postponement thereof, by or at the direction of the board of directors of Luna.

The foregoing proposals and the Agreement and Plan of Merger and Reorganization are more fully described in the joint proxy statement/prospectus accompanying this Notice. Only Luna stockholders of record at the close of business on February 13, 2015, the record date for the Luna special meeting, will be entitled to notice of, and a vote at, the Luna special meeting or any adjournment or postponement thereof. At the close of business on February 13, 2015, Luna had 15,094,808 shares of stock outstanding and entitled to vote. A list of Luna stockholders entitled to vote at the Luna special meeting will be available for inspection at Luna 's principal executive offices in Roanoke, Virginia, at least 10 days before the date of the special meeting.

The board of directors of Luna has determined that the Agreement and Plan of Merger and Reorganization and the Merger are advisable and fair to, and in the best interests of, Luna and its stockholders, and recommends that Luna 's stockholders vote to approve the issuance of shares of Luna common stock pursuant to the Merger Agreement.

*All Luna stockholders are cordially invited to attend the Luna special meeting in person. **Whether or not you plan to attend the Luna special meeting in person, please sign and return the enclosed proxy card, or submit your proxy over the telephone or the internet as instructed in these materials, to ensure that your Luna shares will be represented at the Luna special meeting.** Voting instructions are included with your Luna proxy card. You may revoke your Luna proxy card at any time prior to the Luna special meeting by following the instructions in the accompanying joint proxy statement/prospectus. If you attend the Luna special meeting and vote by ballot, then your*

proxy vote will be revoked automatically and only your vote by ballot at the Luna special meeting will be counted. Regardless of the number shares of Luna that you own or whether or not you plan to attend the Luna special meeting, it is important that your Luna shares be represented and voted. No postage need be affixed if your proxy card is mailed in the United States.

By Order of the Luna Board of Directors,

My E. Chung

President and Chief Executive Officer

Roanoke, Virginia

February 17, 2015

LUNA S BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS THAT YOU VOTE FOR PROPOSALS 1 AND 2.

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ADVANCED PHOTONIX, INC.

2925 Boardwalk Drive

Ann Arbor, MI 48104

NOTICE OF SPECIAL MEETING OF STOCKHOLDERS

To Be Held On March 31, 2015

Dear Advanced Photonix, Inc. Stockholders:

You are cordially invited to attend a special meeting of the stockholders of Advanced Photonix, Inc., a Delaware corporation (API). The meeting will be held at API s corporate headquarters located at 2925 Boardwalk Drive, Ann Arbor, MI 48104 on March 31, 2015 at 9:00 a.m. local time for the following purposes:

1. To consider and vote upon a proposal to adopt the Agreement and Plan of Merger and Reorganization, dated January 30, 2015, by and among API, Luna Innovations Incorporated, a Delaware corporation (Luna), and API Merger Sub, Inc., a wholly owned subsidiary of Luna, as amended from time to time, and approve the transactions contemplated thereby;
2. To consider and vote upon an adjournment of the API special meeting from time to time, if necessary or appropriate (as determined by API), to solicit additional proxies if there are not sufficient votes in favor of the adoption and approval of the foregoing Proposal No. 1; and
3. To transact such other business as may be properly brought before the special meeting, or any adjournment or postponement thereof, by or at the direction of the board of directors of API.

These proposals are more fully described in the accompanying joint proxy statement/prospectus, which API urges you to read very carefully. API has included a copy of the Agreement and Plan of Merger and Reorganization as Annex A to the accompanying joint proxy statement/prospectus. Only API stockholders of record at the close of business on February 13, 2015, the record date for the API special meeting, are entitled to notice of and to vote at the API special meeting or any adjournment or postponement of the API special meeting. At the close of business on February 13, 2015, API had 37,381,413 shares of stock outstanding and entitled to vote. A list of API stockholders entitled to vote at the API special meeting will be available for inspection at API s principal executive offices in Ann Arbor, Michigan at least 10 days before the date of the special meeting.

The board of directors of API has determined that the Agreement and Plan of Merger and Reorganization, sometimes referred to as the Merger Agreement, and the Merger are advisable and fair to, and in the best interests of, API and its

stockholders and recommends that the API stockholders vote in favor of the adoption of the Merger Agreement.

The board of directors of API unanimously recommends that you vote FOR Proposal No. 1 to adopt the Merger Agreement and approve the transactions contemplated thereby and FOR Proposal No. 2 for an adjournment of the API special meeting from time to time, if necessary or appropriate (as determined by API), to solicit additional proxies if there are not sufficient votes in favor of the adoption and approval of the foregoing Proposal No. 1.

Even if you plan to attend the API special meeting in person, API requests that you sign and return the enclosed API proxy card, or submit your proxy by telephone or over the internet as instructed in these materials, to ensure that your API shares will be represented at the API special meeting if you are unable to attend.

By Order of the API Board of Directors,

Richard D. Kurtz

President and Chief Executive Officer

Ann Arbor, MI

February 17, 2015

PLEASE DO NOT SEND IN ANY API STOCK CERTIFICATES AT THIS TIME; FURTHER DOCUMENTATION FOR SUCH PURPOSE WILL BE SENT TO API STOCKHOLDERS AFTER APPROVAL AND COMPLETION OF THE MERGER.

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REFERENCE TO ADDITIONAL INFORMATION

This joint proxy statement/prospectus incorporates important business and financial information about Luna and API from documents that are not included in or delivered with this joint proxy statement/prospectus. You can obtain such documents by requesting them in writing or by telephone from Luna or API, as the case may be, at the following addresses:

Luna Innovations Incorporated
One Riverside Circle, Suite 400
Roanoke, VA 24016
Tel: (540) 769-8400
ir@lunainc.com

Advanced Photonix, Inc.
2925 Boardwalk Drive
Ann Arbor, MI 48104
Tel: (734) 864-5647
Rkurtz@advancedphotonix.com

You will not be charged for any documents that you request. If you would like to request documents, please do so at least ten days before the meeting. See the section entitled "Where You Can Find More Information" for a detailed description of how to find additional documents related to this joint proxy statement/prospectus.

To ensure timely delivery of additional documents, you must request the information no later than five business days before the date of the special meeting. The last date to request is March 26, 2015.

ABOUT THIS DOCUMENT

This joint proxy statement/prospectus forms a part of a registration statement on Form S-4 (Registration No. 333-201956), filed by Luna Innovations Incorporated with the U.S. Securities and Exchange Commission, and constitutes a prospectus of Luna under Section 5 of the Securities Act of 1933, as amended, and the rules thereunder, with respect to the shares of Luna common stock to be issued to securityholders of Advanced Photonix, Inc. in connection with the proposed Merger Agreement and the transactions contemplated thereby.

In addition, this joint proxy statement/prospectus constitutes:

a notice of meeting with respect to the Luna special meeting at which Luna's stockholders will consider and vote on certain proposals, including the proposal regarding the issuance of Luna common stock in connection with the Merger;

a proxy statement under Section 14(a) of the Securities Exchange Act of 1934, as amended, and the rules thereunder, with respect to the Luna special meeting;

a notice of meeting with respect to the API special meeting at which API's stockholders will consider a proposal regarding adoption of the Merger Agreement; and

a proxy statement under Section 14(a) of the Securities Exchange Act of 1934, as amended, and the rules thereunder, with respect to the API special meeting.

NOTE REGARDING TRADEMARKS

This joint proxy statement/prospectus may also include trademarks and trade names owned by other parties, and all other such trademarks and trade names mentioned in this joint proxy statement/prospectus are the property of their respective owners.

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**QUESTIONS AND ANSWERS ABOUT THE MERGER,
THE LUNA SPECIAL MEETING AND THE API SPECIAL MEETING**

*The following section provides answers to certain frequently asked questions about the proposed acquisition and the special meetings of the stockholders of Luna and API. Please note that this section may not address all issues that may be important to you as a Luna or API stockholder. To better understand these matters, and for a description of the legal terms governing the proposed transaction, Luna and API urge you to read carefully and in its entirety this joint proxy statement/prospectus, including the Annexes to this joint proxy statement/prospectus. See *Where You Can Find More Information* beginning on page 228.*

Q. Why am I receiving this joint proxy statement/prospectus?

A. You are receiving this joint proxy statement/prospectus because you are a stockholder of either Luna or API as of the respective record date of each respective company's special meeting of its stockholders. This joint proxy statement/prospectus is being used by the boards of directors of each of Luna and API to solicit proxies for the special meetings of Luna and API. This joint proxy statement/prospectus also serves as the prospectus for shares of Luna common stock to be issued in exchange for shares of API common stock in connection with the Merger.

Q. What is the purpose of this document?

A. This joint proxy statement/prospectus contains important information about the Merger, the Agreement and Plan of Merger and Reorganization, as amended from time to time (the *Merger Agreement*), the Luna special meeting and the API special meeting, which you should read carefully before submitting your proxy or voting. The enclosed voting materials allow you to cause your shares of Luna common stock or API common stock, as the case may be, to be voted, without attending the special meeting of either Luna or API.

About the Merger

Q. What is the Merger?

A. The proposed merger is a transaction that will result in the combination of the businesses of Luna and API, whereby API will become a wholly owned subsidiary of Luna. In exchange for shares of API Class A common stock (*API common stock*), the securityholders of API will receive shares of Luna common stock.

Q. What if the Merger is not completed?

A. It is possible that the Merger and the other transactions contemplated by the Merger Agreement will not be completed. This might happen if, for example, Luna's stockholders do not approve the issuance of the Luna shares in connection with the Merger, or if API's stockholders do not adopt the Merger Agreement. Should that occur, neither Luna nor API will be under any obligation to make or consider any alternative proposal regarding the combination of Luna and API. In certain circumstances, however, Luna or API may be obligated to pay the other party a termination fee or reimburse the other party for certain expenses, as further described in the section entitled "The Merger Agreement - Termination Fee" in this joint proxy statement/prospectus.

Q. Why are Luna and API proposing the Merger?

A. After reviewing strategic alternatives to address the opportunities and challenges facing the companies, the boards of both API and Luna reached the same conclusion - this Merger represents the best strategic alternative for both respective companies. Specifically, Luna and API believe the Merger will provide

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certain strategic and financial benefits, including the following: a reduction in costs and other synergies; an increase in product development capabilities; greater depth of relationships with customers and a broader portfolio of complementary products; and enhanced opportunities for growth and innovation.

Q. What vote is required by the Luna stockholders to consummate the Merger?

- A. To consummate the Merger, Luna stockholders must approve the issuance of shares of Luna common stock. The approval of such issuance requires the affirmative vote of a majority of the shares of Luna common stock present in person or represented by proxy and entitled to vote on the subject matter at the Luna special meeting.

Q. What vote is required by the API stockholders to consummate the Merger?

- A. To consummate the Merger, API stockholders must adopt the Merger Agreement and approve the Merger, which requires the affirmative vote of the holders of a majority of the outstanding API common stock as of the record date for the API special meeting.

Q. As an API stockholder, what will I receive in the Merger?

- A. If the Merger is completed, API stockholders will receive 0.31782 shares of Luna common stock for each share of API common stock as the Merger consideration, except with respect to cash received in lieu of fractional shares of Luna common stock. The ratio of API shares per share of Luna common stock is referred to as the Exchange Ratio. At the effective time of the Merger (the Effective Time), each option to purchase shares of API common stock outstanding and unexercised immediately prior to the Effective Time, whether or not vested, shall be converted at the Exchange Ratio (as defined in the Merger Agreement) and become an option to purchase Luna common stock, and Luna shall assume such API option in accordance with the terms of the applicable API option plan and the terms of the stock option agreement by which such API option is evidenced. Each share of API restricted common stock will be converted at the Effective Time into Luna restricted common stock (based on the Exchange Ratio). At the Effective Time, except for the warrants held by Silicon Valley Bank, Partners for Growth III, L.P., and PFG Equity Investors, LLC, the terms of which provide the warrants may be exchanged at the option of the holder, for a cash sum payment from the combined company after the Merger not to exceed \$250,000 in the aggregate, each warrant to acquire API common stock outstanding immediately prior to the Effective Time (API Warrants) will be assumed or substituted by Luna in accordance with the terms of such warrant, and will therefore become a warrant to purchase the number of shares of Luna common stock, with appropriate adjustments made to the exercise price, number of shares and other terms of the warrants to reflect the Merger and the Exchange Ratio.

Q. What are the Voting Agreements and who are the parties to these agreements?

- A. The members of API's board of directors and members of management team and their respective affiliates have entered into Voting Agreements with Luna. Each party signing one of these agreements has agreed (solely in his

capacity as an API stockholder), among other things, to vote all of his shares of API common stock in favor of the adoption of the Merger Agreement and approval of the transactions contemplated thereby and against any other action or agreement that is intended, or could reasonably be expected to, impede, interfere with, delay, postpone, or materially adversely affect the Merger or any of the other transactions contemplated by the Merger Agreement. These Voting Agreements also grant My E. Chung, Luna's president and chief executive officer, and Luna an irrevocable proxy to vote the API shares subject to the agreements in accordance with the terms of the agreements. As of January 30, 2015, API stockholders owning in the aggregate 4,022,152 shares of API common stock, representing approximately 10.8% of the outstanding API common stock as of January 30, 2015, had entered into these Voting Agreements.

In addition, certain stockholders of Luna have entered into Voting Agreements with API. Under the terms of these agreements, each party signing one of these agreements has agreed that (solely in his capacity as a

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Luna stockholder), among other things, to vote all of his shares of Luna common stock in favor of the issuance of Luna common stock to be issued under the terms of the Merger Agreement and against any other action or agreement that is intended, or could reasonably be expected to, impede, interfere with, delay, postpone, or materially adversely affect the Merger or any of the other transactions contemplated by the Merger Agreement. These Voting Agreements also grant Donald Pastor, API's chairman of the board of directors, and API an irrevocable proxy to vote the Luna shares subject to the agreements in accordance with the terms of the agreements. As of January 30, 2015, existing Luna stockholders owning in the aggregate 992,283 shares of Luna common stock, representing approximately 6.6% of the Luna common stock, had entered into these Voting Agreements.

For a more complete description of the Voting Agreements, see the sections entitled "Certain Agreements Related to the Merger - Luna Voting Agreements" and "Certain Agreements Related to the Merger - API Voting Agreements" in this joint proxy statement/prospectus.

Q. Are there other conditions that need to be satisfied to consummate the Merger?

A. In addition to the requirement of obtaining stockholder approval of Luna and API, each of the other closing conditions set forth in the Merger Agreement must be satisfied or waived by the appropriate party. For a summary of the conditions that need to be satisfied to consummate the Merger, see the section entitled "The Merger Agreement - Conditions to the Merger" in this joint proxy statement/prospectus.

Q. Will the number of shares of Luna common stock issuable to API common stockholders in connection with the Merger be subject to adjustment if either Luna's or API's stock price fluctuates?

A. No. The number of shares of Luna common stock to be issued in connection with the Merger for each share of API common stock is fixed.

Q. Will Luna common stock issued in connection with the Merger be registered and listed on an exchange?

A. Yes. The Luna common stock to be issued in connection with the Merger will be registered under the Securities Act of 1933, as amended, and will be listed on the NASDAQ Capital Market under the symbol LUNA.

Q. Will there be any transfer restrictions affecting the shares of Luna common stock issuable to API stockholders in connection with the Merger?

A. No, unless you are an affiliate of Luna, as defined in the federal securities laws, in which case, your resale of shares of Luna Stock will be subject to certain resale limitations under Rule 144 under the Securities Act. Additionally, if you are employed by Luna or its subsidiaries after the Merger your shares will be subject to Luna's insider trading policies.

Q. What will happen to the API options?

- A. Each option to purchase shares of API common stock outstanding and unexercised immediately prior to the Merger will be converted into and become an option to purchase Luna common stock, determined in accordance with the terms set forth in the Merger Agreement. For more information regarding the treatment of the API options, see the section entitled "The Merger Agreement Merger Consideration" in this joint proxy statement/prospectus.

Q. What will happen to the API restricted common stock?

- A. Each share of API restricted common stock outstanding immediately prior to the Effective Time shall be converted at the Exchange Ratio and become Luna restricted common stock, determined in accordance with

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the terms set forth in the Merger Agreement. For more information regarding the treatment of the API restricted common stock, see the section entitled "The Merger Agreement - Merger Consideration" in this joint proxy statement/prospectus.

Q. What will happen to the API Warrants?

A. Except for the warrants held by Silicon Valley Bank, Partners for Growth III, L.P., and PFG Equity Investors, LLC, the terms of which provide that the warrants may be exchanged at the option of the holder, for a cash sum payment from the combined company after the Merger not to exceed \$250,000 in the aggregate, each API Warrant outstanding and not exercised immediately prior to the Merger will be converted into a warrant to purchase the number of shares of Luna common stock calculated according to the exchange ratio set out in the Merger Agreement. For more information regarding the treatment of the API Warrants and the exchange ratio, see the section entitled "The Merger Agreement - Merger Consideration" in this joint proxy statement/prospectus.

Q. Will there be any change to the shares of Luna common stock held by Luna stockholders?

A. No. The Merger does not result in any changes to the existing shares of Luna common stock. The current stockholders of Luna will continue to be stockholders of Luna after the Merger.

Q. Who will be the directors of Luna following the Merger?

A. Immediately following the Effective Time, the board of directors of Luna is expected to be composed of the following members:

Name	Position and Director Term Expiration
Donald Pastor	Class III Director (term expires at 2015 annual meeting)
My E. Chung	Class III Director (term expires at 2015 annual meeting)
Richard W. Roedel	Chairman of the Board/Class I Director (term expires at 2016 annual meeting)
Ed J. Coringrato Jr.	Class I Director (term expires at 2016 annual meeting)
Michael M. Wise	Class II Director (term expires at 2017 annual meeting)
John B. Williamson, III	Class II Director (term expires at 2017 annual meeting)
Gary Spiegel	Class II Director (term expires at 2017 annual meeting)

In the Merger Agreement, Luna has also agreed to take specified actions to nominate Mr. Pastor for election at the 2015 annual meeting of stockholders for a term expiring at Luna's 2018 annual meeting of stockholders.

Q. Who will be the executive officers of Luna immediately following the Merger?

A.

Immediately following the Effective Time, the executive officers of Luna are expected to be composed of the following members:

Name	Position
My E. Chung	President and CEO
Scott A. Graeff	Treasurer and Chief Strategy Officer
Talfourd H. Kemper, Jr.	Vice President and General Counsel
Dale E. Messick	Chief Financial Officer

Q. What are the material U.S. federal income tax consequences of the Merger to API stockholders?

- A. The Merger is intended to qualify as a reorganization within the meaning of Section 368(a) of the Internal Revenue Code of 1986, as amended, or the Code and it is a condition to the completion of the Merger that Luna and API each receive written opinions from their respective outside legal counsel regarding such

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qualification. Assuming the Merger qualifies as a reorganization, API stockholders will not recognize gain or loss for U.S. federal income tax purposes upon the exchange of their shares of API common stock for shares of Luna common stock in connection with the Merger, except with respect to cash received in lieu of fractional shares of Luna common stock.

Tax matters are very complicated, and the tax consequences of the Merger to a particular stockholder will depend on such stockholder's circumstances. Accordingly, Luna and API urge you to consult your tax advisor for a full understanding of the tax consequences of the Merger to you, including the applicability and effect of federal, state, local and foreign income and other tax laws. For a more complete discussion of the material U.S. federal income tax consequences of the Merger, see the section entitled "Material U.S. Federal Income Tax Consequences of the Merger" beginning on page 107.

Q. What are the material U.S. federal income tax consequences of the Merger to Luna stockholders?

A. Luna stockholders will not recognize a gain or loss as a result of the Merger.

Q. Do API stockholders or Luna stockholders have appraisal rights in connection with the Merger?

A. No. Neither API stockholders nor Luna stockholders have appraisal rights in connection with the Merger.

Q. As a Luna stockholder, how does the Luna board of directors recommend that I vote?

A. The Luna board of directors recommends that Luna stockholders vote:
FOR Proposal No. 1 to approve the issuance of the shares of Luna common stock in connection with the Merger; and
FOR Proposal No. 2 to adjourn the Luna special meeting from time to time, if necessary or appropriate (as determined by Luna), to solicit additional proxies if there are not sufficient votes to approve Proposal No. 1.

Q. As an API stockholder, how does the API board of directors recommend that I vote?

A. The API board of directors recommends that API stockholders vote:
FOR Proposal No. 1 to adopt the Merger Agreement and approve the transactions contemplated thereby; and
FOR Proposal No. 2 to adjourn the API special meeting from time to time, if necessary or appropriate (as determined by API), to solicit additional proxies if there are not sufficient votes to adopt and approve Proposal No. 1.

Q. What risks should I consider in deciding how to vote?

A. You should carefully read this entire joint proxy statement/prospectus, including each of the annexes, and pay specific attention to the section entitled Risk Factors, which sets forth certain risks and uncertainties related to the Merger and the businesses of Luna and API.

Q. When do you expect the Merger to be consummated?

A. Luna and API cannot predict the exact timing of the completion of the Merger and the related transactions. It is currently anticipated that the Merger will occur as soon as reasonably practicable after the satisfaction or waiver by the appropriate party of each of the closing conditions set forth in the Merger Agreement. One

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of the closing conditions is that the required approvals are obtained at the Luna special meeting to be held on March 31, 2015 and the API special meeting to be held on March 31, 2015. For more information regarding timing, see the section entitled "The Merger Agreement Conditions to the Merger" in this joint proxy statement/prospectus.

Q. What do Luna and API stockholders need to do now?

A. After carefully reading and considering the information contained in this joint proxy statement/prospectus, please mail your signed proxy card in the enclosed return envelope as soon as possible so that your shares may be represented at the appropriate special meeting. Alternatively, you may submit your proxy by telephone or over the internet as instructed by your broker or bank. You may also attend the special meeting and vote in person. If your shares are held in "street name" by your broker or bank, your broker or bank will vote your shares only if you provide instructions on how to vote. You should follow the directions provided by your broker or bank regarding how to instruct your broker or bank to vote your shares.

Q. What if I do not vote or do not fully complete my proxy card?

A. It is very important for you to vote.

If you are a Luna stockholder of record and you do not submit a proxy and you do not attend the special meeting in person, there will be no effect on the determination of whether the proposals have received the affirmative vote of a majority of the shares of common stock present or represented by proxy and entitled to vote on the subject matter at the meeting. If you submit a signed proxy without specifying the manner in which you would like your shares to be voted, your shares will be voted "FOR" the proposals. However, if your shares are held in "street name" and you do not instruct your broker how to vote your shares, your broker will not vote your shares, such failure to vote being referred to as a broker non-vote, in which case your shares will be counted for purposes of determining the presence or absence of a quorum for the approval of the proposals, but will have no effect on the outcome of the vote on the proposals. If you submit a proxy card or provide proxy instructions by telephone or over the internet and affirmatively elect to abstain from voting, your proxy will be counted as present for the purpose of determining the presence of a quorum for the Luna special meeting, but will not be voted at the Luna special meeting. As a result, your abstention will have the same effect as voting "AGAINST" the proposals. Please follow the directions provided by your broker regarding how to instruct your broker to vote your shares in order to ensure that your shares will be voted at the special meeting.

If you are an API stockholder of record and you do not submit a proxy, and you do not vote in person at the special meeting, the effect will be the same as if you voted "AGAINST" the adoption of the Merger Agreement. If you submit a signed proxy without specifying the manner in which you would like your shares to be voted, your shares will be voted "FOR" the adoption of the Merger Agreement. If your API shares are held in "street name" and you do not instruct your broker how to vote your shares, your broker will not vote your shares, such failure to vote being referred to as a broker non-vote, which will have the same effect as voting "AGAINST" the proposal to adopt the Merger Agreement. If you submit a proxy card or provide proxy instructions by telephone or over the internet and affirmatively elect to abstain from voting, your proxy will be counted as present for the purpose of determining the presence of a quorum for the API special meeting, but will not be voted at the API special meeting. As a result, your abstention will have the same effect as voting "AGAINST" the proposals. Please follow the directions provided by your broker regarding how to instruct your broker to vote your shares in order to ensure that your shares will be voted at the special meeting.

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About the Luna special meeting and the API special meeting

Q. When and where is the Luna special meeting of stockholders?

A. The Luna special meeting will be held at the Roanoke Higher Education Center, 108 N. Jefferson Street, Roanoke, Virginia 24016 at 9:00 a.m., local time on March 31, 2015. All Luna stockholders as of the record date, or their duly appointed proxies, may attend the Luna special meeting.

Q. When and where is the API special meeting of stockholders?

A. The API special meeting will be held at API's corporate headquarters located at 2925 Boardwalk Drive, Ann Arbor, Michigan 48104, at 9:00 a.m., local time, on March 31, 2015. All API stockholders as of the record date, or their duly appointed proxies, may attend the API special meeting.

Q. Do I need to attend the special meeting in person?

A. No. It is not necessary for you to attend the special meeting to vote your shares if Luna or API, as applicable, has previously received your proxy, although you are welcome to attend.

Q. Who can attend and vote at the Luna special meeting of stockholders?

A. Only holders of record of Luna common stock at the close of business on February 13, 2015 (the Luna record date), are entitled to notice of, and to vote at, the Luna special meeting. As of the Luna record date, there were 15,094,808 shares of Luna common stock outstanding and entitled to vote at the Luna special meeting, held by approximately 74 holders of record. Each holder of Luna common stock is entitled to one vote for each share of Luna common stock owned as of the Luna record date.

Q. Who can attend and vote at the API special meeting of stockholders?

A. Only holders of record of API stock at the close of business on February 13, 2015 (the API record date), are entitled to notice of and to vote at the API special meeting. As of the API record date, there were 37,381,413 shares of API stock outstanding and entitled to vote at the API special meeting, held by approximately 115 holders of record. Each holder of API common stock is entitled to one vote for each share of API stock owned as of the API record date.

Q. What happens if I do not return a proxy card or vote my shares in person?

A. If you are a Luna stockholder, the failure to return your proxy card or vote your shares in person will result in your shares not being counted for purposes of determining whether a quorum is present at the Luna special meeting. In the event that a quorum is not reached or the necessary votes are not received, the Luna special meeting may be adjourned to provide more time to obtain a quorum or the necessary votes.

If you are an API stockholder, if you fail to return your proxy or vote your shares in person, the effect will be the same as if you voted **AGAINST** the adoption of the Merger Agreement and your shares will not be counted for purposes of determining whether a quorum is present at the API special meeting. In the event that a quorum is not reached or the necessary votes are not received, the API special meeting may be adjourned to provide more time to obtain a quorum or the necessary votes.

Q. May I vote in person at the Luna special meeting of stockholders?

A. If your shares of Luna common stock are registered directly in your name with the Luna transfer agent, American Stock Transfer & Trust Company, then you are considered to be the stockholder of record with respect to those shares, and the proxy materials and Luna proxy card are being sent directly to you by Luna.

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If you are a Luna stockholder of record, you may attend the Luna special meeting and vote your shares in person. However, even if you plan to attend the Luna special meeting in person, Luna requests that you sign and return the enclosed Luna proxy card to vote your shares. If your shares of Luna common stock are held in a brokerage account or by another nominee, then you are considered the beneficial owner of shares held in street name, and the proxy materials are being forwarded to you by your broker or other nominee together with a voting instruction card to return to your broker or other nominee to direct them to vote on your behalf. As the beneficial owner, you are also invited to attend the Luna special meeting. Because a beneficial owner is not the stockholder of record, you may not vote these shares in person at the Luna special meeting unless you obtain a proxy from the broker, trustee or nominee that holds your shares, giving you the right to vote the shares at the meeting.

Q. May I vote in person at the API special meeting of stockholders?

A. If your shares of API common stock are registered directly in your name with the API transfer agent, Continental Stock Transfer & Trust Company, then you are considered to be the stockholder of record with respect to those shares, and the proxy materials and API proxy are being sent directly to you by API. If you are an API stockholder of record, you may attend the API special meeting and vote your shares in person. However, even if you plan to attend the API special meeting in person, API requests that you sign and return the enclosed proxy to ensure that your shares will be represented at the API special meeting. If your shares of API common stock are held in a brokerage account or by another nominee, then you are considered the beneficial owner of shares held in street name, and the proxy materials are being forwarded to you by your broker or other nominee together with a voting instruction card to return to your broker or other nominee to direct them to vote on your behalf. As the beneficial owner, you are also invited to attend the API special meeting. Because a beneficial owner is not the stockholder of record, you may not vote these shares in person at the API special meeting unless you obtain a proxy from the broker, trustee or nominee that holds your shares, giving you the right to vote the shares at the meeting.

Q. If I am a Luna or API stockholder, may I submit my proxy via phone or the internet?

A. Instead of voting in person or submitting a proxy by mail, you may submit a proxy by telephone or over the internet. In order to submit a proxy by telephone or over the internet, please have the enclosed proxy card available for reference, and call the number or visit the website listed on the proxy card and follow the instructions. You will be asked to provide the company number and control number from the enclosed proxy card. Your vote must be received by 7:00 p.m., Eastern Time on March 30, 2015 to ensure that it will be counted. The telephone and internet voting procedures are designed to authenticate stockholders' identities, to allow stockholders to give their voting instructions and to confirm that stockholders' instructions have been recorded properly.

Q. If my shares are held in street name by my broker, will my broker vote my shares for me?

A. Unless your broker has discretionary authority to vote on certain matters, your broker will not be able to vote your shares of Luna or API stock without instructions from you. Brokers are not expected to have discretionary authority to vote for the Luna or API proposals, respectively. Therefore, in order to make sure that your vote is

counted, you should instruct your broker to vote your shares following the procedures provided by your broker.

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

- A.** Yes. You may change your vote at any time before the vote takes place at each of the respective special meetings. To change your vote, you may (1) submit new proxy instructions either on a new proxy card, by telephone or over the internet, as and if applicable, or (2) send a signed written notice bearing a date later than the date of the proxy to the Secretary of Luna or Secretary of API, as applicable, stating that you would

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like to revoke your proxy. You may also change your vote by attending the special meeting and voting in person, although your attendance alone will not revoke your proxy. However, if you elect to vote in person at the special meeting and your shares are held by a broker, bank or other nominee, you must bring to the meeting a legal proxy from the broker, bank or other nominee authorizing you to vote the shares.

Q. What should a Luna stockholder do if he or she receives more than one set of voting materials?

- A. As a Luna stockholder, you may receive more than one set of voting materials, including multiple copies of this joint proxy statement/prospectus and multiple Luna proxy cards or voting instruction cards. For example, if you hold your Luna shares in more than one brokerage account, you will receive a separate voting instruction card for each brokerage account in which you hold Luna shares. If you are a holder of record and your Luna shares are registered in more than one name, you will receive more than one proxy card. In addition, if you are a holder of both Luna common stock and API common stock, you will receive one or more separate proxy cards or voting instruction cards for each company.

Please complete, sign, date and return each proxy card and voting instruction card that you receive or otherwise follow the voting instructions set forth in this joint proxy statement/prospectus in the section entitled "The Luna Innovations Incorporated Special Meeting of Stockholders."

Q. What should an API stockholder do if he or she receives more than one set of voting materials?

- A. As an API stockholder, you may receive more than one set of voting materials, including multiple copies of this joint proxy statement/prospectus and multiple proxy cards or voting instruction cards. For example, if you hold your API shares in more than one brokerage account, you will receive a separate voting instruction card for each brokerage account in which you hold API shares. If you are a holder of record and your API shares are registered in more than one name, you will receive more than one proxy card. In addition, if you are a holder of both Luna common stock and API common stock, you will receive one or more separate proxy cards or voting instruction cards for each company.

Please complete, sign, date and return each proxy card and voting instruction card that you receive or otherwise follow the voting instructions set forth in this joint proxy statement/prospectus in the section entitled "The Advanced Photonix, Inc. Special Meeting of Stockholders."

Q. Should API stockholders send in their API stock certificates now?

- A. No. After the Merger is completed, API stockholders will be sent written instructions for exchanging their API stock certificates for Luna common stock. PLEASE DO NOT SEND IN YOUR API STOCK CERTIFICATES NOW OR WITH YOUR API PROXY CARD.

Q. Who can help answer my questions?

- A. If you are a Luna stockholder and would like additional copies, without charge, of this joint proxy statement/prospectus, or if you have questions about the Merger, including the procedures for voting your shares, you should contact:

Luna Innovations Incorporated

Attn: Secretary

One Riverside Circle, Suite 400

Roanoke, Virginia 24016

Telephone: (540) 769-8400

Email: ir@lunainc.com

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If you are an API stockholder, and would like additional copies, without charge, of this joint proxy statement/prospectus, or if you have questions about the Merger, including the procedures for voting your shares, you should contact:

Advanced Photonix, Inc.

Attn: President

2925 Boardwalk

Ann Arbor, MI 48104

Telephone: (734) 864-5647

Email: Rkurtz@advancedphotonix.com

or

API's proxy solicitation agent

The Proxy Advisory Group, LLC®

18 East 41st Street, New York, NY 10017

Telephone: (888) 557-7699 or (888) 55-PROXY (toll free) or (212) 610-2181

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SUMMARY

This summary highlights selected information from this joint proxy statement/prospectus. It does not contain all of the information that may be important to you. Luna and API encourage you to carefully read this entire joint proxy statement/prospectus, including annexes, and the other documents to which this joint proxy statement/prospectus refers, to fully understand the Merger proposals to be considered at the Luna special meeting and the API special meeting.

Information About Luna and API (see pages 124 and 153)

Luna Innovations Incorporated

Luna Innovations Incorporated

Attn: Secretary

One Riverside Circle, Suite 400

Roanoke, Virginia 24016

Telephone: (540) 769-8400

Email:ir@lunainc.com

Luna Innovations Incorporated (Luna) is incorporated in the State of Delaware and headquartered in Roanoke, Virginia. Luna develops, manufactures and markets fiber optic sensing, test and measurement products and is focused on bringing new and innovative technology solutions to measure, monitor, protect and improve critical processes in the aerospace, automotive, energy, composite, telecommunications and defense industries. Luna is organized into two main groups, which work closely together to turn ideas into products: Luna s Technology Development segment and Luna s Products and Licensing segment. Luna s business model is designed to accelerate the process of bringing new and innovative technologies to market.

Advanced Photonix, Inc.

Advanced Photonix, Inc.

Attn: President

2925 Boardwalk

Ann Arbor, MI 48104

Phone: (734) 864-5647

Email:Rkurtz@advancedphotonix.com

Advanced Photonix, Inc. (API) is incorporated in the State of Delaware and is headquartered in Ann Arbor, Michigan. API is a leading test and measurement company that packages optoelectronic semiconductors into high-speed optical

receivers (HSOR products), custom optoelectronic subsystems (Optosolutions products) and Terahertz instrumentation (THz products), serving the test and measurement, telecommunications, military/aerospace and medical markets. API supports its customers from the initial concept and design phase of the product, through testing to full-scale production. API has two manufacturing facilities located in Camarillo, California and Ann Arbor, Michigan.

API Merger Sub, Inc.

API Merger Sub, Inc. is a Delaware corporation wholly owned by Luna that was formed by Luna for the purpose of merging with and into API. It has conducted no other business.

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The Merger (see page 66)

Under the terms of the Merger Agreement, which has been unanimously approved by both boards of directors, API common stock will be converted into the right to receive Luna common stock at a fixed exchange ratio of 0.31782 shares of Luna common stock for each outstanding share of API common stock.

Upon closing, former holders of outstanding API common stock will own approximately 44%, and existing holders of outstanding Luna common stock will own approximately 56%, of the combined company. Upon attributing ownership to the former API stockholders of shares of common stock that may be issued upon exercise of the options or warrants to purchase Luna common stock issued as a result of the Merger, and attributing ownership of the shares of Luna common stock issuable upon exercise of outstanding Luna options and restricted stock units (but excluding, for this purpose, the shares of Luna common stock issuable upon conversion of Luna's outstanding Series A convertible preferred stock and upon payment of accrued dividends thereon), existing Luna securityholders would own approximately 57% of the common stock of Luna on a fully diluted basis and the former API securityholders would own approximately 43% of the common stock of Luna on a fully diluted basis. Certain API stockholders have executed agreements obligating them to vote in favor of the adoption of the Merger Agreement and approval of the transactions contemplated thereby. Additionally, certain Luna stockholders have executed agreements obligating them to vote in favor of the issuance of Luna common stock to be issued under the terms of the Merger Agreement.

Recommendation of the Luna Board of Directors and its Reasons for the Merger (see page 73)

The Luna board of directors has approved the Merger Agreement and the Merger. The Luna board of directors has also determined that the Merger Agreement and the Merger are advisable and fair to, and in the best interests of, Luna and its stockholders. Accordingly, the Luna board of directors unanimously recommends that Luna stockholders vote FOR the proposal of the issuance of Luna common stock in the Merger pursuant to the terms of the Merger Agreement. In reaching these decisions, the Luna board of directors considered a number of factors. See the section entitled The Merger Recommendation of the Luna Board of Directors and its Reasons for the Merger.

Recommendation of the API Board of Directors and its Reasons for the Merger (see page 76)

The API board of directors has approved the Merger Agreement and the Merger. The API board of directors has also determined that the Merger Agreement and the Merger are advisable and fair to, and in the best interests of, API and its stockholders, and therefore recommends that API stockholders vote FOR the adoption of the Merger Agreement and the approval of the transactions contemplated thereby. In reaching these decisions, the API board of directors considered a number of factors. See the section entitled The Merger Recommendation of the API Board of Directors and its Reasons for the Merger.

Risk Factors (see page 20)

Luna and API are subject to numerous risks associated with their businesses and their industries. In addition, the Merger, including the possibility that the closing of the Merger may be delayed or not be completed at all, poses a number of unique risks to both Luna's and API's stockholders, including the following risks:

API stockholders will receive a fixed ratio of 0.31782 shares of Luna common stock for each share of API common stock regardless of any changes in market value of API common stock or Luna common stock before the closing of the Merger.

The issuance of shares of Luna common stock to API stockholders in the Merger will substantially reduce the ownership interests of Luna stockholders.

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Failure to successfully integrate the businesses of Luna and API in the expected time-frame may adversely affect the combined company's future results.

Provisions of the Merger Agreement may deter alternative business combinations and could negatively impact the stock prices of Luna and API if the Merger Agreement is terminated in certain circumstances.

Luna, API and, following the Merger, the combined company, must continue to retain, recruit, and motivate executives and other key employees, and failure to do so could negatively affect the combined company.

The unaudited pro forma condensed combined financial information included in this joint proxy statement/prospectus may not be indicative of what the combined company's actual financial position or results of operations would have been.

If the proposed Merger is not completed, Luna and API will have incurred substantial costs that may adversely affect Luna's and API's financial results and operations and the market price of Luna and API common stock.

Comparative Market Price Data and Dividend Information (see page 64)

The closing sale price per share of Luna common stock as reported on the NASDAQ Capital Market on January 30, 2015, the last full trading day prior to the public announcement of entry into the Merger Agreement was \$1.68 per share, and the closing sale price per share of Luna common stock on February 13, 2015 (the last practicable date before the printing of this joint proxy statement/prospectus) as reported on the NASDAQ Capital Market was \$1.48 per share. Following the consummation of the Merger, Luna's common stock, including the shares of Luna common stock issued in connection with the Merger, are expected to continue to trade on the NASDAQ Capital Market under the symbol LUNA.

Luna has never declared nor paid cash dividends on its common stock. Luna currently intends to retain earnings, if any, to finance the growth and development of its business, and does not expect to pay any cash dividends to its stockholders in the foreseeable future.

The closing sale price per share of API common stock as reported on the NYSE MKT on January 30, 2015 (trading symbol API), the last full trading day prior to the public announcement of entry into the Merger Agreement was \$0.33, and the closing sale price per share of API common stock on February 13, 2015 (the last practicable date before the printing of this joint proxy statement/prospectus) as reported on the NYSE MKT was \$0.41 per share. Following the closing of the Merger, API's common stock will be owned by Luna and will not trade. API has never declared nor paid cash dividends on its common stock.

For more information, see the section entitled Comparative Market Price Data and Dividend Information.

Opinion of Mooreland Partners LLC to the Board of Directors of Luna (see page 78 and Annex B)

In connection with the Merger, Luna's financial advisor, Mooreland Partners LLC, delivered a written fairness opinion to the Luna board of directors concerning the fairness, from a financial point of view, of the Exchange Ratio. The full text of Mooreland Partners LLC's written opinion, dated January 30, 2015, is attached to this joint proxy

statement/prospectus as Annex B. Luna encourages you to read this opinion carefully in its entirety for a description of the procedures followed, assumptions made, matters considered and limitations on the review undertaken. The opinion is addressed to Luna's board of directors and does not constitute a recommendation to any stockholder as to how such stockholder should vote or act on any matter relating to the Merger.

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Opinion of B. Riley & Co., LLC to the Board of Directors of API (see page 90 and Annex C)

In connection with the Merger, API's financial advisor, B. Riley & Co., LLC (B. Riley), delivered a written fairness opinion to the API board of directors concerning the fairness, from a financial point of view, of the Exchange Ratio being used in connection with the Merger, to API stockholders. The full text of B. Riley's written opinion, dated January 29, 2015, is attached to this joint proxy statement/prospectus as Annex C. API encourages you to read this opinion carefully in its entirety for a description of the procedures followed, assumptions made, matters considered and limitations on the review undertaken. The opinion is addressed to API's board of directors and does not constitute a recommendation to any stockholder as to how such stockholder should vote or act on any matter relating to the Merger.

Overview of the Merger Agreement (see page 110)

The Merger Agreement contains the terms and conditions of the proposed combination of the businesses of Luna and API.

Merger Consideration

At the Effective Time:

each share of issued and outstanding API common stock will automatically be canceled and retired and cease to exist, and be converted into the right to receive 0.31782 shares of Luna common stock;

each option to purchase shares of API common stock outstanding and unexercised immediately prior to the Effective Time, whether or not vested, shall be converted at the Exchange Ratio and become an option to purchase Luna common stock, and Luna shall assume such API option in accordance with the terms of the applicable API option plan and the terms of the stock option agreement by which such API option is evidenced;

each share of API restricted common stock outstanding immediately prior to the Effective Time shall be converted at the Exchange Ratio and become Luna restricted common stock; and

except for the warrants with Silicon Valley Bank, Partners for Growth III, L.P., and PFG Equity Investors, LLC, the terms of which provide the warrants may be exchanged at the option of the holder, for a cash sum payment from the combined company after the Merger not to exceed \$250,000 in the aggregate, the API warrants outstanding immediately prior to the Effective Time will be assumed or substituted by Luna in accordance with the terms of such company warrant, and will therefore become a warrant to purchase the number of shares of Luna common stock, with appropriate adjustments made to the exercise price, number of shares and other terms of the options to reflect this Merger and the Exchange Ratio.

Immediately after the Merger, based on the Exchange Ratio, existing holders of Luna common stock will own approximately 56% of the outstanding common stock of the combined company with former API common stockholders holding approximately 44% of the common stock of the combined company.

For a more complete description of the Merger consideration, see the section entitled "The Merger Agreement - Merger Consideration" in this joint proxy statement/prospectus.

The Merger consideration and Exchange Ratio will be appropriately and proportionately adjusted to reflect any stock dividend, subdivision, reclassification, recapitalization, split, combination, or exchange of shares with respect to Luna or API common stock between the date of the Merger Agreement and the Effective Time.

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Conditions to Completion of the Merger

In addition to the requirement of obtaining the approval of Luna and API stockholders, each of the other closing conditions set forth in the Merger Agreement must be satisfied or waived by the appropriate party. For a summary of the conditions that need to be satisfied to consummate the Merger, see the section entitled "The Merger Agreement - Conditions to the Merger" in this joint proxy statement/prospectus.

Termination of the Merger Agreement

It is possible that the Merger and the other transactions contemplated by the Merger Agreement will not be completed. This might happen if, for example, Luna's stockholders do not approve the issuance of the Luna shares in connection with the Merger, or if API's stockholders do not adopt the Merger Agreement or if other conditions to the Merger are not satisfied. Should that occur, neither Luna nor API will be under any obligation to make or consider any alternative proposal regarding the combination of Luna and API. The Merger Agreement may also be terminated by either Luna or API in other circumstances, including if the Merger has not been consummated on or before August 31, 2015 and for specified breaches of representations and warranties. For a more complete discussion of the manners in which the Merger Agreement may terminate, see the section entitled "The Merger Agreement - Termination" in this joint proxy statement/prospectus.

Termination Fee

If the Merger Agreement is terminated in certain specified circumstances, API must pay Luna, or Luna must pay API, as applicable, a termination fee of \$750,000. In addition, if the Merger Agreement is terminated following a meeting of the stockholders of Luna or API at which the adoption of the Merger Agreement and approval of the transactions contemplated thereby, or the approval of the issuance of shares of Luna common stock as consideration in the Merger, is considered but not approved, then, under specified circumstances, Luna or API, as applicable, will be required to pay an amount up to \$250,000 in reimbursement of the other party's out-of-pocket expenses incurred in connection with the transaction. For a more complete discussion of the termination fee, see the section entitled "The Merger Agreement - Termination Fee" and "The Merger Agreement - Expenses" in this joint proxy statement/prospectus.

Voting Agreements

As of the API record date, existing API common stockholders that owned in the aggregate 4,022,152 shares of API common stock, representing approximately 10.8% of the outstanding shares of API common stock, had entered into voting agreements with Luna (the "API Voting Agreements"). The API stockholders who are parties to these agreements have agreed, solely in their capacity as API stockholders, to vote all of their shares of API common stock in favor of the Merger and the adoption of the Merger Agreement, against any other API acquisition proposals and against any action or agreement that would reasonably be expected to result in a breach of the Merger Agreement by API. The stockholders also granted Luna a proxy to vote their respective shares of API common stock in accordance with the terms of the Voting Agreements. A copy of the form of API Voting Agreement in favor of Luna is attached as Exhibit A-1 in Annex A to this joint proxy statement/prospectus.

As of the Luna record date, existing Luna stockholders that owned in the aggregate 992,783 shares of Luna outstanding common stock, representing approximately 6.6% of the shares of Luna outstanding common stock had entered into voting agreements with API (the "Luna Voting Agreements"). The Luna stockholders who are parties to these agreements have agreed, solely in their capacity as Luna stockholders, to vote all of their shares of Luna common stock in favor of the issuance of the Luna common stock to be issued in connection with the Merger. The stockholders also granted API a proxy to vote their respective Luna common stock in accordance with the terms of the

Voting Agreements. A copy of the form of Luna Voting Agreement in favor of API is attached as Exhibit A-2 in Annex A to this joint proxy statement/prospectus.

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Interests of Directors, Executive Officers and Affiliates of API

In considering the recommendation of the API board of directors with respect to adopting the Merger Agreement and approving the transactions contemplated thereby, API stockholders should be aware that members of the API board of directors and each executive officer of API have interests in the Merger that may be different from, or in addition to, interests they may have as API stockholders. For example:

in connection with the Merger, Luna will assume outstanding options to purchase shares of API common stock and warrants of API held by such directors and executive officers;

under the terms of his employment agreement with API, API's president and chief executive officer, Richard D. Kurtz, is entitled to receive severance if his employment is terminated without cause, and it is expected that he will not be retained by the combined company following the Merger;

under the terms of his employment agreement with API, API's chief financial officer, Jeff Anderson, is entitled to severance if his employment is terminated without cause, and it is expected that he will not be retained by the combined company following the Merger;

upon completion of the Merger, Luna will assume the employment agreements between API and each of Robin Risser, API's chief operating officer, and Steven Williamson, API's chief technology officer, in accordance with their existing terms;

API directors and officers will be indemnified by the combined company with respect to certain acts or omissions by them in their capacities as such prior to the Effective Time of the Merger; and

under the terms of the Merger Agreement, one current API director, Donald Pastor will be designated to serve on the board of the combined company after the Effective Time of the Merger. Upon joining the board of the combined company, he will cease to be entitled to receive any compensation from API but will receive compensation in accordance with Luna's existing non-employee director compensation policy.

These interests and arrangements may create potential conflicts of interest. The API board of directors was aware of these potential conflicts of interest and considered them, among other matters, in reaching its decision to adopt the Merger Agreement and approve the transactions contemplated by the Merger Agreement.

No API Golden Parachute Compensation

There are not any agreements or understandings, whether written or unwritten, between any of API's named executive officer and either API or Luna concerning any type of compensation, whether present, deferred or contingent, that is based on or otherwise relates to the Merger. The Merger will not constitute a change in control under the employment agreement of any of API's named executive officers or under API's 2007 Equity Incentive Plan, as amended. API has not entered into any new agreement or arrangement to provide additional compensation in connection with the Merger and no additional payments to API's named executive officers are expected to be made in connection with the Merger.

Therefore, the advisory stockholder vote relating to golden parachute compensation otherwise required by Item 402(t) of Regulation S-K is not required with respect to API's named executive officers.

Interests of Directors, Executive Officers and Affiliates of Luna

In considering the recommendation of the Luna board of directors with respect to approving the issuance of shares of common stock in connection with the Merger, Luna stockholders should be aware that members of the Luna board of directors and each executive officer of Luna have interests in the Merger that may be different from, or in addition to, interests they may have as Luna stockholders. For example:

the board of directors of the combined company will include four of the six current members of the Luna board of directors, and such directors, with the exception of Mr. Chung, will continue to be entitled to compensation in accordance with Luna's existing non-employee director compensation policy;

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Mr. Chung will continue to serve as President and Chief Executive Officer of the combined company following the Merger;

the remaining executive officers of Luna will continue to serve in their existing capacities with the combined company following the Merger; and

pursuant to Luna's 2014 senior management incentive plan, Luna's executive officers will be entitled to bonuses upon the completion of the Merger based on the determination that the completion of the Merger meets the specified corporate objective to complete a strategic transaction.

These interests and arrangements may create potential conflicts of interest. The Luna board of directors was aware of these potential conflicts of interest and considered them, among other matters, in reaching its decision to approve the Merger Agreement and the transactions contemplated by the Merger Agreement.

Ownership of Luna Following the Merger

After the Merger, API will be a wholly owned subsidiary of Luna and API stockholders will no longer have any direct interest in API. Existing API common stockholders will own approximately 44% of Luna's outstanding common stock after the Merger, and existing Luna common stockholders will own approximately 56% of the outstanding shares of Luna common stock after the Merger. For a more complete discussion of ownership of Luna after the Merger, see the section entitled "Principal Stockholders of the Combined Company."

Material U.S. Federal Income Tax Consequences of the Merger (see page 107)

The Merger is intended to qualify as a "reorganization" within the meaning of Section 368(a) of the Code and the Merger Agreement will qualify as a "plan of reorganization" within the meaning of Sections 1.368-2(g) and 1.368-3(a) of the United States Treasury Regulations and it is a condition of the completion of the Merger that Luna and API each receive written opinions from their respective outside legal counsel regarding such qualification. Accordingly, holders of API common stock generally will not recognize any gain or loss for U.S. federal income tax purposes on the exchange of their API common stock for Luna common stock in the Merger, except with respect to cash received in lieu of fractional shares of Luna common stock.

Tax matters are complicated and the tax consequences to API stockholders of the Merger will depend on each such holder's particular tax situation. In addition, API stockholders may be subject to state, local or foreign tax laws that are not discussed in this joint proxy statement/prospectus. Each API stockholder should consult his or her own tax advisor to fully understand the tax consequences of the Merger.

Regulatory Approvals (see page 106)

Luna must comply with applicable federal and state securities laws and the rules and regulations of the NASDAQ Capital Market in connection with the issuance of shares of Luna common stock to purchase shares of Luna common stock, and the filing of this joint proxy statement/prospectus with the SEC.

NASDAQ Capital Market Listing (see page 106)

Prior to consummation of the Merger, Luna intends to cause all shares of Luna common stock to be issued in connection with the Merger to be approved for listing (subject to notice of issuance) on the NASDAQ Capital Market

as of the Effective Time, including filing any required additional listing applications or notices.

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Anticipated Accounting Treatment (see page 106)

Luna will account for the acquisition of API as a purchase of a business, which means that the assets and liabilities of API will be recorded at their fair values and the results of operations of API will be included in Luna's results from and after the Effective Time, in accordance with Accounting Standards Codification Topic 805, Business Combinations.

Management of Combined Company Following the Merger (see page 185)

Luna currently anticipates that four current directors of Luna (Richard W. Roedel, My E. Chung, Michael M. Wise and John B. Williamson, III), the chairman of the board of directors of API, Donald Pastor, and two directors designated by API, Ed J. Coringrato, Jr. and Gary Spiegel, will serve as its board of directors following completion of the Merger. For a complete discussion of the expected board of directors following the Merger, compensation of directors, and compensation of executive officers, see the section entitled Management of Combined Company Following the Merger.

Comparison of Stockholder Rights (see page 209)

The rights of API stockholders are currently governed by the General Corporation Law of the State of Delaware (the Delaware General Corporation Law), API's certificate of incorporation, as currently in effect, and the amended bylaws of API. The rights of Luna's stockholders are currently governed by the Delaware General Corporation Law, the amended and restated certificate of incorporation of Luna, as currently in effect, and the amended and restated bylaws of Luna. If the Merger is completed, API stockholders will become stockholders of Luna, and their rights will be governed by the amended and restated certificate of incorporation and amended and restated bylaws of Luna in addition to the provisions of the Delaware General Corporation Law. Differences between the certificates of incorporation and bylaws of Luna and API are described under the section entitled Comparison of Luna Stockholders and Advanced Photonix Stockholders Rights and Corporate Governance Matters in this joint proxy statement/prospectus.

Luna Special Meeting of Stockholders (see page 219)

The Luna special meeting will be held at the Roanoke Higher Education Center, 108 N. Jefferson Street, Roanoke, Virginia 24016, at 9:00 a.m., local time, on March 31, 2015. Only holders of record of Luna common stock at the close of business on February 13, 2015 (the Luna record date) are entitled to notice of, attendance at and to vote at, the Luna special meeting or at any adjournment or postponement of the special meeting. As of the Luna record date, there were 15,094,808 shares of Luna common stock outstanding and entitled to vote at the Luna special meeting, held by approximately 74 holders of record. Each holder of Luna common stock is entitled to one vote for each share of Luna common stock owned as of the Luna record date.

There are two proposals to be considered at the Luna special meeting. The first proposal to be considered at the Luna special meeting is a proposal to approve the issuance of shares of Luna common stock, par value \$0.001 per share, in connection with Merger. The second proposal at the Luna special meeting is a proposal to consider and vote upon an adjournment of the Luna special meeting from time to time, if necessary or appropriate (as determined by Luna), to solicit additional proxies if there are not sufficient votes to approve the first proposal described immediately above. If you are a Luna stockholder and fail to return your proxy card or otherwise provide proxy instructions and do not attend the special meeting in person, this will result in your shares not being counted for purposes of determining whether a quorum is present at the Luna special meeting. In the event that a quorum is not reached or the necessary votes are not received, the Luna special meeting may be adjourned to obtain a quorum or the necessary votes.

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The API Special Meeting of Stockholders (see page 223)

The API special meeting will be held at API's corporate headquarters located at 2925 Boardwalk Drive, Ann Arbor, Michigan 48104, at 9:00 a.m., local time, on March 31, 2015. Only holders of record of API common stock at the close of business on February 13, 2015 (the API record date) are entitled to notice of, attendance at and to vote at the API special meeting or at any adjournment or postponement of the special meeting. As of the API record date, there were 37,381,413 shares of API common stock outstanding and entitled to vote at the API special meeting, held by approximately 115 holders of record. Each holder of API common stock is entitled to one vote for each share of API common stock owned as of the API record date.

There are two proposals to be considered at the API special meeting. The first proposal to be considered at the API special meeting is a proposal to adopt the Merger Agreement and approve the transactions contemplated thereby. The second proposal to be considered at the API special meeting is a proposal to vote for an adjournment of the API special meeting from time to time, if necessary or appropriate (as determined by API) to solicit additional proxies if there are not sufficient votes to adopt the first proposal described above. If you are an API stockholder, the failure to return your proxy or otherwise provide proxy instructions or vote your shares in person will have the same effect as voting against API Proposal No. 1. If you are an API stockholder and fail to return your proxy card or otherwise provide proxy instructions and do not attend the API special meeting in person, this will result in your shares not being counted for purposes of determining whether a quorum is present at the API special meeting. In the event that a quorum is not reached or the necessary votes are not received, the API special meeting may be adjourned to obtain the necessary quorum or vote.

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*The Merger involves risks for Luna stockholders and API stockholders. Luna stockholders will be choosing to permit dilution of their percentage ownership of Luna by voting in favor of the issuance of additional shares of Luna common stock in order to complete the Merger. API stockholders will be choosing to no longer control 100% of API and to become stockholders of Luna by voting in favor of the adoption of the Merger Agreement and approval of the transactions contemplated thereby. In addition to the risks that their respective businesses currently face, after the Merger, Luna will be faced with a market environment that cannot be predicted and that involves significant risks, many of which will be beyond its control. These risk factors are not intended to represent a complete list of risks that may affect Luna, API and the combined business, and these risk factors may not be exhaustive. You should carefully consider the risks described below and the other information contained in this joint proxy statement/prospectus, including the matters addressed in the section entitled *Cautionary Statement Concerning Forward-Looking Statements*, before deciding how to vote your shares of common stock.*

Risks Relating to the Merger

API stockholders will receive a fixed ratio of 0.31782 shares of Luna common stock for each share of API common stock they own regardless of any changes in market value of API common stock or Luna common stock before the completion of the Merger.

At the Effective Time of the Merger, each share of API common stock will be converted into the right to receive 0.31782 shares of Luna common stock and cash in lieu of any fractional shares of Luna common stock that would be issued. There will be no adjustment to the exchange ratio (except for adjustments to reflect the effect of any stock split, reverse stock split, stock dividend, reorganization, recapitalization, reclassification or other like change with respect to Luna common stock or API common stock), and the parties do not have a right to terminate the Merger Agreement based upon changes in the market price of either Luna common stock or API common stock. Accordingly, the dollar value of Luna common stock that API stockholders will receive upon completion of the Merger will depend upon the market value of Luna common stock at the time of completion of the Merger, which may be different from, and lower or higher than, the closing price of Luna common stock on the last full trading day preceding the public announcement of the Merger on January 30, 2015, that Luna and API, the last full trading day prior to the date of this joint proxy statement/prospectus or the last full trading day prior to the date of the stockholder meetings. Moreover, completion of the Merger may occur sometime after the requisite stockholder approvals have been obtained. The market values of Luna common stock and API common stock have varied since Luna and API entered into the Merger Agreement and will continue to vary in the future due to changes in the business, operations or prospects of Luna and API, market assessments of the Merger, regulatory considerations, market and economic considerations, and other factors both within and beyond the control of Luna and API.

The issuance of shares of Luna common stock to API stockholders in the Merger will substantially reduce the percentage interests of Luna stockholders.

If the Merger is completed, Luna and API expect that (i) approximately 11,880,560 shares of Luna common stock would be issued to existing API common stockholders (including holders of shares subject to a repurchase option or obligation, risk of forfeiture or other condition under any applicable restricted stock purchase agreement or other agreement with API) and (ii) upon exercise or settlement of assumed options and warrants, up to approximately 1,081,042 shares will be issued to holders of assumed options and warrants.

Existing Luna common stockholders on the one hand, and former API common stockholders on the other hand, are expected to own approximately 56% and 44%, respectively, of the outstanding shares of Luna common stock

following the completion of the Merger based on each of Luna's and API's outstanding common shares as of January 30, 2015. Upon attributing ownership to the former API stockholders of the shares of common stock that may be issued upon exercise of the options or warrants to purchase Luna common stock issued as a result of the

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Merger, and attributing ownership of the shares of Luna common stock issuable upon exercise of outstanding Luna options and restricted stock units (but excluding, for this purpose, the shares of Luna common stock issuable upon conversion of Luna's outstanding Series A convertible preferred stock and upon payment of accrued dividends thereon), existing Luna securityholders would own approximately 57% of the common stock of Luna on a fully diluted basis and the former API securityholders would own approximately 43% of the common stock of Luna on a fully diluted basis. The issuance of shares of Luna common stock to API stockholders in the Merger and the assumption by Luna of API options and warrants will cause a significant reduction in the relative percentage interest of current Luna securityholders in earnings, voting, liquidation value and book and market value.

Certain directors and executive officers of Luna and API have interests in the Merger that may be different from, or in addition to, the interests of Luna stockholders and API stockholders.

Executive officers of Luna and API negotiated the terms of the Merger Agreement under the direction of the board of directors of Luna and API, respectively. The board of directors of Luna approved the Merger Agreement and unanimously recommended that Luna stockholders vote in favor of the issuance of shares of Luna common stock in connection with the Merger, and the board of API unanimously approved the Merger Agreement and the transactions contemplated thereby and unanimously recommended that API stockholders vote in favor of the adoption of the Merger Agreement and approval of the transactions contemplated thereby. These directors and executive officers may have interests in the Merger that are different from, or in addition to, or may be deemed to conflict with, yours. These interests include the continued employment of certain executive officers of Luna by Luna, the continued positions of certain directors of Luna and API as directors of the combined company and the indemnification of former Luna and API directors and officers by the combined company. Certain of API's executive officers will not be continuing employment with the combined company and, as a result, will be entitled to severance payments under the employment agreements with API. Additionally, the Luna executive officers will be entitled to receive certain bonuses as a result of the completion of the Merger under the terms of the 2014 senior management incentive plan. Luna stockholders should be aware of these interests when they consider the Luna board of directors' recommendation that Luna stockholders vote in favor of the proposal to issue shares of Luna common stock in the Merger, and API stockholders should be aware of these interests when they consider the API board of directors' recommendation that they vote in favor of the adoption of the Merger Agreement and approval of the transactions contemplated thereby. For a more detailed discussion of these and other interests of Luna and API directors and executive officers in the Merger, see *Interests of Directors, Executive Officers and Affiliates of Luna* and *Interests of Directors, Executive Officers and Affiliates of API* beginning on page 106 and page 105, respectively, of this joint proxy statement/prospectus.

Provisions of the Merger Agreement may deter alternative business combinations and could negatively impact the stock prices of Luna and API if the Merger Agreement is terminated in certain circumstances.

In connection with the execution and delivery of the Merger Agreement, API and Luna agreed to refrain from soliciting, initiating, or knowingly encouraging or facilitating certain acquisition proposals with any third party, subject to exceptions set forth in the Merger Agreement. The Merger Agreement also provides for the payment by Luna or API of a nonrefundable reimbursement fee of up to \$250,000 or termination fee of \$750,000 if the Merger Agreement is terminated under certain circumstances specified in the Merger Agreement. See the section entitled *The Merger Agreement Termination Fee* and *The Merger Agreement Expenses* beginning on pages 120 and 121, respectively, of this joint proxy statement/prospectus. These provisions limit Luna's and API's ability to pursue offers from third parties that could result in greater value to Luna stockholders or API stockholders, as the case may be. The obligation to pay the termination fee or reimbursement fee also may discourage a third party from pursuing an acquisition proposal. If the Merger is terminated and Luna or API determine to seek another business combination, neither Luna nor API can assure its stockholders that they will be able to negotiate a transaction with another company

on terms comparable to the terms of the Merger, or that they will avoid incurrence of any fees associated with the termination of the Merger Agreement.

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In the event the Merger is terminated by Luna or API in circumstances that obligate either party to pay the termination fee or reimbursement fee to the other party, including where either party terminates the Merger Agreement because the other party's board of directors withdraws its support of the Merger, Luna's and/or API's stock prices may decline.

If the proposed Merger is not completed, Luna and API will have incurred substantial costs that may adversely affect Luna's and API's financial results and operations and the market price of Luna and API common stock.

If the Merger is not completed, the prices of Luna common stock and API common stock may decline to the extent that the current market prices of Luna common stock and API common stock reflect a market assumption that the Merger will be completed. In addition, Luna and API have incurred and will incur substantial costs in connection with the proposed Merger. These costs are primarily associated with the fees of attorneys, accountants and Luna's and API's financial advisors. In addition, Luna and API have each diverted significant management resources in an effort to complete the Merger and are each subject to restrictions contained in the Merger Agreement on the conduct of their respective businesses during the pendency of the Merger. If the Merger is not completed, Luna and API will have received little or no benefit in respect of such costs incurred. Also, if the Merger is not completed under certain circumstances specified in the Merger Agreement, Luna or API may be required to pay a termination fee to the other of \$750,000 or a reimbursement fee to the other of up to \$250,000. See the section entitled "The Merger Agreement Termination Fee" and "The Merger Agreement Expenses" beginning on pages 120 and 121, respectively, of this joint proxy statement/prospectus.

Further, if the Merger is not completed, Luna and API may experience negative reactions from the financial markets and Luna's and API's suppliers, customers and employees. Each of these factors may adversely affect the trading price of Luna and/or API common stock and Luna's and/or API's financial results and operations.

Risks Relating to the Combined Company

The failure to integrate successfully the businesses of Luna and API in the expected timeframe would adversely affect the combined company's future results and the market price of the combined company's common stock following the completion of the Merger.

The success of the Merger will depend, in large part, on sales of the combined company's products and on the ability of the combined company following the completion of the Merger to realize the anticipated benefits, including annual net operating synergies and cost reductions from combining the businesses of Luna and API. To realize these anticipated benefits, the combined company must successfully integrate Luna's and API's respective businesses. This integration will be complex and time-consuming.

The failure to successfully integrate and manage the challenges presented by the integration process may result in the combined company's failure to achieve some or all of the anticipated benefits of the Merger.

Potential difficulties that may be encountered in the integration process include the following:

lost sales and customers as a result of customers of either of the two companies deciding not to do business with the combined company;

complexities associated with managing the larger combined company with distant business locations;

integrating personnel from the two companies while maintaining focus on providing consistent, high quality products;

the loss of key employees;

potential unknown liabilities and unforeseen expenses, delays or regulatory conditions associated with the Merger; and

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performance shortfalls at one or both of the companies as a result of the diversion of management's attention caused by completing the Merger and integrating the companies' operations.

If any of these events were to occur, the ability of the combined company to maintain relationships with customers, suppliers and employees or the combined company's ability to achieve the anticipated benefits of the Merger could be adversely affected, or could reduce the combined company's earnings or otherwise adversely affect its business and financial results after the Merger and, as a result, adversely affect the market price of the combined company's common stock.

The market price for shares of the combined company's common stock may be affected by factors different from those affecting the market price for shares of Luna common stock and API common stock prior to the Merger.

The risks associated with the combined company may affect the results of operations of the combined company differently than they could affect the results of operations of each of Luna and API as separate companies. Additionally, the results of operations of the combined company may be affected by additional or different factors than those that currently affect the results of operations of Luna and API, including, but not limited to: complexities associated with managing the larger, more complex, combined business; integrating personnel from the two companies while maintaining focus on providing products and services; and potential performance shortfalls resulting from the diversion of management's attention caused by integrating the companies' operations.

Failure to develop, introduce and sell new products or failure to develop and implement new technologies, could adversely impact the financial results of the combined company.

Success of the combined company will depend on its ability to develop and introduce new products and software platforms that customers choose to buy. The new products the market requires tend to be increasingly complex, incorporating more functions and operating at faster speeds than old products. If the combined company fails to introduce new product designs or technologies in a timely manner or if customers do not successfully introduce new systems or products incorporating products of the combined company, the business, financial condition and results of operations of the combined company could be materially harmed.

The Merger will result in changes to the Luna board of directors that may affect the combined company's operations.

If the parties complete the Merger, the composition of the Luna board of directors will change in accordance with the Merger Agreement. This new composition of the board of directors may affect the business strategy and operating decisions of the combined company upon completion of the Merger.

If API stockholders sell the shares of Luna common stock received in the Merger, they could cause a decline in the market price of the combined company's common stock.

Luna's issuance of common stock in the Merger will be registered with the SEC. As a result, those shares will be immediately available for resale in the public market following the completion of the Merger. As of January 30, 2015, if the Merger occurred on such date, the number of shares of Luna common stock to be issued to existing API common stockholders, collectively, in connection with the Merger and immediately available for resale would have equaled approximately 44% of the number of outstanding shares of Luna common stock as of such date prior to giving effect to such issuance. API stockholders may sell the stock they receive commencing immediately after the Merger. If this occurs, or if there is a perception in the market that such sales may occur, the market price of the combined company's common stock may decline.

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The unaudited pro forma condensed combined financial information included in this joint proxy statement/prospectus may not be indicative of what the combined company's actual financial position or results of operations would have been.

The unaudited pro forma condensed combined financial information included in this joint proxy statement/prospectus is presented solely for illustrative purposes and is not necessarily indicative of what the combined company's actual financial position or results of operations would have been had the Merger been completed on the dates indicated. This unaudited pro forma condensed combined financial information reflects adjustments that were developed using preliminary estimates based on available information and various assumptions, and may be revised as additional information becomes available. Accordingly, the final acquisition accounting adjustments may differ materially from the pro forma adjustments reflected in this joint proxy statement/prospectus.

Customer uncertainties related to the Merger could adversely affect the businesses, revenues and gross margins of Luna, API and the combined company.

In response to the announcement of the Merger or due to ongoing uncertainty about the Merger, customers of Luna or API may delay or defer purchasing decisions or elect to switch to other suppliers. In particular, prospective customers could be reluctant to purchase the products and services of Luna, API or the combined company due to uncertainty about the direction of the combined company's offerings and willingness to support existing products. To the extent that the Merger creates uncertainty among those persons and organizations contemplating purchases such that customers delay, defer or change purchase decisions in connection with the planned Merger, the revenues of Luna, API or the combined company would be adversely affected. Customer assurances may be made by Luna and API to address their customers' uncertainty about the direction of the combined company's product and related support offerings, which may result in additional obligations of Luna, API or the combined company. As a result of any of these actions, quarterly revenues and net earnings of Luna, API or the combined company could be substantially below market expectations and a decline in the companies' respective stock prices could result.

The combined company must continue to retain, recruit and motivate executive officers and other key employees, and failure to do so could negatively affect the combined company.

The combined company must be successful at retaining, recruiting, and motivating key employees following the completion of the Merger in order for the benefits of the transaction to be fully realized. Employees of both Luna and API may experience uncertainty about their future roles with the combined company until, or even after, strategies with regard to the combined company are announced and executed. The potential distractions related to the Merger may adversely affect the ability of the combined company to keep executives and other key employees focused on business strategies and goals, to address other important personnel matters and to retain them at all. A failure by the combined company to attract, retain, and motivate executives and other key employees during the period prior to or after the completion of the Merger could have a negative impact on their respective businesses.

The combined company may become involved in securities class action litigation that could divert management's attention and harm the combined company's business and insurance coverage may not be sufficient to cover all costs and damages.

In the past, securities class action litigation often follows certain significant business transactions, such as the sale of a business division or a merger. The combined company may become involved in this type of litigation in the future. Litigation often is expensive and diverts management's attention and resources, which could adversely affect the combined company's business.

Table of Contents**Risks Relating to Luna's Business**

Luna's technology is subject to a license from Intuitive, which is revocable in certain circumstances. Without this license, Luna cannot continue to market, manufacture or sell Luna's fiber-optic products.

As a part of the sale of Luna's assets to Intuitive, Luna entered into a license agreement with Intuitive pursuant to which Luna received rights to use all of Luna's transferred technology outside the field of medicine and in respect of Luna's existing non-shape sensing products in certain non-robotic medical fields. This license back to Luna is revocable if after notice and certain time periods, Luna were to (i) challenge the validity or enforceability of the transferred patents and patent applications, (ii) commercialize Luna's fiber optical shape sensing and localization technology in the field of medicine (except to perform on a development and supply project for Hansen), (iii) violate Luna's obligations related Luna's ability to sublicense in the field of medicine or (iv) violate Luna's confidentiality obligations in a manner that advantages a competitor in the field of medicine and not cure such violation. Maintaining this license is necessary for Luna to conduct Luna's fiber-optic products business, both for Luna's telecom products and Luna's ODiSI sensing products. If this license were to be revoked by Intuitive, Luna would no longer be able to market, manufacture or sell these products which would severely limit Luna's ability to continue operations.

If there are substantial sales of Luna's common stock, or the perception that such sales may occur, Luna's stock price could decline.

If any of Luna's stockholders were to sell substantial amounts of Luna's common stock, the market price of Luna's common stock may decline, which might make it more difficult for Luna to sell equity or equity-related securities in the future at a time and price that Luna deems appropriate. Substantial sales of Luna's common stock, or the perception that such sales may occur, may have a material adverse effect on the prevailing market price of Luna's common stock.

Pursuant to an Investor Rights Agreement, Luna filed a Form S-3 registration statement earlier in 2014 registering the potential resale of an aggregate of up to approximately 6.3 million shares of Luna's common stock by Luna's then two largest stockholders, Carilion Clinic, or Carilion and Dr. Kent Murphy. This registration statement has been declared effective by the Securities and Exchange Commission, and Dr. Murphy has sold substantially all of his approximately 2.8 million shares included in the registration statement. Carilion continues to hold its approximately 3.5 million shares covered by the registration statement (including approximately 1.3 million shares issuable to Carilion upon conversion of shares of Series A Convertible Preferred Stock that Carilion holds). Because the registration statement is effective, these shares may be sold freely in the public market. Any sales of these shares, or the perception that future sales of shares may occur by Carilion or any of Luna's other significant stockholders, may have a material adverse effect on the market price of Luna's stock. Any such continuing material adverse effect on the market price of Luna's stock could impair Luna's ability to comply with NASDAQ's continuing listing standards in respect of Luna's minimum stock price, as further described below.

Luna's narrowed scope and focus may make it more difficult for Luna to achieve or maintain operating profitability.

Through the recent sales of SCC to Mac-B and of Luna's medical shape sensing business to Intuitive, Luna has reduced Luna's overall size and narrowed Luna's focus to one key growth objective: to become the leading provider of fiber optic strain & temperature sensing solutions and standard test methods for composite, as well as non-composite, materials, structures and systems. There can be no guarantee that Luna will be successful in pursuing this objective. Although Luna anticipates realizing cost savings as a result of the sale of assets to Mac-B and Intuitive, Luna will continue to incur significant operating expenses associated with Luna's public company infrastructure. Accordingly, Luna will need to significantly increase the revenues Luna generates from Luna's remaining operations in order to

achieve or maintain operating profitability, and there can be no guarantee that Luna will be able to do so.

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Luna depends on third-party vendors for specialized components in Luna's manufacturing operations, making Luna vulnerable to supply shortages and price fluctuations that could harm Luna's business.

Luna primarily relies on third-party vendors for the manufacture of the specialized components used in Luna's products. The highly specialized nature of Luna's supply requirements poses risks that Luna may not be able to locate additional sources of the specialized components required in Luna's business. For example, there are few manufacturers who produce the special lasers used in Luna's optical test equipment. Luna's reliance on these vendors subjects Luna to a number of risks that could negatively affect Luna's ability to manufacture Luna's products and harm Luna's business, including interruption of supply. Although Luna is now manufacturing tunable lasers in low-rate initial production, Luna expects an overall reliance on third-party vendors to continue. Any significant delay or interruption in the supply of components, or Luna's inability to obtain substitute components or materials from alternate sources at acceptable prices and in a timely manner could impair Luna's ability to meet the demand of Luna's customers and could harm Luna's business.

As a provider of contract research to the U.S. government, Luna is subject to federal rules, regulations, audits and investigations, the violation or failure of which could adversely affect Luna's business.

Luna must comply with and is affected by laws and regulations relating to the award, administration and performance of U.S. government contracts. Government contract laws and regulations affect how Luna does business with Luna's government customers and, in some instances, impose added costs on Luna's business. A violation of a specific law or regulation could result in the imposition of fines and penalties, termination of Luna's contracts or debarment from bidding on contracts. In some instances, these laws and regulations impose terms or rights that are more favorable to the government than those typically available to commercial parties in negotiated transactions. For example, the U.S. government may terminate any of Luna's government contracts and, in general, subcontracts, at their convenience, as well as for default based on performance.

In addition, U.S. government agencies, including the Defense Contract Audit Agency and the Department of Labor, routinely audit and investigate government contractors. These agencies review a contractor's performance under its contracts, cost structure and compliance with applicable laws, regulations and standards. The U.S. government also may review the adequacy of, and a contractor's compliance with, its internal control systems and policies, including the contractor's purchasing, property, estimating, compensation and management information systems. Any costs found to be improperly allocated to a specific contract will not be reimbursed, while such costs already reimbursed must be refunded. If an audit uncovers the inclusion of certain claimed costs deemed to be expressly unallowable, as with the preliminary audit report Luna received in September 2014 from the Defense Contract Audit Agency, or improper or illegal activities, Luna may be subject to civil and criminal penalties and administrative sanctions, including termination of contracts, forfeiture of profits, suspension of payments, fines and suspension or prohibition from doing business with the U.S. government. In addition, Luna's reputation could suffer serious harm if allegations of impropriety were made against Luna.

In addition to the risk of government audits and investigations, U.S. government contracts and grants impose requirements on contractors and grantees relating to ethics and business practices, which carry civil and criminal penalties including monetary fines, assessments, loss of the ability to do business with the U.S. government and certain other criminal penalties.

Luna may also be prohibited from commercially selling certain products that Luna develops under Luna's Technology Development segment or related products based on the same core technologies if the U.S. government determines that the commercial availability of those products could pose a risk to national security. For example, certain of Luna's wireless technologies have been classified as secret by the U.S. government and as a result Luna cannot sell them

commercially. Any of these determinations would limit Luna's ability to generate product sales and license revenues.

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Luna's failure to attract, train and retain skilled employees or members of Luna's senior management and to obtain necessary security clearances for such persons or maintain a facility security clearance would adversely affect Luna's business and operating results.

The availability of highly trained and skilled technical and professional personnel is critical to Luna's future growth and profitability. Competition for scientists, engineers, technicians and professional personnel is intense and Luna's competitors aggressively recruit key employees. In the past, Luna has experienced difficulties in recruiting and hiring these personnel as a result of the tight labor market in certain fields. Any difficulty in hiring or retaining qualified employees, combined with Luna's growth strategy and future needs for additional experienced personnel, particularly in highly specialized areas such as nanomaterial manufacturing and fiber optic sensing technologies, may make it more difficult to meet all of Luna's needs for these employees in a timely manner. Although Luna intends to continue to devote significant resources to recruit, train and retain qualified employees, Luna may not be able to attract and retain these employees, especially in technical fields in which the supply of experienced qualified candidates is limited, or at the senior management level. Any failure to do so would have an adverse effect on Luna's business. Any loss of key personnel could have a material adverse effect on Luna's ability to meet key operational objectives, such as timely and effective project milestones and product introductions, which in turn could adversely affect Luna's business, results of operations and financial condition.

Luna provides certain services to the U.S. government that require Luna to maintain a facility security clearance and for certain of Luna's employees and Luna's board chairman to hold security clearances. In general, the failure for necessary persons to obtain or retain sufficient security clearances, any loss by Luna of a facility security clearance or any public reprimand related to security matters could result in a U.S. government customer terminating an existing contract or choosing not to renew a contract or prevent Luna from bidding on or winning certain new government contracts.

In addition, Luna's future success depends in a large part upon the continued service of key members of Luna's senior management team. Luna does not maintain any key-person life insurance policies on Luna's officers. The loss of any members of Luna's management team or other key personnel could seriously harm Luna's business.

Luna relies and will continue to rely on contracts and grants awarded under the SBIR program for a significant portion of Luna's revenues. A finding by the SBA that Luna no longer qualifies to receive SBIR awards could adversely affect Luna's business.

Luna competes as a small business for some of Luna's government contracts. Luna's revenues derived from the Small Business Innovation Research, or SBIR, program account for a significant portion of Luna's consolidated total revenues, and contract research, including SBIR contracts, will remain a significant portion of Luna's consolidated total revenues for the foreseeable future.

Luna may not continue to qualify to participate in the SBIR program or to receive new SBIR awards from federal agencies. In order to qualify for SBIR contracts and grants, Luna must meet certain size and ownership eligibility criteria. These eligibility criteria are applied as of the time of the award of a contract or grant. A company can be declared ineligible for a contract award as a result of a size challenge filed with the SBA by a competitor or a federal agency.

In order to be eligible for SBIR contracts and grants, under current SBA rules Luna must be more than 50% owned and controlled by individuals who are U.S. citizens or permanent resident aliens, and/or other small business concerns (each of which is more than 50% owned and controlled by individuals who are U.S. citizens or permanent resident aliens) or certain qualified investment companies. In the event Luna's institutional ownership significantly increases,

either because of increased buying by institutions or selling by individuals, Luna could lose eligibility for new SBIR contracts and grants.

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Also, in order to be eligible for SBIR contracts and grants, the number of Luna's employees, including those of any entities that are considered to be affiliated with us, cannot exceed 500. As of January 30, 2015, Luna had approximately 117 employees. In determining whether Luna is affiliated with any other entity, the SBA may analyze whether another entity controls or has the power to control us. Carilion is Luna's largest institutional stockholder. Since early 2011, a formal size determination by the SBA that focused on whether or not Carilion is or was Luna's affiliate has been outstanding. Although Luna does not believe that Carilion has or had the power to control Luna, it cannot assure you that the SBA will interpret its regulations in Luna's favor on this question. If the SBA were to make a determination that Luna is or was affiliated with Carilion, Luna would exceed the size limitations, as Carilion has over 500 employees. In that case, Luna would lose eligibility for new SBIR contracts and grants and other awards that are set aside for small businesses based on the criterion of number of employees, and the relevant government agency would have the discretion to suspend performance on existing SBIR grants. The loss of Luna's eligibility to receive SBIR awards would have a material adverse impact on Luna's revenues, cash flows and Luna's ability to fund Luna's growth.

Moreover, as Luna's business grows, it is foreseeable that Luna will eventually exceed the SBIR size limitations, in which case Luna may be required to seek alternative sources of revenues or capital.

A decline in government research contract awards or government funding for existing or future government research contracts, including SBIR contracts, could adversely affect Luna's revenues, cash flows and ability to fund Luna's growth.

Technology development revenues, which consist primarily of government-funded research, accounted for approximately 57% and 67% of Luna's consolidated total revenues for the three months ended September 30, 2014 and 2013, respectively. As a result, Luna is vulnerable to adverse changes in Luna's revenues and cash flows if a significant number of Luna's research contracts and subcontracts were to be simultaneously delayed or canceled for budgetary, performance or other reasons. For example, the U.S. government may cancel these contracts at any time without cause and without penalty or may change its requirements, programs or contract budget, any of which could reduce Luna's revenues and cash flows from U.S. government research contracts. Luna's revenues and cash flows from U.S. government research contracts and subcontracts could also be reduced by declines or other changes in U.S. defense, homeland security and other federal agency budgets. In addition, Luna competes as a small business for some of these contracts, and in order to maintain Luna's eligibility to compete as a small business, Luna, together with any affiliates, must continue to meet size and revenue limitations established by the U.S. government.

Luna's contract research customer base includes government agencies, corporations and academic institutions. Luna's customers are not obligated to extend their agreements with Luna and may elect not to do so. Also, Luna's customers priorities regarding funding for certain projects may change and funding resources may no longer be available at previous levels.

In addition, the Budget Control Act commits the U.S. Government to reduce the federal deficit by \$1.2 trillion over ten years through a combination of automatic, across-the-board spending cuts and caps on discretionary spending. This sequestration under the Budget Control Act, which is split equally between defense and non-defense programs, went into effect on March 1, 2013. The appropriate resolution reflecting a budget deal for fiscal years 2014 and 2015 reduces but does not eliminate these sequestration cuts. Any spending cuts required by sequestration could have a material adverse effect on Luna's technology development revenues and, consequently, Luna's results of operations. While the exact manner in which this sequestration may impact Luna's business remains unclear, funding for programs in which Luna participates could be reduced, delayed or canceled. Luna's ability to obtain new contract awards also could be negatively affected.

In addition to contract cancellations and changes in agency budgets, Luna's future financial results may be adversely affected by curtailment of or restrictions on the U.S. government's use of contract research providers, including curtailment due to government budget reductions and related fiscal matters or any legislation or

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resolution limiting the number or amount of awards Luna may receive. These or other factors could cause U.S. defense and other federal agencies to conduct research internally rather than through commercial research organizations or direct awards to other organizations, to reduce their overall contract research requirements or to exercise their rights to terminate contracts. Alternatively, the U.S. government may discontinue the SBIR program or its funding altogether. Also, SBIR regulations permit increased competition for SBIR awards from companies that may not have previously been eligible, such as those backed by venture capital operating companies, hedge funds and private equity firms. Any of these developments could limit Luna's ability to obtain new contract awards and adversely affect Luna's revenues, cash flows and ability to fund Luna's growth.

The results of Luna's operations could be adversely affected by economic and political conditions and the effects of these conditions on Luna's customers' businesses and levels of business activity.

Global economic and political conditions affect Luna's customers' businesses and the markets they serve. A severe or prolonged economic downturn or a negative or uncertain political climate could adversely affect Luna's customers' financial conditions and the timing or levels of business activity of Luna's customers and the industries Luna serves. This may reduce the demand for Luna's products or depress pricing for Luna's products and have a material adverse effect on Luna's results of operations. Changes in global economic conditions could also shift demand to products or services for which Luna does not have competitive advantages, and this could negatively affect the amount of business Luna is able to obtain. In addition, if Luna is unable to successfully anticipate changing economic and political conditions, Luna may be unable to effectively plan for and respond to those changes, and Luna's business could be negatively affected as a result.

There was a rapid softening of the economy and tightening of the financial markets in 2008 and 2009. This slowing of the economy has reduced the financial capacity of some of Luna's customers and, to the extent that such economic conditions continue in certain industries, it could continue to affect Luna's potential customers, thereby slowing spending on the products and services Luna provides. The outlook for the economy in 2015 and beyond remains uncertain, and until there is a sustained economic recovery Luna's revenues and results of operations could be negatively impacted.

Luna has a history of losses, and because Luna's strategy for expansion may be costly to implement, Luna may experience continuing losses and may never achieve or maintain profitability or positive cash flow.

Luna realized a net loss from continuing operations of \$0.5 million for the three months ended September 30, 2014, compared to \$0.8 million for the same period in 2013. Luna expects to continue to incur significant expenses as Luna pursues strategic initiatives, including increased expenses for research and development, sales and marketing and manufacturing. Luna's business may grow in part through acquisitions of additional companies and complementary technologies which could cause Luna to incur greater than anticipated transaction expenses, amortization or write-offs of intangible assets and other acquisition-related expenses. As a result, Luna expects to incur net losses for the foreseeable future, and these losses could be substantial. At a certain level, continued net losses could impair Luna's ability to comply with NASDAQ continued listing standards, as described further below.

Luna's ability to generate additional revenues and to become profitable will depend on Luna's ability to execute Luna's key growth initiative regarding the development, marketing and sale of sensing products, develop and commercialize innovative technologies, expand Luna's contract research capabilities and sell the products that result from those development initiatives. Luna is unable to predict when or if Luna will be able to achieve profitability. If Luna's revenues do not increase, or if Luna's expenses increase at a greater rate than Luna's revenues, Luna will continue to experience losses. Even if Luna does achieve profitability, Luna may not be able to sustain or increase Luna's profitability on a quarterly or annual basis.

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Luna has obtained capital by borrowing money under a term loan and Luna might require additional capital to support and expand Luna's business; Luna's term loan has various loan covenants with which Luna must comply.

Luna intends to continue to make investments to support Luna's business growth, including developing new products, enhancing Luna's existing products, obtaining important regulatory approvals, enhancing Luna's operating infrastructure, completing Luna's development activities and building Luna's commercial scale manufacturing facilities. To the extent that Luna is unable to become or remain profitable and to finance Luna's activities from Luna's continuing operations, Luna may require additional funds to support these initiatives and to grow Luna's business.

If Luna is successful in raising additional funds through issuances of equity or convertible debt securities, Luna's existing stockholders could suffer significant dilution, including as the result of the issuance of warrants in connection with the financing, and any new equity securities Luna issues could have rights, preferences and privileges superior to those of Luna's existing common stock. Furthermore, such financings may jeopardize Luna's ability to apply for SBIR grants or qualify for SBIR contracts or grants, and Luna's dependence on SBIR grants may restrict Luna's ability to raise additional outside capital. If Luna raises additional funds through debt financings, these financings may involve significant cash payment obligations and covenants that restrict Luna's ability to operate Luna's business and make distributions to Luna's stockholders.

Luna has a term loan with SVB, which requires Luna to observe certain financial and operational covenants, including maintenance of a specified cash balance, protection and registration of intellectual property rights, and certain customary negative covenants, as well as other customary events of default. If any event of default occurs SVB may declare due immediately all borrowings under Luna's term loan and foreclose on the collateral. Furthermore, an event of default would result in an increase in the interest rate on any amounts outstanding.

If Luna is unable to obtain adequate financing or financing terms satisfactory to Luna when Luna requires it, Luna's ability to continue to support Luna's business growth and to respond to business challenges could be significantly limited.

Risks Relating to Luna's Operations and Business Strategy

If Luna cannot successfully transition Luna's revenue mix from contract research revenues to product sales and license revenues, Luna may not be able to fully execute Luna's business model or grow Luna's business.

Luna's business model and future growth depend on Luna's ability to transition to a revenue mix that contains significantly larger product sales and revenues from the provision of services or from licensing. Product sales and these revenues potentially offer greater scalability than contract research revenues. Luna's current plan is to increase Luna's sales of commercial products, Luna's licensing revenues and Luna's provision of non-research services to customers so as to represent a larger percentage of Luna's total revenues. If Luna is unable to develop and grow Luna's product sales and revenues from the provision of services or from licensing to augment Luna's contract research revenues, however, Luna's ability to execute Luna's business model or grow Luna's business could suffer. There can be no assurance that Luna will be able to achieve increased revenues in this manner.

If Luna is unable to manage growth effectively, Luna's revenues and net loss could be adversely affected.

Luna may need to expand Luna's personnel resources to grow Luna's business effectively. Luna believes that sustained growth at a higher rate will place a strain on Luna's management as well as on Luna's other human resources. To manage this growth, Luna must continue to attract and retain qualified management, professional, scientific and technical and operating personnel. If Luna is unable to recruit a sufficient number of qualified personnel, Luna may be

unable to staff and manage projects adequately, which in turn may slow the rate of growth of Luna's contract research revenues or Luna's product development efforts.

Table of Contents***Luna may not be successful in identifying market needs for new technologies or in developing new products.***

Part of Luna's business model depends on Luna's ability to correctly identify market needs for new technologies. Luna intends to identify new market needs, but Luna may not always have success in doing so in part because Luna's contract research largely centers on identification and development of unproven technologies, often for new or emerging markets. Furthermore, Luna must identify the most promising technologies from a sizable pool of projects. If Luna's commercialization strategy process fails to identify projects with commercial potential or if management does not ensure that such projects advance to the commercialization stage, Luna may not successfully commercialize new products and grow Luna's revenues.

Luna's growth strategy requires that Luna also develops successful commercial products to address market needs. Luna faces several challenges in developing successful new products. Many of Luna's existing products and those currently under development are technologically innovative and require significant and lengthy product development efforts. These efforts include planning, designing, developing and testing at the technological, product and manufacturing-process levels. These activities require Luna to make significant investments. Although there are many potential applications for Luna's technologies, Luna's resource constraints require Luna to focus on specific products and to forgo other opportunities. Luna expects that one or more of the potential products Luna chooses to develop will not be technologically feasible or will not achieve commercial acceptance, and Luna cannot predict which, if any, of Luna's products Luna will successfully develop or commercialize. The technologies Luna research and develop are new and steadily changing and advancing. The products that are derived from these technologies may not be applicable or compatible with the state of technology or demands in existing markets. Luna's existing products and technologies may become uncompetitive or obsolete if Luna's competitors adapt more quickly than Luna does to new technologies and changes in customers' requirements. Furthermore, Luna may not be able to identify if and when new markets will open for Luna's products given that future applications of any given product may not be readily determinable, and Luna cannot reasonably estimate the size of any markets that may develop. If Luna is not able to successfully develop new products, Luna may be unable to increase Luna's product revenues.

Luna faces and will face substantial competition in several different markets that may adversely affect Luna's results of operations.

Luna faces and will face substantial competition from a variety of companies in several different markets. As Luna focuses on developing marketing and selling fiber optic sensing products, Luna may also face substantial and entrenched competition in that market.

Many of Luna's competitors have longer operating histories, greater name recognition, larger customer bases and significantly greater financial, sales and marketing, manufacturing, distribution, technical and other resources than Luna does. These competitors may be able to adapt more quickly to new or emerging technologies and changes in customer requirements. In addition, current and potential competitors have established or may establish financial or strategic relationships among themselves or with existing or potential customers or other third parties. Accordingly, new competitors or alliances among competitors could emerge and rapidly acquire significant market share. Luna cannot assure you that Luna will be able to compete successfully against current or new competitors, in which case Luna's revenues may fail to increase or may decline.

Luna has limited experience manufacturing Luna's products in commercial quantities in a cost-effective manner, which could adversely impact Luna's business.

In the past, Luna produced most of Luna's products on a custom order basis rather than pursuant to large contracts that require production on a large volume basis. Accordingly, other than the commercial manufacture of products by

Luna's Products and Licensing segment, Luna has no experience manufacturing products in large volumes. Because Luna's experience in large scale manufacturing is limited, Luna may encounter unforeseen difficulties in Luna's efforts to manufacture other products or materials in commercial quantities or have to rely

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on third-party contractors over which Luna may not have direct control to manufacture Luna's products. Luna may also encounter difficulties and delays in manufacturing Luna's products for any of the following reasons:

Luna may need to expand Luna's manufacturing operations, and Luna's production processes may have to change to accommodate this growth;

to increase Luna's manufacturing output significantly, Luna will have to attract and retain qualified employees, who are in short supply, for the assembly and testing operations;

Luna might have to sub-contract to outside manufacturers which might limit Luna's control of costs and processes; and

Luna's manufacturing operations may have to comply with government or customer-mandated specifications. If Luna is unable to keep up with demand for Luna's products, Luna's revenues could be impaired, market acceptance of Luna's products could be adversely affected and Luna's customers might instead purchase Luna's competitors products. Moreover, failure to develop and maintain a U.S. market for goods developed with U.S. government-licensed technology may result in the cancellation of the relevant U.S. government licenses. Luna's inability to manufacture Luna's products successfully would have a material adverse effect on Luna's revenues.

Even if Luna is able to manufacture Luna's products on a commercial scale, the cost of manufacturing Luna's products may be higher than Luna expects. If the costs associated with manufacturing are not significantly less than the prices at which Luna can sell Luna's products, Luna may not be able to operate at a profit.

Luna's nanotechnology-enabled products are new and may be, or may be perceived as being, harmful to human health or the environment.

While Luna believes that none of its current products contain chemicals known by Luna to be hazardous or subject to environmental regulation, it is possible that Luna's current or future products, particularly carbon-based nanomaterials, may become subject to environmental or other regulation. Luna intends to develop and sell carbon-based nanomaterials as well as nanotechnology-enabled products, which are products that include nanomaterials as a component to enhance those products' performance. Nanomaterials and nanotechnology-enabled products have a limited historical safety record. Because of their size or shape or because they may contain harmful elements, such as gadolinium and other rare-earth metals, Luna's products could pose a safety risk to human health or the environment. These characteristics may also cause countries to adopt regulations in the future prohibiting or limiting the manufacture, distribution or use of nanomaterials or nanotechnology-enabled products.

Such regulations may inhibit Luna's ability to sell some products containing those materials and thereby harm Luna's business or impair Luna's ability to develop commercially viable products.

The subject of nanotechnology has received negative publicity and has aroused public debate. Government authorities could, for social or other purposes, prohibit or regulate the use of nanotechnology. Ethical and other concerns about nanotechnology could adversely affect acceptance of Luna's potential products or lead to government regulation of nanotechnology-enabled products.

Luna faces risks associated with its international business.

Luna currently conducts business internationally and might considerably expand Luna's international activities in the future. Luna's international business operations are subject to a variety of risks associated with conducting business internationally, including:

having to comply with U.S. export control regulations and policies that restrict Luna's ability to communicate with non-U.S. employees and supply foreign affiliates and customers;

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changes in or interpretations of foreign regulations that may adversely affect Luna's ability to sell Luna's products, perform services or repatriate profits to the United States;

the imposition of tariffs;

hyperinflation or economic or political instability in foreign countries;

imposition of limitations on, or increase of withholding and other taxes on remittances and other payments by foreign subsidiaries or joint ventures;

conducting business in places where business practices and customs are unfamiliar and unknown;

the imposition of restrictive trade policies;

the imposition of inconsistent laws or regulations;

the imposition or increase of investment and other restrictions or requirements by foreign governments;

uncertainties relating to foreign laws and legal proceedings;

having to comply with a variety of U.S. laws, including the Foreign Corrupt Practices Act; and

having to comply with licensing requirements.

Luna does not know the impact that these regulatory, geopolitical and other factors may have on Luna's international business in the future.

Luna could be negatively affected by a security breach, either through cyber attack, cyber intrusion or other significant disruption of Luna's IT networks and related systems.

Luna faces the risk, as does any company, of a security breach, whether through cyber attack or cyber intrusion over the internet, malware, computer viruses, attachments to e-mails, persons inside Luna's organization or persons with access to systems inside Luna's organization, or other significant disruption of Luna's IT networks and related systems. The risk of a security breach or disruption, particularly through cyber attack or cyber intrusion, including by computer hackers, foreign governments and cyber terrorists, has increased as the number, intensity and sophistication of attempted attacks and intrusions from around the world have increased.

As a technology company, and particularly as a government contractor, Luna may face a heightened risk of a security breach or disruption from threats to gain unauthorized access to Luna's proprietary, confidential or classified

information on Luna's IT networks and related systems. These types of information and IT networks and related systems are critical to the operation of Luna's business and essential to Luna's ability to perform day-to-day operations, and, in some cases, are critical to the operations of certain of Luna's customers. In addition, as certain of Luna's technological capabilities become widely known, it is possible that Luna may be subjected to cyber attack or cyber intrusion as third parties seek to gain improper access to information regarding these capabilities and cyber attacks or cyber intrusion could compromise Luna's confidential information or Luna's IT networks and systems generally, as it is not practical as a business matter to isolate all of Luna's confidential information and trade secrets from email and internet access. There can be no assurance that Luna's security efforts and measures will be effective or that attempted security breaches or disruptions would not be successful or damaging.

A security breach or other significant disruption involving these types of information and IT networks and related systems could disrupt the proper functioning of these networks and systems and therefore Luna's operations, compromise Luna's confidential information and trade secrets, or damage Luna's reputation among Luna's customers and the public generally. Any of these developments could have a negative impact on Luna's results of operations, financial condition and cash flows.

Table of Contents**Risks Relating to Luna's Regulatory Environment**

Luna's operations are subject to domestic and foreign laws, regulations and restrictions, and noncompliance with these laws, regulations and restrictions could expose Luna to fines, penalties, suspension or debarment, which could have a material adverse effect on Luna's profitability and overall financial position.

Luna's operations, particularly Luna's international sales, subject Luna to numerous U.S. and foreign laws and regulations, including, without limitation, regulations relating to imports, exports (including the Export Administration Regulations and the International Traffic in Arms Regulations), technology transfer restrictions, anti-boycott provisions, economic sanctions and the Foreign Corrupt Practices Act. The number of Luna's various emerging technologies, the development of many of which has been funded by the Department of Defense, presents Luna with many regulatory challenges. Failure by Luna or Luna's sales representatives or consultants to comply with these laws and regulations could result in administrative, civil, or criminal liabilities and could result in suspension of Luna's export privileges, which could have a material adverse effect on Luna's business. Changes in regulation or political environment may affect Luna's ability to conduct business in foreign markets including investment, procurement and repatriation of earnings.

Luna's healthcare and medical products are and may continue to be subject to a lengthy and uncertain domestic regulatory approval process. If Luna does not obtain and maintain the necessary domestic regulatory approvals or clearances, Luna will not be able to market and sell Luna's products for clinical use in the United States. Complying with applicable regulations is an expensive and time-consuming process and any failure to fully comply with such regulations could subject Luna to enforcement actions.

Certain of Luna's current and potential products could require regulatory clearances or approvals prior to commercialization. For example, any nanomaterial-based MRI contrast agent is likely to be considered a drug under the Federal Food, Drug and Cosmetic Act, or the FDC Act. Drugs and some medical devices are subject to rigorous preclinical testing and other approval requirements by the U.S. Food and Drug Administration, or the FDA, pursuant to the FDC Act, and regulations under the FDC Act, as well as by similar health authorities in foreign countries.

Various federal statutes and regulations also govern or influence the testing, manufacturing, safety, labeling, packaging, advertising, storage, registration, listing and recordkeeping related to marketing of pharmaceuticals. The process of obtaining these clearances or approvals and the subsequent compliance with appropriate federal statutes and regulations require the expenditure of substantial resources, which Luna may not be able to obtain on favorable terms, if at all. Luna cannot be certain that any required FDA or other regulatory approval will be granted or, if granted, will not be withdrawn. Luna's failure to obtain the necessary regulatory approvals, or Luna's failure to obtain them in a timely manner, will prevent or delay Luna's commercialization of new products and Luna's business or Luna's stock price could be adversely affected as a result.

Luna will also become subject to inspection and marketing surveillance by the FDA to determine Luna's compliance with regulatory requirements. If the FDA determines that Luna has failed to comply, it can institute a wide variety of enforcement actions ranging from a regulatory letter to a public warning letter to more severe civil and criminal sanctions. Luna's failure to comply with applicable requirements could lead to an enforcement action that may have an adverse effect on Luna's financial condition and results of operations.

If Luna's manufacturing facilities do not meet Federal, state or foreign country manufacturing standards, Luna may be required to temporarily cease all or part of its manufacturing operations, which would result in product delivery delays and negatively impact revenues.

Luna's manufacturing facilities are subject to periodic inspection by regulatory authorities and Luna's operations will continue to be regulated by the FDA for compliance with Good Manufacturing Practice requirements contained in the quality systems regulations. Luna is also required to comply with International Organization for Standardization, or ISO, quality system standards in order to produce products for sale in Europe. If Luna fails to

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continue to comply with Good Manufacturing Practice requirements or ISO standards, Luna may be required to cease all or part of Luna's operations until Luna complies with these regulations. Obtaining and maintaining such compliance is difficult and costly. Luna cannot be certain that Luna's facilities will be found to comply with Good Manufacturing Practice requirements or ISO standards in future inspections and audits by regulatory authorities. In addition, if Luna cannot maintain or establish manufacturing facilities or operations that comply with such standards or do not meet the expectations of its customers, Luna may not be able to realize certain economic opportunities in Luna's current or future supply arrangements.

Medical products are subject to various international regulatory processes and approval requirements. If Luna does not obtain and maintain the necessary international regulatory approvals for any such potential products, Luna may not be able to market and sell Luna's medical products in foreign countries.

To be able to market and sell medical products in other countries, Luna must obtain regulatory approvals and comply with the regulations of those countries. These regulations, including the requirements for approvals and the time required for regulatory review, vary from country to country. Obtaining and maintaining foreign regulatory approvals are expensive, and Luna cannot be certain that it will have the resources to be able to pursue such approvals or whether Luna would receive regulatory approvals in any foreign country in which Luna plans to market its products. For example, the European Union requires that manufacturers of medical products obtain the right to affix the CE mark to their products before selling them in member countries of the European Union, which Luna has not yet obtained and may never obtain. If Luna fails to obtain regulatory approval in any foreign country in which Luna plans to market its products, Luna's ability to generate revenues will be harmed.

Luna is subject to additional significant foreign and domestic government regulations, including environmental and health and safety regulations, and failure to comply with these regulations could harm Luna's business.

Luna's facilities and current and proposed activities involve the use of a broad range of materials that are considered hazardous under applicable laws and regulations. Accordingly, Luna is subject to a number of foreign, federal, state and local laws and regulations relating to health and safety, protection of the environment and the storage, use, disposal of, and exposure to, hazardous materials and wastes. Luna could incur costs, fines and civil and criminal penalties, personal injury and third party property damage claims, or could be required to incur substantial investigation or remediation costs, if Luna was to violate or become liable under environmental, health and safety laws. Moreover, a failure to comply with environmental laws could result in fines and the revocation of environmental permits, which could prevent Luna from conducting Luna's business. Liability under environmental laws can be joint and several and without regard to fault. There can be no assurance that violations of environmental and health and safety laws will not occur in the future as a result of the inability to obtain permits, human error, equipment failure or other causes. Environmental laws could become more stringent over time, imposing greater compliance costs and increasing risks and penalties associated with violations, which could harm Luna's business. Accordingly, violations of present and future environmental laws could restrict Luna's ability to expand facilities, pursue certain technologies, and could require Luna to acquire costly equipment or incur potentially significant costs to comply with environmental regulations.

Compliance with foreign, federal, state and local environmental laws and regulations represents a small part of Luna's present budget. If Luna fails to comply with any such laws or regulations, however, a government entity may levy a fine on Luna or require Luna to take costly measures to ensure compliance. Any such fine or expenditure may adversely affect Luna's development. Luna cannot predict the extent to which future legislation and regulation could cause Luna to incur additional operating expenses, capital expenditures or restrictions and delays in the development of Luna's products and properties.

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Risks Relating to Luna's Intellectual Property

Luna's proprietary rights may not adequately protect Luna's technologies.

Luna's commercial success will depend in part on Luna's obtaining and maintaining patent, trade secret, copyright and trademark protection of Luna's technologies in the United States and other jurisdictions as well as successfully enforcing this intellectual property and defending it against third-party challenges. Luna will only be able to protect its technologies from unauthorized use by third parties to the extent that valid and enforceable intellectual property protections, such as patents or trade secrets, cover them. In particular, Luna places considerable emphasis on obtaining patent and trade secret protection for significant new technologies, products and processes. The degree of future protection of Luna's proprietary rights is uncertain because legal means afford only limited protection and may not adequately protect Luna's rights or permit Luna to gain or keep Luna's competitive advantage. The degree of future protection of Luna's proprietary rights is also uncertain for products that are currently in the early stages of development because Luna cannot predict which of these products will ultimately reach the commercial market or whether the commercial versions of these products will incorporate proprietary technologies.

Luna's patent position is highly uncertain and involves complex legal and factual questions. Accordingly, Luna cannot predict the breadth of claims that may be allowed or enforced in Luna's patents or in third-party patents. For example:

Luna or its licensors might not have been the first to make the inventions covered by each of Luna's pending patent applications and issued patents;

Luna or its licensors might not have been the first to file patent applications for these inventions;

others may independently develop similar or alternative technologies or duplicate any of Luna's technologies;

it is possible that none of Luna's pending patent applications or the pending patent applications of Luna's licensors will result in issued patents;

patents may issue to third parties that cover how Luna might practice its technology;

Luna's issued patents and issued patents of Luna's licensors may not provide a basis for commercially viable technologies, may not provide Luna with any competitive advantages, or may be challenged and invalidated by third parties; and

Luna may not develop additional proprietary technologies that are patentable.

Patents may not be issued for any pending or future pending patent applications owned by or licensed to us, and claims allowed under any issued patent or future issued patent owned or licensed by Luna may not be valid or sufficiently broad to protect Luna's technologies. Moreover, protection of certain of Luna's intellectual property may be unavailable or limited in the United States or in foreign countries, and Luna has not sought to obtain foreign patent

protection for certain of Luna's products or technologies due to cost, concerns about enforceability or other reasons. Any issued patents owned by or licensed to Luna now or in the future may be challenged, invalidated, or circumvented, and the rights under such patents may not provide Luna with competitive advantages. In addition, competitors may design around Luna's technology or develop competing technologies. Intellectual property rights may also be unavailable or limited in some foreign countries, and in the case of certain products no foreign patents were filed or can be filed. This could make it easier for competitors to capture or increase their market share with respect to related technologies. Luna could incur substantial costs to bring suits in which Luna may assert Luna's patent rights against others or defend Luna in suits brought against us. An unfavorable outcome of any litigation could have a material adverse effect on Luna's business and results of operations.

Luna also relies on trade secrets to protect its technology, especially where Luna believes patent protection is not appropriate or obtainable. However, trade secrets are difficult to protect. Luna regularly attempts to obtain

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confidentiality agreements and contractual provisions with Luna's collaborators, employees and consultants to protect Luna's trade secrets and proprietary know-how. These agreements may be breached or may not have adequate remedies for such breach. While Luna uses reasonable efforts to protect Luna's trade secrets, Luna's employees, consultants, contractors or scientific and other advisors, or those of Luna's strategic partners, may unintentionally or willfully disclose Luna's information to competitors. If Luna was to enforce a claim that a third party had illegally obtained and was using Luna's trade secrets, Luna's enforcement efforts would be expensive and time consuming, and the outcome would be unpredictable. In addition, courts outside the United States are sometimes unwilling to protect trade secrets. Moreover, if Luna's competitors independently develop equivalent knowledge, methods and know-how, it will be more difficult for Luna to enforce Luna's rights and Luna's business could be harmed.

If Luna is not able to defend the patent or trade secret protection position of Luna's technologies, then Luna will not be able to exclude competitors from developing or marketing competing technologies and Luna may not generate enough revenues from product sales to justify the cost of developing Luna's technologies and to achieve or maintain profitability.

Luna also relies on trademarks to establish a market identity for it and its products. To maintain the value of Luna's trademarks, Luna might have to file lawsuits against third parties to prevent them from using trademarks confusingly similar to or dilutive of Luna's registered or unregistered trademarks. Also, Luna might not obtain registrations for Luna's pending trademark applications, and Luna might have to defend its registered trademark and pending trademark applications from challenge by third parties. Enforcing or defending Luna's registered and unregistered trademarks might result in significant litigation costs and damages, including the inability to continue using certain trademarks.

Third parties may claim that Luna infringes their intellectual property, and Luna could suffer significant litigation or licensing expense as a result.

Various U.S. and foreign issued patents and pending patent applications, which are owned by third parties, exist in Luna's technology areas. Such third parties may claim that Luna infringes their patents. Because patent applications can take several years to result in a patent issuance, there may be currently pending applications, unknown to us, which may later result in issued patents that Luna's technologies may infringe. For example, Luna is aware of competitors with patents in technology areas applicable to Luna's optical test equipment products. Such competitors may allege that Luna infringes these patents. There could also be existing patents of which Luna is not aware that Luna's technologies may inadvertently infringe. Luna has from time to time, and may in the future, be contacted by third parties, including patent assertion entities or intellectual property advisors, about licensing opportunities that also contain claims that Luna is infringing on third party patent rights. If third parties assert these claims against Luna, Luna could incur extremely substantial costs and diversion of management resources in defending these claims, and the defense of these claims could have a material adverse effect on Luna's business, financial condition and results of operations. Even if Luna believes it has not infringed on a third party's patent rights, Luna may have to settle a claim on unfavorable terms because Luna cannot afford to litigate the claim. In addition, if third parties assert claims against Luna and Luna is unsuccessful in defending against these claims, these third parties may be awarded substantial damages as well as injunctive or other equitable relief against us, which could effectively block Luna's ability to make, use, sell, distribute or market Luna's products and services in the United States or abroad.

Commercial application of nanotechnologies in particular, or technologies involving nanomaterials, is new and the scope and breadth of patent protection is uncertain. Consequently, the patent positions of companies involved in nanotechnologies have not been tested, and there are complex legal and factual questions for which important legal principles will be developed or may remain unresolved. In addition, it is not clear whether such patents will be subject to interpretations or legal doctrines that differ from conventional patent law principles. Changes in either the patent laws or in interpretations of patent laws in the United States and other countries may diminish the value of Luna's

nanotechnology-related intellectual property. Accordingly, Luna cannot predict the breadth

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of claims that may be allowed or enforced in Luna's nanotechnology-related patents or in third party patents. In the event that a claim relating to intellectual property is asserted against us, or third parties not affiliated with Luna hold pending or issued patents that relate to Luna's products or technology, Luna may seek licenses to such intellectual property or challenge those patents. However, Luna may be unable to obtain these licenses on commercially reasonable terms, if at all, and Luna's challenge of the patents may be unsuccessful. Luna's failure to obtain the necessary licenses or other rights could prevent the sale, manufacture or distribution of Luna's products and, therefore, could have a material adverse effect on Luna's business, financial condition and results of operations.

A substantial portion of Luna's technology is subject to retained rights of Luna's licensors, and Luna may not be able to prevent the loss of those rights or the grant of similar rights to third parties.

A substantial portion of Luna's technology is licensed from academic institutions, corporations and government agencies. Under these licensing arrangements, a licensor may obtain rights over the technology, including the right to require Luna to grant a license to one or more third parties selected by the licensor or that Luna provides licensed technology or material to third parties for non-commercial research. The grant of a license for any of Luna's core technologies to a third party could have a material and adverse effect on Luna's business. In addition, some of Luna's licensors retain certain rights under the licenses, including the right to grant additional licenses to a substantial portion of Luna's core technology to third parties for non-commercial academic and research use. It is difficult to monitor and enforce such non-commercial academic and research uses, and Luna cannot predict whether the third-party licensees would comply with the use restrictions of such licenses. Luna has incurred and could incur substantial expenses to enforce Luna's rights against them. Luna also may not fully control the ability to assert or defend those patents or other intellectual property which Luna has licensed from other entities, or which Luna has licensed to other entities.

In addition, some of Luna's licenses with academic institutions give Luna the right to use certain technology previously developed by researchers at these institutions. In certain cases Luna also has the right to practice improvements on the licensed technology to the extent they are encompassed by the licensed patents and are within Luna's field of use. Luna's licensors may currently own and may in the future obtain additional patents and patent applications that are necessary for the development, manufacture and commercial sale of Luna's anticipated products. Luna may be unable to agree with one or more academic institutions from which Luna has obtained licenses whether certain intellectual property developed by researchers at these academic institutions is covered by Luna's existing licenses. In the event that the new intellectual property is not covered by Luna's existing licenses, Luna would be required to negotiate a new license agreement. Luna may not be able to reach agreement with current or future licensors on commercially reasonable terms, if at all, or the terms may not permit Luna to sell Luna's products at a profit after payment of royalties, which could harm Luna's business.

Some of Luna's patents may cover inventions that were conceived or first reduced to practice under, or in connection with, U.S. government contracts or other federal funding agreements. With respect to inventions conceived or first reduced to practice under a federal funding agreement, the U.S. government may retain a non-exclusive, non-transferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the United States the invention throughout the world. Luna may not succeed in Luna's efforts to retain title in patents, maintain ownership of intellectual property or in limiting the U.S. government's rights in Luna's proprietary technologies and intellectual property when an issue exists as to whether such intellectual property was developed in the performance of a federal funding agreement or developed at private expense.

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Risks Relating to Luna's Common Stock

Luna may become involved in securities class action litigation that could divert management's attention and harm Luna's business and Luna's insurance coverage may not be sufficient to cover all costs and damages.

The stock market has from time to time experienced significant price and volume fluctuations that have affected the market prices for the common stock of technology companies. These broad market fluctuations may cause the market price of Luna's common stock to decline. In the past, following periods of volatility in the market price of a particular company's securities, securities class action litigation has often been brought against that company. Securities class litigation also often follows certain significant business transactions, such as the sale of a business division or a change in control transaction. Luna may become involved in this type of litigation in the future. Litigation often is expensive and diverts management's attention and resources, which could adversely affect Luna's business.

Luna may not be able to comply with all applicable listing requirements or standards of The NASDAQ Capital Market and NASDAQ could delist Luna's common stock.

Luna's common stock is listed on The NASDAQ Capital Market. In order to maintain that listing, Luna must satisfy minimum financial and other continued listing requirements and standards. There can be no assurances that Luna will be able to comply with applicable listing standards. In the event that Luna's common stock is not eligible for quotation on another market or exchange, trading of Luna's common stock could be conducted in the over-the-counter market or on an electronic bulletin board established for unlisted securities such as the Pink Sheets or the OTC Bulletin Board. In such event, it could become more difficult to dispose of, or obtain accurate price quotations for, Luna's common stock, and there would likely also be a reduction in Luna's coverage by security analysts and the news media, which could cause the price of Luna's common stock to decline further. Also, it may be difficult for Luna to raise additional capital if Luna is not listed on a major exchange.

Luna's common stock price has been volatile and Luna expects that the price of its common stock will fluctuate substantially in the future, which could cause you to lose all or a substantial part of your investment.

The public trading price for Luna's common stock is volatile and may fluctuate significantly. Since January 1, 2009, Luna's common stock has traded between a high of \$5.00 per share and a low of \$0.26 per share. Among the factors, many of which Luna cannot control, that could cause material fluctuations in the market price for Luna's common stock are:

sales of Luna's common stock by Luna's significant stockholders, or the perception that such sales may occur, including sales pursuant to the Form S-3 registration statement described above;

changes in earnings estimates, investors' perceptions, recommendations by securities analysts or Luna's failure to achieve analysts' earnings estimates;

changes in Luna's status as an entity eligible to receive SBIR contracts and grants;

quarterly variations in Luna's or Luna's competitors' results of operations;

general market conditions and other factors unrelated to Luna's operating performance or the operating performance of Luna's competitors;

announcements by us, or by Luna's competitors, of acquisitions, new products, significant contracts, commercial relationships or capital commitments;

pending or threatened litigation;

any major change in Luna's board of directors or management or any competing proxy solicitations for director nominees;

changes in governmental regulations or in the status of Luna's regulatory approvals;

announcements related to patents issued to Luna or Luna's competitors;

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a lack of, limited or negative industry or securities analyst coverage;

discussions of Luna or stock price by the financial and scientific press and online investor communities such as chat rooms; and

general developments in Luna's industry.

In addition, the stock prices of many technology companies have experienced wide fluctuations that have often been unrelated to the operating performance of those companies. These factors may materially and adversely affect the market price of API's common stock.

If Luna's internal control over financial reporting is found not to be effective or if Luna makes disclosure of existing or potential significant deficiencies or material weaknesses in those controls, investors could lose confidence in Luna's financial reports, and Luna's stock price may be adversely affected.

Section 404 of the Sarbanes-Oxley Act of 2002 requires Luna to include an internal control report with Luna's Annual Report on Form 10-K. That report must include management's assessment of the effectiveness of Luna's internal control over financial reporting as of the end of the fiscal year.

Luna evaluates its existing internal control over financial reporting based on the framework issued by the Committee of Sponsoring Organizations of the Treadway Commission. During the course of Luna's ongoing evaluation of the internal controls, Luna may identify areas requiring improvement, and may have to design enhanced processes and controls to address issues identified through this review. Remedying any deficiencies, significant deficiencies or material weaknesses that Luna identifies may require Luna to incur significant costs and expend significant time and management resources. Luna cannot assure you that any of the measures Luna implements to remedy any such deficiencies will effectively mitigate or remedy such deficiencies. Investors could lose confidence in Luna's financial reports, and Luna's stock price may be adversely affected, if Luna's internal controls over financial reporting are found not to be effective by management or if Luna makes disclosure of existing or potential significant deficiencies or material weaknesses in those controls.

Anti-takeover provisions in Luna's amended and restated certificate of incorporation and bylaws and Delaware law could discourage or prevent a change in control, even if an acquisition would be beneficial to Luna's stockholders, which could affect Luna's stock price adversely and prevent attempts by Luna's stockholders to replace or remove Luna's current management.

Luna's amended and restated certificate of incorporation and bylaws and Delaware law contain provisions that might delay or prevent a change in control, discourage bids at a premium over the market price of Luna's common stock and adversely affect the market price of Luna's common stock and the voting and other rights of the holders of Luna's common stock. These provisions include:

a classified board of directors serving staggered terms;

advance notice requirements to stockholders for matters to be brought at stockholder meetings;

a supermajority stockholder vote requirement for amending certain provisions of Luna's amended and restated certificate of incorporation and bylaws; and

the right to issue preferred stock without stockholder approval, which could be used to dilute the stock ownership of a potential hostile acquirer.

Luna is also subject to provisions of the Delaware General Corporation Law that, in general, prohibit any business combination with a beneficial owner of 15% or more of Luna's common stock for three years unless the holder's acquisition of Luna's stock was approved in advance by Luna's board of directors or certain other conditions are satisfied.

The existence of these provisions could adversely affect the voting power of holders of common stock and limit the price that investors might be willing to pay in the future for shares of Luna's common stock.

Table of Contents**Risks Relating to API's Business****Risks Relating to API's Financial Condition and Performance**

API's substantial debt obligations could impair API's financial flexibility and restrict API's business significantly.

API now has, and will continue to have if the Merger is not consummated, significant debt obligations, which are summarized in the table below:

	SVB Term Loan Agreement	SVB Revolving Loan Agreement	SVG Ex-Im Revolving Loan Agreement	PFG Loan Agreement	MSF & MEDC Loan Agreement
Interest Rate as of February 5, 2015	6.50%	8.25%	8.25%	11.75%	6.00%
Principal Outstanding at February 5, 2015	\$ 55,556	\$ 1,773,104	\$ 946,905	\$ 1,130,952	\$ 654,000
Maturity Date (based on amendments through February 5, 2015)	March 2015	June 2016	June 2016	August 2016	Payable in 12 equal monthly installments starting November 1, 2015

On January 31, 2012, API entered into a Loan and Security Agreement with Silicon Valley Bank (SVB, such agreement as amended from time to time, the SVB Loan Agreement) and a related Loan and Security Agreement (Ex-IM Loan Facility) with SVB (as amended from time to time, the SVB Ex-Im Loan Agreement), and together with the SVB Loan Agreement, the SVB Loan Agreements) that provided for a three-year \$1 million term loan that expires in March 2015, and a \$5 million line of credit with a \$3 million export-import facility sublimit that currently expires in June 2016. Subsequent to the execution of the original SVB Loan Agreements, there have been ten amendments that have modified the financial covenants, allowed for the acquisition of substantially all of the operating assets of Silonex, Inc. (Silonex), allowed API to enter into the PFG Loan Agreement (as described below), and extended the maturity date of the line of credit from January 2014 to June 2016.

On February 8, 2013, API entered into a \$2.5 million secured Loan and Security Agreement with Partners for Growth III, L.P. (PFG, such agreement, as amended, the PFG Loan Agreement) that is subordinated to the SVB Loan Agreements and expires in August 2016. The interest rate on the loan is 11.75%. As part of the consideration for and as a closing condition to the PFG Loan Agreement, API agreed to grant PFG and certain of its affiliates warrants to purchase up to 1,195,000 shares of API's Class A Stock (the Warrants) in a private placement pursuant to Section 4(a)(2) of the Securities Act. 995,000 of the shares issuable under the Warrants have an initial exercise price of \$0.50 per share (the Tier 1 Warrants), and the remaining 200,000 shares issuable under the Warrants have an exercise price of \$1.00 per share (\$1.00 Warrants).

The Warrants contain full-ratchet anti-dilution provisions that will result in proportional adjustments to the exercise price and the number of shares issuable under the PFG Warrant Agreements in the event that API conducts a stock split, subdivision, stock dividend or combination, or similar transaction. The PFG Warrant Agreements also include a net exercise provision pursuant to which warrant holders will receive the number of shares equal to (x) the product of (A) the number of Warrants exercised multiplied by (B) the difference between (1) the fair market value of a share of Class A Stock (with fair value generally being equal to the highest closing price of API's Class A Stock during the 45 consecutive trading days prior to the date of exercise) and (2) the strike price of the Warrant, (y) divided by the fair market value of a share of Class A Stock. In addition, in specified events, including the closing of the Merger, each warrant holder will have the right to put its Warrants to API in exchange for a per share cash payment that varies with the number of shares issuable under each Warrant, but in the aggregate will not exceed \$250,000.

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In fiscal years 2005 and 2006, API entered into two unsecured loan agreements that are currently held by the Michigan Economic Development Corporation (MEDC and such agreement the MEDC Loan Agreement) and a MEDC affiliate, the Michigan Strategic Fund (MSF and such agreement the MSF Loan Agreement) pursuant to which API borrowed an aggregate of amount of \$2.2 million. As amended, payments on the approximately \$327,000 in principal outstanding under each of the MEDC Loan Agreement and MSF Loan Agreement are deferred and payable monthly in equal installments plus accrued interest for the 12 months beginning November 1, 2015.

The obligations and restrictions under the SVB Loan Agreements, the PFG Loan Agreement, the MEDC Loan Agreement, the MSF Loan Agreement, and API s other debt obligations could have important consequences for API, including:

limiting API s ability to obtain necessary financing in the future; and

requiring API to dedicate a substantial portion of API s cash flow to payments on API s debt obligations, thereby reducing the availability of API s cash flow to fund working capital, capital expenditures and other corporate requirements or expansion of API s business.

If API is unable to meet API s debt obligations, API could be forced to restructure or refinance API s obligations, to seek additional equity financing or to sell assets, which API may not be able to do on satisfactory terms or at all. As a result, API could default on those obligations and in the event of such default, API s lenders could accelerate API s debt or take other actions that could restrict API s operations. The foregoing risks would be intensified to the extent API borrows additional money or incur additional debt.

API has previously violated certain covenants under the SVB Loan Agreements and the PFG Loan Agreement.

The SVB Loan Agreements and PFG Loan Agreement, each as amended, contained financial covenants through December 2013 and January 2014 that required API to maintain a minimum liquidity ratio of 2.25 to 1.00 and a minimum trailing three month adjusted EBITDA, measured monthly of (1) a negative \$300,000 for each fiscal month during the period July through October 2013; and (2) \$1 for each fiscal month during the period November 2013 through February 2014.

As of December 27, 2013 and January 24, 2014, API was not in compliance with then existing minimum adjusted EBITDA covenant of \$1 for the three months ended December 27, 2013 and January 24, 2014, respectively, and as of January 24, 2014, API was also not in compliance with the then existing minimum liquidity ratio of 2.25 to 1.00. In addition, the foregoing defaults triggered the cross-default provisions under each of the SVB Loan Agreements and PFG Loan Agreement. Consequently, under the terms of each agreement, SVB and PFG were both entitled to proceed against the collateral provided as security for the loans issued thereunder upon an event of default subject, in PFG s case, to any rights that SVB may have in that same collateral.

On February 10, 2014, API entered into separate Forbearance Agreements with SVB and PFG pursuant to which and subject to certain exceptions, each of SVB and PFG agreed not to proceed against the collateral securing their respective loans until February 28, 2014. On March 5, 2014, API entered into separate amendment agreements with SVB and PFG where, among other things, (i) SVB agreed to extend the maturity date of API s \$5 million line of credit to May 31, 2014; (ii) the minimum trailing three month adjusted EBITDA covenant was reset to a negative \$1.2 million for the fiscal month ended February 28, 2014, a negative \$800,000 for the fiscal month ended March 31, 2014, a negative \$600,000 for the fiscal month ended April 30, 2014 and a positive \$1 for the fiscal month ending May 31,

2014; (iii) the existing minimum liquidity ratio covenant was reset to 1.30 to 1.00 as of February 28, 2014, and 2.25 to 1.00 for each month thereafter through May 2014; and (iv) each of SVB and PFG waived the existing defaults. In addition to the payment of an amendment fee, API agreed to pay each of SVB and PFG additional fees of up to \$50,000 and \$75,000, respectively, no later than May 31, 2014 (the Tail Fees).

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On April 30, 2014, API entered into separate amendment agreements with SVB and PFG where, among other things, (i) SVB agreed to extend the maturity date of API's \$5 million line of credit to July 31, 2014; (ii) the minimum trailing three month adjusted EBITDA covenant was reset to a negative \$800,000 for the fiscal month ended March 31, 2014, a negative \$600,000 for the fiscal month ended April 30, 2014, a negative \$250,000 for the fiscal months ending May 31, 2014 and June 30, 2014 and a positive \$1 for the fiscal month ending July 31, 2014; and (iii) the existing minimum liquidity ratio covenant was reset to 1.30 to 1.00 as of March 31, 2014 through May 31, 2014, and 2.00 to 1.00 for each month thereafter through July 2014. In addition to the payment of an amendment fee, API agreed to pay each of SVB and PFG their respective Tail Fee and, commencing with the month ended May 31, 2014, an additional fee of \$15,000 for SVB and \$20,000 for PFG (the Leverage Ratio Fees), for each month that the liquidity ratio is less than 2.00 to 1.00 as of the last day of the month under measurement.

On November 10, 2014, API signed separate amendments to the Loan Agreements with SVB and PFG where, among other things, (i) all parties agreed to a six month trailing adjusted EBITDA covenant, measured at each fiscal month end, of negative \$800,000 through March of 2015, negative \$300,000 for April through June of 2015, and \$100,000 each month thereafter, (ii) all parties agreed to adjust the minimum liquidity ratio, as defined, to be 2.00 to 1.00 through February of 2015 with a reduction to 1.50 to 1.00 for each month thereafter and (iii) all parties agreed to continue the existing interest rate matrix. The amendments provided for a reimbursement of legal expenses and a modification fee of \$10,000 with an additional \$10,000 payable if API's March 2015 quarterly adjusted EBITDA is less than one dollar.

As of December 26, 2014, API was in compliance with the November 10, 2014 revisions to the liquidity and adjusted EBITDA covenants with PFG and SVB. API experienced a \$2.1 million dollar reduction in HSOR revenues in the third quarter relative to the second quarter which was more than anticipated in the November 2014 covenant reset. As a result, API obtained further covenant relief on February 5, 2015 from PFG and SVB by reducing the rolling six month adjusted EBITDA requirement for January through June 2015 to a negative \$1,250,000, \$1 of adjusted EBITDA required in July 2015 and \$100,000 each month thereafter until maturity with up to \$150,000 in merger transaction costs carved out of the calculation. The parties also agreed to reduce the minimum liquidity ratio to 1.30 to 1.00 for January 2015 until the maturity of the line of credit. Pursuant to the amendments, the interest rate with SVB was changed to prime plus 5%, or 8.25% per annum for the line of credit while the interest rate with PFG remained at 11.75% per annum. API is required to pay each lender a \$10,000 fee plus associated legal costs for the amendment with an added \$15,000 payable to each lender upon the maturity or payoff of the term loan. Should API experience a reduction in revenue or an increase in expenses from its most recent forecast, which was the basis for the February 5, 2015 covenants, the loan would be callable, creating a liquidity issue for API.

While API believes API has good relations with SVB and PFG, API can provide no assurance that API will be able to obtain waivers or amendments if future covenant violations occur under the SVB Loan Agreements and/or the PFG Loan Agreement. Failure to obtain such waivers or amendments, if necessary, could materially affect API's business, financial condition and results of operations.

API has incurred significant losses in prior periods and may incur losses in the future.

API has incurred significant losses in prior periods. API recorded a net loss of \$1,337,000 for the nine months ended December 26, 2014 and ended the period with an accumulated deficit of \$49.8 million. In addition, API recorded net losses of \$4.3 million and \$4.4 million for the years ended March 31, 2014 and 2013, respectively. There can be no assurance that API will have sufficient revenue growth to offset expenses or to achieve profitability in future periods.

API must continue to increase API's revenues in order to become profitable. API cannot reliably predict when, or if, API will become profitable. Even if API achieves profitability, API may not be able to sustain it. If API cannot

generate operating income or positive cash flows in the future, API will be unable to meet API's working capital requirements.

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API may not be able to generate the amount of cash needed to fund API's existing indebtedness and future operations.

API's ability either to make payments on or to refinance API's indebtedness, or to fund planned capital expenditures and research and development efforts, will depend on API's ability to generate cash in the future. API's ability to generate cash is in part subject to general economic, financial, competitive, regulatory and other factors that are beyond API's control, and as such has fluctuated significantly as indicated in the table below:

Net Cash Provided by (used in) Operating Activities

FY 2011	FY 2012	FY 2013	FY 2014	Nine months ended December 26, 2014
(\$473,000)	\$ 130,000	(\$ 2,221,000)	(\$ 845,000)	(\$ 1,197,000)

If the Merger is not approved by stockholders or does not proceed to a timely closing, then API may need to seek additional funding sources to meet its obligations through fiscal 2016. Consequently, the trading price of API's Class A Stock may be adversely affected and API's ability to raise additional financing may be impaired. In addition, API will be forced to adopt an alternative strategy that may include actions such as:

reducing capital expenditures;

further reducing research and development efforts;

selling assets such as existing product lines or technology developments;

restructuring or refinancing API's remaining indebtedness; and

seeking additional funding.

In light of API's historical performance, API cannot assure you that API's business will generate sufficient cash flow from operations, or that API will be able to make future borrowings in amounts sufficient to enable API to pay the principal and interest on API's current indebtedness or to fund API's other liquidity needs. API may need to refinance all or a portion of its indebtedness on or before maturity.

If API raises additional funds through the issuance of equity or convertible debt securities, the percentage ownership of API's stockholders could be significantly diluted, and these newly-issued securities may have rights, preferences or privileges senior to those of existing stockholders. API cannot assure you that additional financing will be available on terms favorable to us, or at all. If, when required, adequate funds are unavailable, or are not available on acceptable terms, API's ability to fund API's operations, take advantage of unanticipated opportunities, develop or enhance API's products, or otherwise respond to competitive pressures could be significantly limited.

API may dispose of or discontinue existing product lines and technology developments, which may adversely impact API's future results.

On an ongoing basis, API evaluates API's various product offerings and technology developments in order to determine whether any should be discontinued or, to the extent possible, divested. In addition, if API is unable to generate the amount of cash needed to fund API's existing indebtedness and future operations, API may be forced to sell one or more of API's product lines or technology developments.

API cannot guarantee that it has correctly forecasted, or will correctly forecast in the future, the right product lines and technology developments to dispose or discontinue or that API's decision to dispose of or discontinue various investments, products lines and technology developments is prudent if market conditions change. In addition, there are no assurances that the discontinuance of various product lines will reduce API's operating expenses or will not cause API to incur material charges associated with such decision. Furthermore, the discontinuance of existing product lines entails various risks, including the risk that API will not be able to find a purchaser for a product line or the purchase price obtained will not be equal to at least the book value of the net assets for the product line. Other risks include managing the expectations of, and maintaining good relations

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with, API's customers who previously purchased products from API's disposed or discontinued product lines, which could prevent API from selling other products to them in the future. API may also incur other significant liabilities and costs associated with API's disposal or discontinuance of product lines, including employee severance costs and excess facilities costs.

API's cost saving initiatives may not be effective, and API's ability to develop products could be adversely affected by reduced research and development and capital expenditures.

To conserve cash and more closely align API's spending towards API's strategic objectives, API has implemented a number of cost reduction initiatives over the past several years, including a workforce reduction in API's administrative, research and development and sales and marketing staffs and, a refocusing of API's research and development plans, and a reduction in capital expenditures. API cannot assure you that the assumptions underlying API's decisions as to which reductions to make as part of these cost reduction initiatives will prove to be correct and, accordingly, API may determine that API has reduced or eliminated resources that are necessary to, or desirable for, API's business. In particular, the reductions that API has made to API's research and development staff and, research and development expenses and capital expenditures could hinder API's ability to update or introduce new products.

Any impairment of goodwill and other intangible assets, could negatively impact API's results of operations.

As of December 26, 2014, March 31, 2014 and March 31, 2013, API's consolidated balance sheet included \$4.6 million in goodwill. Goodwill represents the excess purchase price over amounts assigned to tangible or identifiable intangible assets acquired and liabilities assumed from API's business acquisitions. API's goodwill is subject to an impairment test on an annual basis and is also tested whenever events and circumstances indicate that goodwill may be impaired. Any goodwill value in excess of fair value as determined in an impairment test must be written off in the period of determination.

Intangible assets (other than goodwill) are generally amortized over the useful life of such assets. The carrying value of the intangible assets aggregated to \$2.7 million as of December 26, 2014. From time to time, API may acquire, or make an investment in, a business which may require API to record goodwill based on the purchase price and the value of the acquired tangible and intangible assets. API may subsequently experience unforeseen issues with such business which adversely affect the anticipated returns of the business or value of the intangible assets and trigger an evaluation of the recoverability of the recorded goodwill and intangible assets for such business. Future determinations of significant write-offs of goodwill or intangible assets as a result of an impairment test or any accelerated amortization of other intangible assets could have a negative impact on API's results of operations.

API is subject to the cyclical nature of the markets in which API competes and any future downturn may reduce demand for API's products and revenue.

Many factors beyond API's control affect API's industry, including consumer confidence in the economy, interest rates, fuel prices and the general availability of credit. The overall economic climate and changes in Gross National Product growth has a direct impact on API's customers and the demand for API's products. API cannot be sure that its business will not be adversely affected as a result of an industry or general economic downturn.

API's customers may reduce capital expenditures and have difficulty satisfying liquidity needs because of continued turbulence in the U.S. and global economies, resulting in reduced sales of API's products and harm to API's financial condition and results of operations.

In particular, API's historical results of operations have been subject to substantial fluctuations, and API may experience substantial period-to-period fluctuations in future results of operations. Any future downturn in the markets in which API competes could significantly reduce the demand for API's products and therefore may

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result in a significant reduction in revenue. It may also increase the volatility of the price of API's common stock. API's revenue and results of operations may be materially and adversely affected in the future due to changes in demand from customers or cyclical changes in the markets utilizing API's products.

In addition, the telecommunications industry, has, from time to time, experienced, and may again experience, a pronounced downturn. To respond to a downturn, many service providers may slow their capital expenditures, cancel or delay new developments, reduce their workforces and inventories and take a cautious approach to acquiring new equipment and technologies from original equipment manufacturers like us, which would have a negative impact on API's business. Weakness in the global economy or a future downturn in the telecommunications industry may cause API's results of operations to fluctuate from quarter-to-quarter and year-to-year, harm API's business, and may increase the volatility of the price of API's common stock.

Customer acceptance of API's products is dependent on API's ability to meet changing requirements, and any decrease in acceptance could adversely affect API's revenue.

Customer acceptance of API's products is significantly dependent on API's ability to offer products that meet the changing requirements of API's customers, including telecommunication, military, medical and industrial corporations, as well as government agencies. Any decrease in the level of customer acceptance of API's products could have a material adverse effect on API's business.

API's products must meet exacting specifications, and defects and failures may occur, which may cause customers to return or stop buying API's products.

API's customers generally establish demanding specifications for quality, performance and reliability that API's products must meet. However, API's products are highly complex and may contain defects and failures when they are first introduced or as new versions are released. API's products are also subject to rough environments as they are integrated into API's customer products for use by the end customers. If defects and failures occur in API's products, API could experience lost revenue, increased costs, including warranty expense and costs associated with customer support, delays in or cancellations or rescheduling of orders or shipments, product returns or discounts, diversion of management resources or damage to API's reputation and brand equity, and in some cases consequential damages, any of which would harm API's operating results. In addition, delays in API's ability to fill product orders as a result of quality control issues may negatively impact API's relationship with API's customers. API cannot assure you that it will have sufficient resources, including any available insurance, to satisfy any asserted claims.

Rapidly changing standards and regulations could make API's products obsolete, which would cause API's revenue and results of operations to suffer.

API design products to conform to API's customer's requirements and API's customer's systems may be subject to regulations established by governments or industry standards bodies worldwide. Because certain of API's products are designed to conform to current specific industry standards, if competing or new standards emerge that are preferred by API's customers, API would have to make significant expenditures to develop new products. If API's customers adopt new or competing industry standards with which API's products are not compatible, or the industry groups adopt standards or governments issue regulations with which API's products are not compatible, API's existing products would become less desirable to API's customers and API's revenue and results of operations would suffer.

The markets for many of API's products are characterized by changing technology which could cause obsolescence of API's products, and API may incur substantial costs in delivering new products.

The markets for many of API's products are characterized by changing technology, new product introductions and product enhancements, and evolving industry standards. The introduction or enhancement of products embodying new technology or the emergence of new industry standards could render existing products obsolete,

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and result in a write down to the value of API's inventory, or result in shortened product life cycles. Accordingly, API's ability to compete is in part dependent on API's ability to continually offer enhanced and improved products.

The success of API's new product offerings will depend upon several factors, including API's ability to:

accurately anticipate customer needs;

innovate and develop new technologies and applications;

successfully commercialize new technologies in a timely manner;

price API's products competitively and manufacture and deliver API's products in sufficient volumes and on time; and

differentiate API's offerings from API's competitors' offerings.

Some of API's products are used by API's customers to develop, test and manufacture their products. API therefore must anticipate industry trends and develop products in advance of the commercialization of API's customers' products. In developing any new product, API may be required to make a substantial investment before API can determine the commercial viability of the new product. If API fails to accurately foresee API's customers' needs and future activities, API may invest heavily in research and development of products that do not lead to significant revenues.

If any of API's products are found to have, or are suspected to have, security vulnerabilities, API could incur significant costs and irreparable damage to API's reputation.

If any of API's products are found to have significant security vulnerabilities, then API may need to dedicate engineering and other resources to eliminating such vulnerabilities and to repairing or replacing products already sold or licensed to API's customers. In addition, API's customers and potential customers could perceive API's products as unreliable, making it more difficult for API to sell API's products.

API's inability to find new customers or retain existing customers could have a material adverse effect on API's business.

Customers normally purchase API's products and incorporate them into products that they, in turn, sell in their own markets on an ongoing basis. As a result, API's sales are dependent upon the success of API's customers' products and API's future performance is dependent upon API's success in finding new customers and receiving new orders from existing customers.

In several of API's markets, quality and/or reliability of API's products are a major concern for API's customers, not only upon the initial manufacture of the product, but for the life of the product. Many of API's products are used in remote locations for higher value assembly, making servicing of API's products unfeasible. Any failure of the quality and/or reliability of API's products could have an adverse effect on API's business.

If API's customers do not qualify API's products or if their customers do not qualify their products, API's results of operations may suffer.

Most of API's customers do not purchase API's products prior to qualification of API's products and satisfactory completion of factory audits and vendor evaluation. API's existing products, as well as each new product, must pass through varying levels of qualification with API's customers. In addition, because of the rapid technological changes in API's market, a customer may cancel or modify a design project before API begins large-scale manufacturing and receive revenues from the customer. It is unlikely that API would be able to recover the expenses for cancelled or unutilized custom design projects. It is difficult to predict with any certainty whether

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API's customers will delay or terminate product qualification or the frequency with which customers will cancel or modify their projects. Any such delay, cancellation or modification could have a negative effect on API's results of operations.

In addition, once a customer qualifies a particular supplier's product or component, these potential customers design the product into their system, which is known as a design-in win. Suppliers whose products or components are not designed in are unlikely to make sales to that customer until at least the adoption of a future redesigned system. Even then, many customers may be reluctant to incorporate entirely new products into their new systems, as doing so could involve significant additional redesign efforts and increased costs. If API fails to achieve design-in wins in API's potential customers' qualification processes, API will likely lose the opportunity for significant sales to those customers for a lengthy period of time.

If the end user customers that purchase systems from API's customers fail to qualify or delay qualifications of any products sold by API's customers that contain API's products, API's business could be harmed. The qualification and field testing of API's customers' systems by end user customers is long and unpredictable. This process is not under API's control or that of API's customers; and, as a result, the timing of API's sales is unpredictable. Any unanticipated delay in qualification of one of API's customers' products could result in the delay or cancellation of orders from API's customers for products included in their equipment, which could harm API's results of operations.

API's sales to overseas markets expose API to additional, unpredictable risks which could have a material adverse effect on API's business and expose API to liability under the Foreign Corrupt Practices Act.

A portion of API's sales are being derived from overseas markets. These international sales are primarily focused in Asia, Europe and the Middle East. These operations are subject to unpredictable risks that are inherent in operating in foreign countries and which could have a material adverse effect on API's business, including the following:

foreign countries could change regulations or impose currency restrictions and other restraints;

changes in foreign currency exchange rates and hyperinflation or deflation in the foreign countries in which API operates;

exchange controls;

some countries impose burdensome tariffs and quotas;

political changes and economic crises may lead to changes in the business environment in which API operates;

international conflict, including terrorist acts, could significantly impact API's financial condition and results of operations; and

economic downturns, political instability and war or civil disturbances may disrupt distribution logistics or limit sales in individual markets.

In addition, API utilizes third-party distributors to act as API's representative for the geographic region that they have been assigned as well as value added resellers that have territorial restrictions. Sales through these channels represent approximately 19% of total revenue for the nine months ended December 26, 2014. Significant terms and conditions of distributor agreements include FOB source, net 30 days payment terms, with no return or exchange rights, and no price protection. Since the product title transfers to the distributor at the time of shipment, the products are not considered inventory on consignment. API's success is dependent on these distributors finding new customers and receiving new orders from existing customers.

API is subject to the Foreign Corrupt Practice Act (FCPA) and other laws that prohibit improper payments to foreign governments and their officials for the purpose of obtaining or retaining business. API's activities in

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API's overseas markets create the risk of unauthorized payments or offers of payments by one of API's employees, consultants, sales agents or distributors, because these parties are not always subject to API's control. While it is API's policy to implement safeguards to discourage these practices, API's existing safeguards and any future improvements may prove to be less than effective, and API's employees, consultants, sales agents or distributors may engage in conduct for which API might be held responsible. Violations of the FCPA may result in severe criminal or civil sanctions, and API may be subject to other liabilities, which could negatively affect API's business, operating results and financial condition. In addition, certain governmental authorities may seek to hold API liable for successor liability FCPA violations committed by companies in which API invests or that API acquires.

Customer demand is difficult to accurately forecast and, as a result, API may be unable to optimally match production with customer demand, which could adversely affect API's business and financial results.

API makes planning and spending decisions, including determining the levels of business that API will seek and accept, production schedules, and inventory levels, component procurement commitments, personnel needs and other resource requirements, based on API's estimates of customer requirements. The short-term nature of commitments by many of API's customers and the possibility of unexpected changes in demand for their products reduce API's ability to accurately estimate future customer requirements. On occasion, customers may require rapid increases in production, which can strain API's resources, cause API's manufacturing to be negatively impacted by materials shortages, necessitate higher or more restrictive procurement commitments, increase API's manufacturing yield loss and scrapping of excess materials, and reduce API's gross margin. API may not have sufficient capacity at any given time to meet the volume demands of API's customers, or one or more of API's suppliers may not have sufficient capacity at any given time to meet API's volume demands. Conversely, a downturn in the markets in which API's customers compete can cause, and in the past have caused, API's customers to significantly reduce or delay the amount of products ordered from API or to cancel existing orders, leading to lower utilization of API's facilities. Because many of API's costs and operating expenses are relatively fixed, reduction in customer demand due to market downturns or other reasons would have a material adverse effect on API's gross margin, operating income and cash flow.

Customer orders and forecasts are subject to cancellation or modification at any time which could result in higher manufacturing costs.

API's sales are made primarily pursuant to standard purchase orders for delivery of products. However, by industry practice, orders may be canceled or modified at any time. When a customer cancels an order, they are responsible for all finished goods, all costs, direct and indirect, incurred by us, as well as a reasonable allowance for anticipated profits. No assurance can be given that API will receive these amounts after cancellation. Furthermore, uncertainty in customer forecasts of their demands and other factors may lead to delays and disruptions in manufacturing, which could result in delays in product shipments to customers and could adversely affect API's business.

Fluctuations and changes in API's customers' demand are common in API's industry. Such fluctuations, as well as quality control problems experienced in API's manufacturing operations may cause API to experience delays and disruptions in API's manufacturing process and overall operations and reduce API's output capacity. As a result, product shipments could be delayed beyond the shipment schedules requested by API's customers or could be cancelled, which would negatively affect API's sales, operating income, strategic position at customers, market share and reputation. In addition, disruptions, delays or cancellations could cause inefficient production which in turn could result in higher manufacturing costs, lower yields and potential excess and obsolete inventory or manufacturing equipment. In the past, API has experienced such delays, disruptions and cancellations.

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API depends upon an outside contract manufacturer for a portion of the manufacturing process for some of API's products. API's operations and revenue related to these products could be adversely affected if API encounters problems with this contract manufacturer.

Many of API's products are manufactured internally. However API also relies upon a contract manufacturer in China to produce the finished portion of some of API's optoelectronic components. API's reliance on a contract manufacturer for these products makes API vulnerable to possible capacity constraints and reduced control over delivery schedules, manufacturing yields, manufacturing quality/controls and costs. If the contract manufacturer for API's products were unable or unwilling to manufacture API's products in required volumes and at high quality levels or to continue API's existing supply arrangement, API would have to identify, qualify and select an acceptable alternative contract manufacturer or move these manufacturing operations to API's internal manufacturing facilities. An alternative contract manufacturer may not be available to API when needed or may not be in a position to satisfy API's quality or production requirements on commercially reasonable terms, including price. Any significant interruption in manufacturing API's products would require API to reduce API's supply products to API's customers, which in turn would reduce API's revenue, harm API's relationships with the customers of these products and cause API to forego potential revenue opportunities.

API depends on key in-house manufacturing capabilities and a loss of these capabilities could have an adverse effect on API's existing operations and new business growth.

API depends on key in-house manufacturing equipment and assembly processes. API believes that these key manufacturing and assembly processes give API the flexibility and responsiveness to meet API's customer delivery schedule and performance specification with a custom product. This value proposition is an important component of API's offering to API's customers. A loss of these capabilities could have an adverse effect on API's existing operations and new business growth.

Changes in the spending priorities of the federal government can materially adversely affect API's business.

For API's fiscal 2014, approximately 14% of API's sales were related to products and services purchased by the federal government directly or indirectly. API's business relies upon continued federal government expenditures on defense, intelligence, homeland security, aerospace and other programs that API supports. For fiscal 2013, API's sales to federal government contractors totaled 25% of sales. In additi