

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 addition, foreign military sales are affected by U.S. government regulations, regulations by purchasing foreign governments and political uncertainties in the U.S. and abroad. There can be no assurance that the federal government budget (including defense and military) will continue to grow or that sales of defense related items to foreign governments will continue at present levels. The terms of defense contracts with the U.S. government generally permit the government to terminate such contracts, with or without cause, at any time. Any unexpected termination of a significant U.S. government contract with a military contractor to which API sells API's products could have a material adverse effect on API's business.

API faces intense competition which could negatively impact API's results of operations and market share.

API competes with a range of companies in API's target markets, some of which have greater financial and marketing resources, and greater manufacturing capacity, as well as better-established relationships with customers, than API does. Because API specializes in custom high performance devices requiring a high degree of engineering expertise to meet the requirements of specific applications, API generally does not compete to any significant degree with other large United States, European or Pacific Rim high volume manufacturers of standard off the shelf optoelectronic components. API cannot assure you that API will be able to compete successfully in API's markets against these or any future competitors.

API also faces competition from some of its customers who evaluate API's capabilities against the merits of manufacturing products internally. Due to the fact that such customers are not seeking to make a profit directly from the manufacture of these products, they may have the ability to manufacture competitive products at a lower

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cost than API would charge such customers. As a result, these customers may purchase less of API's products and there would be additional pressure to lower API's selling prices which, accordingly, would negatively impact API's revenue and gross margin.

Intense competition in API's markets could result in aggressive business tactics by API's competitors, including aggressively pricing their products or selling older inventory at a discount. If API's current or future competitors utilize aggressive business tactics, including those described above, demand for API's products could decline, API could experience delays or cancellations of customer orders, or API could be required to reduce API's sales prices.

Acquisition and alliance activities by API's competitors could disrupt API's ongoing business.

From time to time, API's competitors acquire or enter into exclusive arrangements with companies with whom API does business or may do business in the future. Reductions in the number of partners with whom API may do business in a particular context may reduce API's ability to enter into critical alliances on attractive terms or at all, and the termination of an existing alliance by a business partner may disrupt API's operations.

Decreases in average selling prices of API's products may increase operating losses and net losses, particularly if API is not able to reduce API's expenses commensurately.

The market for optical components and subsystems continues to be characterized by declining average selling prices resulting from factors such as increased price competition among optical component and subsystem manufacturers, excess capacity, the introduction of new products and increased unit volumes as manufacturers continue to deploy network and storage systems. In the last two years, API has observed a significant decline of average selling prices, primarily in the telecommunications market. API anticipates that average selling prices will continue to decrease in the future in response to product introductions by API's competitors or us, or in response to other factors, including price pressures from significant customers. In order to sustain profitable operations, API must, therefore, reduce the cost of API's current designs or continue to develop and introduce new products on a timely basis that incorporate features that can be sold at higher average selling prices. Failure to do so could cause API's sales to decline and operating losses to increase.

API's cost reduction efforts may not keep pace with competitive pricing pressures. To remain competitive, API must continually reduce the cost of manufacturing API's products through design and engineering changes. API may not be successful in redesigning its products or delivering API's products to market in a timely manner. API cannot assure you that any redesign will result in sufficient cost reductions enabling API to reduce the price of API's products to remain competitive or positively contribute to operating results.

Shifts in API's product mix may result in declines in gross profit.

API's gross profit margins vary among API's product platforms, and are generally highest on API's Terahertz products. API's overall gross profit has fluctuated from period to period as a result of shifts in product mix, the introduction of new products, decreases in average selling prices for older products and API's ability to reduce product costs, and these fluctuations are expected to continue in the future. If API's customers decide to buy more of API's products with low gross profit margins and fewer of API's products with high gross profit margins, API's total gross profits could be adversely affected.

Environmental regulations could increase operating costs and additional capital expenditures and delay or interrupt operations.

The photonics industry, as well as the semiconductor industry in general, is subject to governmental regulations for the protection of the environment, including those relating to air and water quality, solid and hazardous waste handling, and the promotion of occupational safety. Various federal, state and local laws and regulations require

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that API maintains certain environmental permits. While API believes that API has obtained all necessary environmental permits required to conduct API's manufacturing processes. If API was found to be in violation of these laws, API could be subject to governmental fines and liability for damages resulting from such violations.

Changes in the aforementioned laws and regulations or the enactment of new laws, regulations or policies could require increases in operating costs and additional capital expenditures and could possibly entail delays or interruptions of operations.

If API has insufficient proprietary rights or if API fails to protect those proprietary rights API has, API's business would be materially harmed.

API's success and ability to compete is dependent in part on API's proprietary technology. API relies on a combination of patent, copyright, trademark and trade secret laws, as well as confidentiality agreements and internal procedures, to establish and protect API's proprietary rights. For example, API utilizes proprietary design rules and processing steps in, among other things, the development and fabrication of API's PIN photodiodes, APD photodiodes and API's THz systems and sensors. In addition, API's products rely upon over 200 patents or patents pending. There can be no assurance that any issued patents will provide API with significant competitive advantages, or that challenges will not be instituted against the validity or enforceability of any patent utilized by us, or, if instituted, that such challenges will not be successful. The cost of litigation to uphold the validity and to prevent the infringement of a patent could be substantial and could have a material adverse effect on API's operating results. Furthermore, there can be no assurance that API's technology, which API is constantly developing, will not infringe on patents or rights owned by others, licenses to which might not be available to us. While API has conducted limited due diligence and have conferred with experts with respect to, among other things, API's proprietary materials which API incorporates into API's PIN photodiodes, APD photodiodes and API's THz systems and sensors, there can be no assurance that API has not overlooked or misinterpreted the status of the proprietary rights and intellectual property of others with respect to these products.

The steps API has taken to protect API's intellectual property may not adequately prevent misappropriation or ensure that others will not develop competitive technologies or products. Other companies may be investigating or developing other technologies that are similar to API's own. It is possible that patents may not be issued from any of API's pending applications or those API may file in the future and, if patents are issued, the claims allowed may not be sufficiently broad to deter or prohibit others from making, using or selling products that are similar to API's. API does not own patents in every country in which API sell or distribute API's products, and thus others may be able to offer identical products in countries where API does not have intellectual property protection. In addition, the laws of some territories in which API's products are or may be developed, manufactured or sold, including Europe, Asia-Pacific or Latin America, may not protect API's products and intellectual property rights to the same extent as the laws of the United States.

In some cases, API may rely on trade secrets to protect API's innovations. There can be no assurance that trade secrets will be established, that secrecy obligations will be honored or that others will not independently develop similar or superior technology. To the extent that consultants, key employees or other third parties apply technological information independently developed by them or by others to API's projects, disputes might arise as to the proprietary rights to such information which may not be resolved in API's favor.

Pursuing infringers of API's intellectual property rights can be difficult and costly.

Policing unauthorized use of API's technology is difficult and API cannot be certain that the steps API has taken will prevent the misappropriation, unauthorized use or other infringement of API's intellectual property rights. Pursuing

infringers of API's proprietary rights could result in significant litigation costs, and any failure to pursue infringers could result in API's competitors utilizing API's technology and offering similar products, potentially resulting in loss of a competitive advantage and decreased sales.

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Despite API's efforts to protect API's proprietary rights, existing patent, copyright, trademark and trade secret laws afford only limited protection. Further, API may not be able to effectively protect API's intellectual property rights from misappropriation or other infringement in foreign countries where API has not applied for patent protections, and where effective patent, trademark, trade secret and other intellectual property laws may be unavailable, or may not protect API's proprietary rights as fully as U.S. law. API seeks to secure, to the extent possible, comparable intellectual property protections in China and other areas in which API operates. Moreover, the level of protection afforded by patent and other laws in countries such as China may not be comparable to that afforded in the U.S.

Protecting API's intellectual property is difficult especially after API's employees or API's third-party contractors end their employment or engagement. API may have employees leave API and go to work for competitors. Attempts may be made to copy or reverse-engineer aspects of API's products or to obtain and use information that API regards as proprietary. Accordingly, API may not be able to prevent misappropriation of API's technology or prevent others from developing similar technology.

API may be involved in intellectual property disputes in the future, which could divert management's attention, cause API to incur significant costs and prevent API from selling or using the challenged technology.

Participants in the markets in which API sell products have experienced litigation regarding patent and other intellectual property rights. Numerous patents in these industries are held by others, including API's competitors. In addition, third parties may claim that API, or API's products, operations or any products or technology API obtains from other parties are infringing their intellectual property rights; and API may be unaware of intellectual property rights of others that may cover some of API's assets, technology and products.

Regardless of their merit, responding to such claims can be time consuming, divert management's attention and resources and may cause API to incur significant expenses. While API believes that API's products do not infringe in any material respect upon the intellectual property rights of other parties and/or believe that a meritorious defense would exist with respect to any assertions to the contrary, API cannot be certain that API's products would not be found to infringe upon the rights of others. Intellectual property claims against API could invalidate API's proprietary rights and force API to do one or more of the following:

obtain from a third party claiming infringement a license to sell or use the relevant technology, which may not be available on reasonable terms, or at all;

stop manufacturing, selling, incorporating or using API's products that use the challenged intellectual property;

pay substantial monetary damages; or

expend significant resources to redesign the products that use the technology and to develop non-infringing technology.

Any of these actions could result in a substantial reduction in API's revenue and could result in losses over an extended period of time.

If API fails to obtain the right to use the intellectual property rights of others which are necessary to operate API's business, and to protect their intellectual property, API's business and results of operations will be adversely affected.

In the past, API have licensed certain Terahertz technology for use in API's products. In the future, API may choose, or be required, to license technology or intellectual property from third parties in connection with the development of API's products. API cannot assure you that third-party licenses will be available to API on commercially reasonable terms, if at all. API's competitors may be able to obtain licenses, or cross-license their

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technology, on better terms than API can, which could put API at a competitive disadvantage. Also, API typically enters into confidentiality agreements with such third parties in which API agrees to protect and maintain their proprietary and confidential information, including requiring API's employees to enter into agreements protecting such information. There can be no assurance that the confidentiality agreements will not be breached by any of API's employees or that such third parties will not make claims that their proprietary information has been disclosed.

API faces strong competition for skilled workers which could result in API's inability to attract and retain necessary personnel.

API's success depends in large part on API's ability to attract and retain highly qualified scientific, technical, management, and marketing personnel. Competition for such personnel is intense and there can be no assurance that API will be able to attract and retain the personnel necessary for the development and operation of API's business.

API may not be able to successfully integrate future acquisitions, which could result in API's not achieving the expected benefits of the acquisition, the disruption of API's business and an increase in API's costs.

API's ability to continue to grow may depend upon identifying and successfully acquiring attractive companies, effectively integrating these companies, achieving cost efficiencies and managing these businesses as part of API's company.

API may not be able to effectively integrate the acquired companies and successfully implement appropriate operational, financial and management systems and controls to achieve the benefits expected to result from these acquisitions. API's efforts to integrate these businesses could be affected by a number of factors beyond API's control, such as regulatory developments, general economic conditions and increased competition. In addition, the process of integrating these businesses could cause the interruption of, or loss of momentum in, the activities of API's existing business. The diversion of management's attention and any delays or difficulties encountered in connection with the integration of these businesses could negatively impact API's business and results of operations. Further, the benefits that API anticipate from these acquisitions may not develop.

Future acquisitions could require API to issue additional indebtedness or equity.

If API was to undertake a substantial acquisition for cash, the acquisition would likely need to be financed in part through bank borrowings or the issuance of public or private debt. This acquisition financing would likely increase API's ratio of debt to equity and adversely affect other leverage criteria. Under API's existing SVB Loan Agreement and PFG Loan Agreement, API is required to obtain consent prior to incurring additional indebtedness beyond a certain dollar amount. API cannot assure you that the necessary acquisition financing would be available on acceptable terms if and when required. If API was to undertake an acquisition for equity, the acquisition may have a dilutive effect on the interests of the holders of API's Common Stock.

API may be liable for damages based on product liability claims relating to defects in API's products which might be brought against API directly, or against API's customers in their end-use markets. Such claims could result in a loss of customers in addition to substantial liability in damages.

API's products are complex and undergo quality testing as well as formal qualification, both by API's customers and by us. However, defects may occur from time to time. API's customers' testing procedures are limited to evaluating API's products under likely and foreseeable failure scenarios and over varying amounts of time. For various reasons, such as the occurrence of performance problems that are unforeseeable in testing or that are detected only when products age or are operated under peak stress conditions, API's products may fail to perform as expected long after customer

acceptance. Failures could result from faulty components or design, problems in manufacturing or other unforeseen reasons. As a result, API could incur significant costs to repair or replace

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defective products under warranty, particularly when such failures occur in installed systems. In addition, API may in certain circumstances honor warranty claims after the warranty has expired or for problems not covered by warranty in order to maintain customer relationships. Any significant product failure could result in lost future sales of the affected product and other products, as well as customer relations problems, litigation and damage to API's reputation.

In addition, API's products are typically embedded in, or deployed in conjunction with, API's customers' products, which incorporate a variety of components, modules and subsystems and may be expected to interoperate with modules produced by third parties. As a result, not all defects are immediately detectable, and, when problems occur, it may be difficult to identify the source of the problem. These problems may cause API to incur significant damages or warranty and repair costs, divert the attention of API's engineering personnel from API's product development efforts and cause significant customer relations problems or loss of customers, all of which would harm API's business.

Furthermore, many of API's products may provide critical performance attributes to API's customers' products that will be sold to end users who could potentially bring product liability suits in which API could be named as a defendant. The sale of these products involves the risk of product liability claims. If a person were to bring a product liability suit against one of API's customers, this customer may attempt to seek contribution from us. A person may also bring a product liability claim directly against us. A successful product liability claim or series of claims against API in excess of API's insurance coverage for payments, for which API is not otherwise indemnified, could have a material adverse effect on API's financial condition or results of operations. API has acquired product liability coverage of up to \$2 million.

API's current and planned systems, procedures and controls may not be adequate to support API's future operations.

The laws and regulations affecting public companies, including the provisions of the Sarbanes-Oxley Act of 2002, the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (the Dodd-Frank Act) and the rules adopted or proposed by the SEC, will result in increased costs to API as API evaluates the implications of any new rules and respond to their requirements. New rules could make it more difficult or more costly for API to comply with regulatory requirements, including API's reporting obligations under the Securities Exchange Act of 1934 (the Exchange Act), and obtain certain types of insurance, including director and officer liability insurance, and API may be forced to accept reduced policy limits and coverage or incur substantially higher costs to obtain the same or similar coverage. API cannot predict or estimate the amount of the additional costs API may incur or the timing of such costs to comply with any new rules and regulations, or if compliance can be achieved.

Additionally, in August 2012 the SEC adopted the conflict mineral rules under Section 1502 of the Dodd-Frank Act. The conflict mineral rules require issuers that manufacture products that contain certain minerals and metals (tantalum, tin, gold or tungsten), known as conflict minerals, to perform due diligence and to report annually to the SEC whether such minerals originated in the Democratic Republic of Congo or an adjoining country. The implementation of these new requirements could adversely affect the sourcing, availability and pricing of minerals API uses in the manufacture of API's products. In addition, API has incurred and will incur additional costs to comply with the disclosure requirements, including costs related to determining the source of any of the relevant minerals used in API's products. On June 2, 2014, API filed API's conflict minerals report with the SEC indicating API was conflict free undetermined because API did not receive 100% of the surveys back from API's suppliers to confirm that they used conflict free materials in the production of API's parts. API intends to continue to develop more transparency into API's supply chain as required by the SEC pursuant to the Dodd-Frank Act but significant efforts remain in order to achieve 100% certainty.

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API is increasingly dependent on information technology systems and infrastructure.

API relies to a large extent on sophisticated information technology systems and infrastructure. The size and complexity of these systems make them potentially vulnerable to breakdown, malicious intrusion, and random attack. Likewise, confidentiality or data privacy breaches by employees or others with permitted access to API's systems may pose a risk that trade secrets, personal information, or other sensitive data may be exposed to unauthorized persons or to the public. While API has invested in the protection of data and information technology, there can be no assurance that API's efforts will prevent breakdowns or breaches in API's systems that could adversely affect API's business.

API may be unable to utilize its net operating loss carryforwards to reduce API's income taxes, which could adversely affect API's future financial results.

As of March 31, 2014, API had net operating loss, or NOL, carryforwards for U.S. federal and state tax purposes of \$25.4 million and \$6.5 million, respectively. As these net operating losses have not been utilized, a portion has begun to expire in the current year. The utilization of the NOL and tax credit carryforwards are subject to a substantial limitation imposed by Section 382 of the Code, and similar state provisions. API recorded deferred tax assets, net of valuation allowance, for the NOL carryforwards currently available after considering any existing Section 382 limitation. If API incurs an additional limitation under Section 382, then the NOL carryforwards, as disclosed, could be reduced by the impact of any future limitation that would result in existing NOL carryforwards and tax credit carryforwards expiring unutilized.

Risks Relating to API's Common Stock

API's stock price has been volatile in the past and may decline in the future.

API's common stock has experienced significant market price and volume fluctuations in the past and may experience significant market price and volume fluctuations in the future in response to factors such as the following, some of which are beyond API's control:

quarterly variations in API's operating results;

operating results that vary from the expectations of securities analysts and investors;

changes in expectations as to API's future financial performance, including financial estimates by securities analysts and investors;

announcements of technological innovations or new products by API or API's competitors;

announcements by API or API's competitors of significant contracts, acquisitions, strategic partnerships, joint ventures or capital commitments;

changes in the status of API s intellectual property rights;

announcements by third parties of significant claims or proceedings against us

additions or departures of key personnel

future sales of API s Class A Stock or securities exercisable or convertible into shares of Class A Stock;

stock market price and volume fluctuations; and

general economic conditions.

Stock markets often experience extreme price and volume fluctuations. Market fluctuations, as well as general political and economic conditions, such as a recession or interest rate or currency rate fluctuations or political events or hostilities in or surrounding the United States, could adversely affect the market price of API s Class A Stock.

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In the past, securities class action litigation has often been brought against companies following periods of volatility in the market price of its securities. API may in the future be the target of similar litigation. Securities litigation could result in substantial costs and divert management's attention and resources both of which could have a material adverse effect on API's business and results of operations.

A limited public trading market may cause volatility in the price of API's Class A Stock.

The quotation of API's Class A Stock on the NYSE MKT does not assure that a meaningful, consistent and liquid trading market currently exists, and in recent years such market has experienced extreme price and volume fluctuations that have particularly affected the market prices of many smaller companies like API. API's Class A Stock is subject to this volatility. In particular, although over 31 million shares of API's Class A Stock were outstanding through the end of fiscal year 2014, the average daily trading volume over the 12 month period ended March 31, 2014 was approximately 78,000, or less than 0.3% of the number of shares outstanding. Consequently, sales of substantial amounts of Class A Stock, or the perception that such sales might occur, could adversely affect prevailing market prices of API's Class A Stock and API's stock price may decline substantially in a short time and API's stockholders could suffer losses or be unable to liquidate their holdings.

Future sales of API's Class A Stock in the public market could lower API's stock price, and conversion of API's warrants or stock options and any additional capital raised by API may dilute your ownership.

API may sell additional shares of Class A Stock in the future. In addition, holders of warrants or stock options may exercise their warrants or stock options to purchase shares of API's Class A Stock. API cannot predict the size of future issuances of API's Class A Stock or the effect, if any, that future issuances and sales of shares of API's Class A Stock will have on the market price of API's Class A Stock. Sales of substantial amounts of API's Class A Stock, including shares issued in connection with the exercise of the warrants or stock options, or the perception that such sales could occur, may adversely affect prevailing market prices for API's Class A Stock.

Shares eligible for public sale in the future could decrease the price of API's Class A Stock and reduce API's future ability to raise capital.

Future sales of substantial amounts of API's Class A Stock in the public market could decrease the prevailing market price of API's Class A Stock, which would have an adverse effect on API's ability to raise equity capital in the future.

API's issuance of Preferred Stock could adversely affect holders of Class A Stock.

API's board of directors is authorized to issue series of Preferred Stock without any action on the part of API's holders of Class A Stock. API's board of directors also has the power, without stockholder approval, to set the terms of any such series of Preferred Stock that may be issued, including voting rights, dividend rights, and preferences over the Class A Stock with respect to dividends or if API liquidates, dissolves or winds up API's business and other terms. If API issues Preferred Stock in the future that has preference over the Class A Stock with respect to the payment of dividends or upon API's liquidation, dissolution or winding up, or if API issues Preferred Stock with voting rights that dilute the voting power of the Class A Stock, the rights of holders of the Class A Stock or the price of the Class A Stock could be adversely affected.

API does not intend to pay dividends and is precluded from doing so while API's SVB and PFG Loan Agreements are outstanding.

API has never declared or paid any cash dividends on its common stock and API is currently precluded from doing so while the SVB and PFG Loan Agreements are outstanding. Even in the event the SVB and PFG Loan Agreements are terminated, API intends to retain future earnings, if any, to finance operations and expand API's business and, therefore, do not expect to pay any dividends in the foreseeable future.

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Provisions in API s organizational documents and Delaware law may delay or prevent a third party from acquiring us, which could decrease the value of API s stock.

API s board of directors has the authority to issue preferred stock and to determine the price, rights, powers, preferences, privileges and restrictions, including voting and conversion rights, of those shares without any further vote or action by the stockholders. The issuance of API s preferred stock could have the effect of making it more difficult for a third party to acquire us. In addition, API is subject to the anti-takeover provisions of Section 203 of the Delaware General Corporation Law, which could also have the effect of delaying or preventing API s acquisition by a third party. Further, certain provisions of API s Certificate of Incorporation, as amended, and amended bylaws could delay or make more difficult a merger, tender offer or proxy contest, which could adversely affect the market price of API s common stock, including:

not providing for cumulative voting in the election of directors;

limiting the persons who may call special meetings of stockholders; and

requiring advance notification of stockholder nominations and proposals.

These and other provisions in API s certificate of incorporation, as amended, API s amended bylaws and under Delaware law could discourage potential takeover attempts, reduce the price that investors might be willing to pay for shares of API s common stock in the future and result in the market price being lower than it would be without these provisions.

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CAUTIONARY STATEMENT CONCERNING FORWARD-LOOKING STATEMENTS

This joint proxy statement/prospectus contains forward-looking statements made pursuant to the safe harbor provision of the Private Securities Litigation Reform Act of 1995 that involve risks and uncertainties, as well as assumptions, that could cause the results of Luna and API to differ materially from those expressed or implied by such forward-looking statements. Forward-looking statements generally are identified by the words may, will, project, might, expects, anticipates, believes, intends, estimates, should, could, would, strategy, plan, negative of these words or other words or expressions of similar meaning. All statements, other than statements of historical fact, are statements that could be deemed forward-looking statements. These statements include expectations regarding the completion of the Merger, the prospects of the combined company and the companies' future growth, as well as the potential synergies from the proposed merger and the future profitability of the combined company. Management of Luna and API caution the reader that these forward-looking statements are only predictions and are subject to a number of both known and unknown risks and uncertainties, and actual results, performance, and/or achievements of the companies may differ materially from the future results, performance and/or achievements expressed or implied by these forward-looking statements as a result of a number of factors. These factors include, but are not limited to: the approval of the Merger and related matters by the companies' respective stockholders and satisfaction of other closing conditions of the Merger; the uniqueness and advantages of Luna's or API's technology and intellectual property; potential costs savings and synergies from the Merger; potential for greater profitability; potential for future commercialization of their technologies; the competitive advantage afforded by Luna's or API's technology; the potential efficacy of Luna's or API's technology; and growth potential of certain markets. Statements that describe the companies' business strategies, goals, prospects, opportunities, outlook, plans or intentions are also forward-looking statements.

For a discussion of risks associated with the ability of Luna and API to complete the Merger and the effect of the Merger on the present businesses of Luna and API and the business of the combined company after the Merger, see the section entitled "Risk Factors," beginning on page 20.

If any of these risks or uncertainties materializes or any of these assumptions proves incorrect, the results of Luna or API, or of the combined company after the Merger, could differ materially from the forward-looking statements. All forward-looking statements in this joint proxy statement/prospectus are current only as of the date on which the statements were made. Luna and API do not undertake any obligation to publicly update any forward-looking statement to reflect events or circumstances after the date on which any statement is made or to reflect the occurrence of unanticipated events.

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SUMMARY UNAUDITED PRO FORMA CONDENSED COMBINED FINANCIAL DATA

The following summary unaudited pro forma condensed combined financial data is intended to show how the Merger might have affected historical financial statements if the Merger had been completed as of January 1, 2013 with respect to the pro forma results of operations for the nine months ended September 30, 2014 and for the year ended December 31, 2013, and completed as of September 30, 2014 with respect to the pro forma balance sheet as of September 30, 2014. The summary unaudited pro forma condensed combined financial data was prepared based on the historical financial results reported by Luna and API. The following should be read in connection with the section entitled "Unaudited Pro Forma Condensed Combined Financial Statements" beginning on page F-79, and the audited and unaudited consolidated financial statements of Luna and API beginning on pages F-2 and F-36, respectively.

The Merger will be accounted for as a business combination under the acquisition method of accounting, with Luna as the identified acquirer. The unaudited pro forma condensed combined financial statements were prepared in accordance with the regulations of the SEC. The pro forma adjustments reflecting the completion of the Merger are based upon the acquisition method of accounting in accordance with U.S. GAAP, and upon the assumptions set forth in the notes to the unaudited pro forma condensed combined financial statements.

The fiscal year-ends of Luna and API are December 31st and March 31st, respectively, prior to the Merger. The Unaudited Pro Forma Condensed Combined Statement of Operations (the "pro forma statement of operations") for the nine months ended September 30, 2014 combines the historical consolidated statement of operations of Luna for the nine months ended September 30, 2014, and the historical consolidated statement of operations of API for the nine months ended September 26, 2014, and gives pro forma effect to the combination as if it had been completed on January 1, 2013. The pro forma statement of operations for the year ended December 31, 2013 combines the historical consolidated statement of operations of Luna for the year ended December 31, 2013, and the historical consolidated statement of operations of API for twelve months ended December 27, 2013, and gives pro forma effect to the Merger as if it had been completed on January 1, 2013. The Unaudited Pro Forma Condensed Combined Balance Sheet (the "pro forma balance sheet") as of September 30, 2014, combines the historical consolidated balance sheets of Luna and API as of September 30, 2014, and September 26, 2014, respectively, and gives pro forma effect to the Merger as if it had been completed on September 30, 2014.

The historical consolidated financial data has been adjusted to give pro forma effect to events that are (i) directly attributable to the Merger, (ii) factually supportable and (iii) with respect to the statements of operations, expected to have a continuing impact on the combined results. Costs of severance expected to be paid to API management and costs of bonuses expected to be paid to Luna management of approximately \$874,000 and \$585,000, respectively, are not included in the pro forma accrued liabilities due to their non-recurring nature. The pro forma adjustments are preliminary and based on management's estimates of the fair value and useful lives of the assets acquired and liabilities assumed and have been prepared to illustrate the estimated effect of the Merger and certain other adjustments.

The unaudited pro forma condensed combined financial data is presented for illustrative purposes only and is not necessarily indicative of the financial condition or results of operations of future periods or the financial condition or results of operations that actually would have been realized had the entities been combined during the periods presented. The unaudited pro forma condensed combined financial statements do not give effect to the potential impact of current financial conditions, regulatory matters or any anticipated synergies, operating efficiencies or cost savings that may be associated with the Merger. These financial statements also do not include any integration costs, dissynergies or estimated future transaction costs, except for fixed contractual transaction costs, that the companies may incur as a result of the Merger. In addition, as explained in more detail in the accompanying notes to the unaudited pro forma condensed combined financial statements (see the section entitled "Unaudited Pro Forma Condensed Combined Financial Statements" beginning on page F-79), the preliminary acquisition date fair value of the

identifiable assets acquired and liabilities assumed reflected in the unaudited pro forma condensed combined financial statements is subject to adjustment and may vary significantly from the actual amounts that will be recorded upon completion of the Merger.

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	Nine Months Ended September 30, 2014	Year Ended December 31, 2013
Pro Forma Condensed Combined Statements of Operations Data (in thousands, except per share amounts)		
Revenue	\$ 37,500	\$ 46,411
Operating loss	\$ (5,433)	\$ (11,920)
Loss from continuing operations	\$ (5,447)	\$ (11,806)
Loss per share from continuing operations basic and diluted	\$ (0.20)	\$ (0.45)

	September 30, 2014
Pro Forma Condensed Combined Balance Sheet Data (in thousands)	
Total current assets	\$ 34,508
Goodwill	\$ 1,947
Total assets	\$ 53,542
Long term debt, including current portion	\$ 4,000
Total stockholders equity	\$ 37,704

Table of Contents**COMPARATIVE HISTORICAL AND UNAUDITED PRO FORMA PER SHARE DATA**

The following table sets forth certain historical, unaudited pro forma combined and pro forma equivalent financial information. The pro forma combined and pro forma equivalent income and dividend per share data for the year ended December 31, 2013 and for the nine months ended September 30, 2014 assumes that the Merger was completed as of January 1, 2013. The API pro forma equivalent data was calculated by multiplying the corresponding combined company pro forma data by the Exchange Ratio.

The unaudited pro forma combined and pro forma equivalent loss and dividend per share data for the year ended December 31, 2013 was prepared based on the audited consolidated financial statements for Luna for the year ended December 31, 2013 and the unaudited consolidated financial statements of API for the twelve months ended December 27, 2013. The unaudited pro forma combined and pro forma equivalent loss and dividend per share data for the nine months ended September 30, 2014 was prepared based on the unaudited condensed consolidated financial statements for Luna for the nine months ended September 30, 2014 and for API for the nine months ended September 26, 2014. The pro forma combined and pro forma equivalent net book value per share data as of September 30, 2014 was prepared based on the unaudited consolidated balance sheets of Luna as of September 30, 2014 and of API as of September 26, 2014.

The information below should be read in conjunction with the audited and unaudited consolidated financial statements of Luna and API referenced above and the accompanying notes to such financial statements. See the section entitled *Where You Can Find More Information* beginning on page 228. You are urged to also read the section entitled *Unaudited Pro Forma Condensed Combined Financial Statements* beginning on page F-79.

	As of and for the nine months ended September 30, 2014			
	Luna	API (2)	Pro Forma (3)	API Pro Forma Equivalent (4)
Net loss per share from continuing operations:				
Basic and Diluted	\$ (0.15)	\$ (0.05)	\$ (0.20)	\$ (0.06)
Dividends per share:	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
Book value per common share (1):	\$ 0.98	\$ 0.34	\$ 1.22	\$ 0.39

	For the year ended December 31, 2013			
	Luna	API (2)	Pro Forma (3)	API Pro Forma Equivalent (4)
Net loss per share from continuing operations:				
Basic and Diluted	\$ (0.38)	\$ (0.13)	\$ (0.45)	\$ (0.14)
Dividends per share:	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
Book value per common share (1):	\$ 0.48	\$ 0.37	N/M(5)	N/M(5)

(1) Book value per common share as of September 30, 2014 (September 26, 2014, in the case of API) was computed using common stockholders' equity attributable to Luna and API, as applicable, divided by the number of shares

of common stock outstanding of 15,026,973 and 37,381,413, respectively. Book value per common share as of December 31, 2013 (December 27, 2013, in the case of API) was computed using common stock equity attributable to Luna and API, as applicable, divided by the number of shares of common stock outstanding of 14,527,335 and 31,240,740, respectively. Pro forma book value per common share for the combined company as of September 30, 2014 was computed using pro forma stockholders' equity, excluding preferred equity divided by the pro forma number of shares of common stock outstanding of 26,907,304.

- (2) Net loss per share from continuing operations for API is presented for the year ended December 27, 2013 and for the nine months ended September 26, 2014.
- (3) Pro forma combined basic and diluted net loss per share from continuing operations is computed by dividing pro forma combined net loss from continuing operations by the weighted average pro forma number of

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shares outstanding during the relevant period. Shares issuable upon the exercise of outstanding stock options and the vesting of restricted stock units are excluded from the computation due to their anti-dilutive effect on pro forma combined net loss per share from continuing operations.

- (4) API pro forma equivalent amounts are calculated by multiplying pro forma combined per share amounts by the Exchange Ratio of 0.31782.
- (5) Pro forma book value per share is not meaningful as purchase adjustments were calculated as of September 30, 2014.

Table of Contents**COMPARATIVE MARKET PRICE DATA AND DIVIDEND INFORMATION****Stock Prices**

The tables below set forth, for the calendar quarters indicated, the high and low sales prices per share of Luna common stock, which trades on the NASDAQ Capital Market under the symbol LUNA, and API common stock, which trades on the NYSE MKT under the symbol API.

Luna's fiscal year ends on December 31st and API's fiscal year ends on March 31st.

	Luna Common Stock	
	High	Low
Fiscal Year 2013		
First Quarter	\$ 1.40	\$ 1.11
Second Quarter	\$ 1.35	\$ 1.09
Third Quarter	\$ 2.40	\$ 1.13
Fourth Quarter	\$ 1.74	\$ 1.15
Fiscal Year 2014		
First Quarter	\$ 3.36	\$ 1.28
Second Quarter	\$ 1.68	\$ 1.30
Third Quarter	\$ 2.70	\$ 1.20
Fourth Quarter	\$ 1.56	\$ 1.22
Fiscal Year 2015		
First Quarter (through February 13, 2015)	\$ 1.85	\$ 1.38

	API Common Stock	
	High	Low
Fiscal Year 2013		
First Quarter	\$ 0.79	\$ 0.50
Second Quarter	\$ 0.80	\$ 0.48
Third Quarter	\$ 0.72	\$ 0.38
Fourth Quarter	\$ 0.84	\$ 0.40
Fiscal Year 2014		
First Quarter	\$ 0.74	\$ 0.42
Second Quarter	\$ 0.68	\$ 0.47
Third Quarter	\$ 0.88	\$ 0.55
Fourth Quarter	\$ 0.85	\$ 0.57
Fiscal Year 2015		
First Quarter	\$ 0.72	\$ 0.40
Second Quarter	\$ 0.65	\$ 0.46
Third Quarter	\$ 0.57	\$ 0.25
Fourth Quarter (through February 13, 2015)	\$ 0.49	\$ 0.28

Dividends

Luna has never paid cash dividends on its common stock. Luna currently intends to retain earnings, if any, for use in its business and does not anticipate paying any cash dividends in the foreseeable future.

API has never paid cash dividends on its common stock. API currently intends to retain earnings, if any, for use in its business and does not anticipate paying any cash dividends in the foreseeable future.

Comparative Per Share Market Value Data

The following table presents the closing per share price of Luna common stock and API common stock as reported on the NASDAQ Capital Market and the NYSE MKT, respectively, on (i) January 30, 2015, the last

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trading day preceding public announcement that Luna and API had entered into the Merger Agreement and (ii) February 13, 2015, the latest practicable date before the printing of this joint proxy statement/prospectus.

The table also includes the equivalent closing per share price of API common stock on those dates. These equivalent closing per share prices reflect the fluctuating value of the Luna common stock that API stockholders would receive in exchange for each share of API common stock if the Merger had been completed on either of these dates, applying the exchange ratio of 0.31782 shares of Luna common stock for each share of API common stock.

	Luna Common Stock	API Common Stock	Equivalent API Price Per Share
January 30, 2015	\$ 1.68	\$ 0.33	\$ 0.53
February 13, 2015	\$ 1.48	\$ 0.41	\$ 0.47

The above table shows only historical comparisons. These comparisons may not provide meaningful information to API stockholders in determining whether to approve the Merger Agreement. API stockholders are urged to obtain current market quotations for Luna common stock and API common stock and to review carefully the other information contained in this joint proxy statement/prospectus. Historical stock prices are not indicative of future stock prices.

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THE MERGER

This section of the joint proxy statement/prospectus describes material aspects of the Merger. While Luna and API believe that the description covers the material terms of the Merger Agreement and the transactions contemplated thereby, this summary does not contain all of the information that may be important to you. You should carefully read this entire joint proxy statement/prospectus, the attached annexes, and the other documents to which this joint proxy statement/prospectus refers, for a more complete understanding of the Merger.

General Description of the Merger

At the Effective Time, API Merger Sub, Inc., a wholly owned subsidiary of Luna, will merge with and into API. Upon completion of the Merger, the separate corporate existence of API Merger Sub, Inc. will cease and API will continue as the surviving entity and a wholly owned subsidiary of Luna.

As a result of the Merger, each share of API common stock outstanding at the Effective Time will be converted automatically into the right to receive 0.31782 shares of Luna common stock. The merger consideration is more fully described in the sections entitled "The Merger Agreement" and "Merger Consideration" on page 111 of this joint proxy statement/prospectus and in the Merger Agreement, which is attached to this joint proxy statement/prospectus as Annex A.

The exchange ratio is subject to adjustment to reflect the effects of any stock split, division or subdivision of shares, stock dividend, reverse stock split, combination of shares, reclassification, recapitalization or other like change in the outstanding common stock of Luna or API.

The merger is expected to qualify for U.S. federal income tax purposes as a "reorganization" within the meaning in Section 368(a) of the Internal Revenue Code of 1986, as amended. See the section entitled "Material U.S. Federal Income Tax Consequences of the Merger" beginning on page 107 of this joint proxy statement/prospectus.

Background of the Merger

Luna develops, manufactures and markets fiber optic sensing and test & measurement products. In addition, Luna also provides applied research services, typically under research programs funded by the United States government. Luna's board and leadership have consistently evaluated partnership and other strategic opportunities in order to commercialize and advance Luna's products, reduce costs, establish strategic partnerships, and deliver value to Luna's stockholders.

Prior to 2013, Luna's operations also included a number of other businesses, including fiber optic shape sensing technology that it was developing for robotic and minimally invasive surgical systems and Luna's secure computing and communications group, or SCC, which developed technology to ensure the integrity of integrated circuits used in defense systems. Over the past two years, Luna narrowed its strategic focus by selling SCC in early 2013 and its medical fiber optic shape sensing business in early 2014. With its narrowed strategic focus and a stronger balance sheet as a result of these transactions, Luna began exploring other opportunities that were complementary to its core test and measurement business.

API is a leading test and measurement company with three product lines: High-Speed Optical Receiver (HSOR) devices that are used in the telecommunication market by both telecommunication equipment manufacturers and in test and measurement equipment utilized in the manufacturing of telecommunications equipment; Optoelectronic solutions which enables manufacturers to measure physical properties, including temperature, particular counting,

color, and fluorescence for medical and process control applications; and Terahertz sensor products targeted at the industrial process control and quality control nondestructive testing markets for the measurement of subsurface physical properties, like multi-layers thicknesses, density, moisture content and anomaly detection. The API board of directors, together with management, reviews API's strategic alternatives from time to time.

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In the spring of 2013, API retained B. Riley & Co., Inc., or B. Riley, to assist in a comprehensive review of strategic alternatives focused on the sale of one or more of API's principal product lines and the strengthening of API's balance sheet. In mid to late 2013, B. Riley approached 18 third parties to determine their level of interest in acquiring API's HSOR business. API received two preliminary indicative offers of interest but none of them exceeded \$8 million in value and none of them was deemed worthy of pursuing by the API board of directors, and no meaningful sale negotiations ensued. Thereafter, in late 2013 and early 2014, API directly approached several potential acquirers of API's Optoelectronics business. Based on preliminary negotiations with those parties (in one case, including the negotiation of a proposed term sheet providing for an \$11 million purchase price), the API board of directors determined that the realistically achievable sale price would not be adequate.

API was first introduced to Luna in September 2013 by an unrelated third party. The initial introduction was followed by a meeting at API headquarters in October 2013 between My Chung, Luna's president and chief executive officer, and Richard Kurtz, API's president and chief executive officer, at which the parties exchanged overviews of their respective businesses and prospects. Following that meeting, the parties executed a mutual non-disclosure agreement, or NDA, and held a follow-up meeting at Luna's headquarters on December 5, 2013, at which meeting the members of each company's management teams presented more detailed reviews of their respective businesses and prospects and discussed, in general terms, the benefits of a potential business combination between Luna and API. However, neither party made any immediate effort to follow up on these initial conversations and these discussions ceased.

In February 2014, Mr. Chung received an unsolicited inquiry from a third-party public company, referred to as Party A, regarding a potential acquisition of Luna. Luna and Party A executed an NDA for the purpose of evaluating a potential strategic transaction between Luna and Party A. Following the execution of the NDA, in early March 2014, Luna management gave a presentation to Party A regarding Luna's business and Party A management gave a presentation to Luna regarding Party A's business. On March 13, 2014, Luna received a non-binding letter of intent from Party A regarding a potential stock-for-stock acquisition of Luna by Party A.

On March 18, 2014, the Luna board of directors met to discuss the proposed offer. The board directed Luna management to request that Party A improve the economic terms of its proposed offer. The board also determined to engage an investment banking firm to assist the company in respect of the potential transaction, as well as to conduct a market check. Later on March 18, 2014, Party A provided a revised non-binding letter of intent to Luna reflecting an increased purchase price.

Thereafter, Luna interviewed potential investment bankers, and on March 25, 2014, Luna engaged Mooreland Partners, LLC, or Mooreland, to assist it in evaluating potential strategic opportunities, including the potential transaction with Party A. At a meeting of the Luna board of directors on March 27, 2014, Luna's board of directors and management discussed the potential transaction, as well as, with the input from Mooreland, the stand-alone value and business prospects of Luna. Following the meeting, Luna management requested that Party A further increase the proposed offer price. Luna and Party A continued negotiating the terms of a non-binding letter of intent. Additionally, Mooreland contacted, and Luna management engaged in preliminary discussions with another third-party public company, referred to as Party B, to explore whether Party B would be interested in a strategic transaction.

Following further negotiations, Party A ultimately provided Luna a non-binding letter of intent reflecting a stock-for-stock acquisition of Luna. On April 1, 2014, the Luna board authorized management to execute this non-binding letter of intent, and following the board meeting, Luna provided Party A with a counter-signed letter of intent. Because the letter of intent included an exclusivity period, Luna suspended discussions with Party B at that time.

During April and May 2014, Party A engaged in continued due diligence on Luna, including document review and in person meetings with Luna management. However, on May 30, 2014, Party A's chief executive officer notified Mr. Chung that Party A was not going to proceed with a proposed transaction because there was not a sufficient strategic fit with Luna to warrant an acquisition.

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During late 2013 and early 2014, API continued to explore potential strategic transactions with third parties including the potential sale of its Terahertz technology (or the exclusive licensing of limited rights to its technology) and potential acquisition/merger transactions involving the entire company. None of those discussions resulted in any meaningful negotiations. Throughout this period, management and the API board continued to develop and to execute a business plan under which API would continue to operate independently and without divesting any of its major product lines. In furtherance of that plan, in June 2014, API completed a public offering of its common stock underwritten by B. Riley, which raised approximately \$2.9 million, after payment of commissions and expenses.

Following Party A's decision not to proceed with a potential acquisition of Luna, Luna management began an extensive evaluation of potential strategic opportunities with the assistance of Mooreland. Opportunities were analyzed, reviewed and discussed over the course of several months. The Luna Board authorized Mooreland and Luna management to contact eleven potential transaction parties, including API. Of these eleven, six participated in introductory phone calls or meetings. Of these six parties, two parties—API and Party B—would eventually engage in substantial discussions and due diligence with Luna.

On June 10, 2014, Mooreland initially contacted Mr. Kurtz of API and reported that Luna was interested in buying or merging with another public company with whom it might realize potential operational synergies and in order to benefit from a larger revenue base and achieve efficiencies in the cost of complying with the regulations governing public companies. On July 15, 2014, Mooreland representatives again spoke with Mr. Kurtz about a potential strategic transaction with Luna, including product fit and cost synergies. Mr. Kurtz indicated that API had deferred active consideration of its strategic alternatives pending the results of its second and third fiscal quarters. The parties agreed to stay in touch.

On June 18, 2014, Luna signed an NDA with Party B for the purpose of evaluating a potential strategic transaction with Party B, and over the ensuing three months, Luna and Party B engaged in discussions regarding a potential transaction.

On September 29, 2014, Mr. Chung contacted Donald Pastor, API's chairman, regarding the potential for a business combination. Both parties expressed an interest in exploring a potential transaction and scheduled a meeting in Durham, North Carolina the following week. On October 1, 2014, Luna and API entered into an NDA.

On October 2, 2014, Luna management, representatives of Mooreland, Mr. Kurtz and Mr. Pastor met in Durham, North Carolina, and exchanged business information and discussed a potential merger transaction. Luna and API generally discussed some of the synergies that might be achieved by a combination of the two companies. During the course of the discussion, Mr. Kurtz indicated that he understood that his continued services would not be required in the event a merger between the two parties was consummated. The parties agreed to meet again to discuss potential benefits of a business combination in greater detail.

During late September and early October 2014, representatives of Mooreland and Luna management continued engaging in discussions with Party B to explore a potential strategic transaction. Additionally, Richard Roedel, Luna's chairman, had an introductory call with the chairman of Party B. In the course of these discussions, Party B expressed its position that any potential transaction would require a commitment that the surviving company invest substantial funds in Party B's subsidiary, which although presently unprofitable, Party B believed had great potential value. Party B also expressed, as a condition of any transaction with Luna, Carilion Clinic would be required to modify its rights under to the terms of the Series A Preferred Stock.

On October 17, 2014, Luna management, Mooreland and API's management met again in Raleigh, North Carolina to exchange views on how the businesses, if combined, might be perceived in the market place and the financial

community and potential operational and financial synergies that might be realized in a Merger. This meeting was followed by the exchange and analysis of financial forecasts of API and Luna.

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At a series of meetings of the Luna board of directors in late October 2014, Mooreland and Luna management apprised the Luna board of directors of the status of the company's efforts to explore a potential strategic transaction with a third party. Mooreland advised the board of directors that it had approached eleven prospective merger candidates and that, for various reasons, nine of them had decided to pass. Mooreland provided detailed information about Party B and API, including potential synergies and cost savings, and presentations regarding Mooreland's efforts toward a strategic transaction with Party B or API. The Luna board of directors discussed the potential benefits of a transaction with Party B or API, including potential cost savings, synergies and positive effects on stockholder value. The board also discussed the risks of a potential transaction, including Party B's desire for a commitment from the surviving company to fund its unprofitable subsidiary. In light of this, the Luna board expressed its belief that Luna should engage in substantial additional due diligence on Party B before any further discussions with Party B. Luna's board of directors also discussed the merits of Luna pursuing its business plan on a stand-alone basis and pursuing other potential strategic alternatives.

In late October and early November 2014, Luna management and Mooreland representatives continued to engage in discussions with Party B and API concerning their businesses and the potential merits of a merger with Luna. Additionally, Luna engaged in additional due diligence on Party B's business plan and its products and technology, including the engagement of a consultant to evaluate Party B's subsidiary.

On November 4, 2014, Mr. Chung, Dale Messick, Luna's chief financial officer, and Scott Graeff, Luna's chief strategy officer, met with API's senior operating officers in Ann Arbor, Michigan and received an in depth briefing as to the API business. On November 12 and 13, 2014, Messrs. Chung and Graeff visited the headquarters of API's Optosolutions business in Camarillo, California, where they toured the facility and met with the general manager, along with Mr. Kurtz.

On November 18, 2014, Mr. Roedel met with Mr. Pastor in Charlotte, North Carolina to discuss API's business, the potential merits of a merger between API and Luna and the specific terms of a potential transaction.

At a meeting of the Luna board of directors on November 19, 2014, Mr. Roedel briefed the Luna board of directors on his discussions with the respective chairmen of Party B and API. Luna management also updated the board on the potential risks and benefits of a strategic transaction with each of Party B and API, including the results of the consultants' analysis of Party B and its subsidiary. Following a discussion, the board of directors decided Luna should focus on a transaction with API, rather than Party B, given API's better strategic fit with Luna's fiber optic technologies and telecom presence and, relatedly, prospects for integration, as well as the risks associated with a transaction with Party B, including the likely need for an agreement from Carilion Clinic to modify the terms of its Series A Preferred Stock. Accordingly, the board of directors directed management to proceed towards a letter of intent for a merger with API on terms to be recommended by management, Mooreland and outside legal counsel.

Following the meeting, representatives of Mooreland contacted Mr. Pastor, indicating that Luna's board of directors decided to continue discussing a strategic transaction with API, and informed Party B that Luna was no longer interested in exploring a strategic transaction with Party B at that time.

On November 20, 2014, Luna delivered to API a letter of intent proposing a reverse triangular merger in which API would be merged with a wholly owned subsidiary of Luna and the stockholders of API would receive 0.34466 shares of Luna common stock for each share of API common stock owned by them. Prior to the delivery of such letter, Messrs. Kurtz, Pastor and Chung had several conversations concerning the proposed exchange ratio. The letter of intent as proposed by Luna also provided that the board of directors of the combined businesses would be composed of three current directors of API, three current directors of Luna, and the chief executive officer of Luna. On November 21, 2014, at the suggestion of Mr. Pastor, Luna modified this provision to permit the API board designees

to be persons who were not current API directors.

On November 23, 2014, the API board of directors met to discuss the proposed letter of intent from Luna. At that meeting it was determined to defer action on the matter pending further discussion and consideration by the directors. At the meeting, Mr. Kurtz, Jeff Anderson, API's chief financial officer, and Robin Risser, API's chief

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operating officer, briefed the directors on the continued slowdown of capital expenditures in the telecommunications industry and the potential effect of those developments on the API's business. It was noted that current internal forecasts indicated that API might not be able to meet its covenants under its existing credit facilities in the fourth quarter if these trends did not improve.

At a meeting of Luna's board of directors on November 26, 2014, Mr. Graeff provided an update on the potential strategic transaction with API, noting a letter of intent had been sent to API.

On December 3, 2014 and December 4, 2014, Messrs. Pastor, Kurtz and Risser and Steven Williamson, API's chief technology officer, met with representatives of Luna in Charlottesville, Virginia, where several of Luna's Technology Development Division groups are located, and on December 5, 2014, Messrs. Pastor, Risser and Williamson met with representatives of Luna's Lightwave Division in Blacksburg, Virginia. Mr. Pastor and API's executive officers periodically discussed these and their other meetings with representatives of Luna (including their discussions as to expected synergies, the exchange ratio and the composition of the Board of the combined businesses) with the individual directors of API and were encouraged by them to continue to pursue such discussions.

At a meeting of the Luna board of directors on December 8, 2014, Mr. Graeff gave a status update on discussions with API. A full discussion ensued regarding the potential composition of the board of directors of the combined company. Following this discussion, Luna's board of directors confirmed that the combined company's board of directors should include three directors designated by API, three directors from Luna and Luna's chief executive officer.

On December 9, 2015, Messrs. Risser and Williamson met with Mr. Chung at the Detroit Airport and discussed the governance practices at their respective companies, potential synergies that might be derived from a business combination, and the status of Luna's efforts to achieve the \$8 million technical specification milestone payment provided for in connection with the sale of its medical shape sensing business.

On December 11, 2014, API's chief executive officer provided an executed letter of intent and term sheet to Luna.

On December 12, 2014, Talfourd Kemper, Jr., Luna's general counsel, and representatives of Luna's outside counsel, Cooley LLP, or Cooley, spoke with Mr. Kurtz and representatives of API's outside counsel, Tarter Krinsky & Drogin LLP, or Tarter Krinsky. This conversation included discussions regarding API's severance payment obligations for certain API employees. The parties also briefly discussed API's fiscal third quarter outlook, which Mr. Kemper later relayed to Luna management.

On December 15, 2014, Mr. Roedel met with Messrs. Risser and Williamson and discussed the potential board composition of the combined company.

On December 16, 2014 and December 17, 2014, respectively, each of Luna and API opened access to their respective electronic data rooms to the other party to begin the formal due diligence process. Thereafter and continuing through January 2015, management of Luna and API and their respective consultants and advisors conducted detailed due diligence on each other's respective businesses, and during that time members of Luna and API senior management continued to participate in discussions regarding the businesses of both companies and the preparation of financial projections and cost synergies analyses.

On December 17, 2014, API retained B. Riley as its financial advisor in connection with the proposed transaction. The nature of B. Riley's engagement was to provide an opinion to the API board of directors that the exchange ratio contemplated in the Merger was fair from a financial point of view to the stockholders of API.

Later on December 19, 2014, at a meeting of the Luna board of directors, Luna management provided an update on the status and ongoing due diligence with respect of the potential merger with API, noting that API's fiscal

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third quarter appeared to be weaker than previously forecast and discussing API's severance obligations under existing employment agreements with members of API senior management, if their employment were to be terminated without cause.

On December 22, 2014, Luna provided API and Tarter Krinsky with an initial draft of the Merger Agreement and form of voting agreement that Luna expected would be signed by the directors and executive officers of each of Luna and API. Both documents were generally consistent with the terms of the transaction as outlined in the letter of intent signed by the parties.

At a meeting of the API board of directors on December 22, 2014, API's board of directors formally ratified and approved the execution and delivery of the letter of intent with Luna and the retention of B. Riley as API's financial advisor.

On December 26, 2014, API delivered to Luna updated financial forecasts for the fiscal years ending March 2015 and 2016. The forecasts included a projected slowdown in API sales that extended for a longer period than had been anticipated in the original forecast provided to Luna by API. Following the receipt of the updated financial forecasts, Mr. Graeff spoke with API management and Mooreland representatives on multiple occasions on December 27, 2014 and December 28, 2014. A subsequent meeting was held in Orlando, Florida on December 30, 2014, attended by Messrs. Chung, Graeff, Messick, Kurtz and Risser, to review the API forecasts in depth. Following that meeting, a representative of Mooreland called Mr. Pastor to advise him that, in light of the changes to API's forecasts, Luna was considering proposing a change in the exchange ratio reflected in the non-binding letter of intent.

At a meeting of the Luna board of directors on January 2, 2015, Mr. Chung provided an update on the status of the potential Merger with API, noting that API signed and returned the non-binding letter of intent. He discussed the expected revenue shortfalls in API's fiscal third quarter and how he and Messrs. Messick and Graeff had visited with API's executives in Florida to better understand the situation. A representative of Mooreland said he believed that API's fiscal third quarter shortfalls and the change in API forecasts would necessitate a change to the exchange ratio reflected in the original non-binding letter of intent, based on further financial analysis.

From January 6, 2015 to January 7, 2015, Mr. Messick met with Messrs. Kurtz, Risser and Anderson in Ann Arbor, Michigan. On those same dates, Luna's auditors, Grant Thornton LLP, assisted in conducting certain onsite due diligence procedures in Ann Arbor, Michigan.

On January 7, 2015, API provided a revised draft of the Merger Agreement and form of voting agreement to Luna and Cooley.

At a meeting of the Luna board of directors on January 9, 2015, Luna management presented its due diligence findings from their meeting with API management on December 30, 2014. Mooreland advised that the results of this further due diligence would be included in Mooreland's financial analysis and its recommendation to the Board on a revised exchange ratio.

Also on January 9, 2015, a representative of Mooreland informed Mr. Pastor, that in light of the revised API financial forecast, Luna proposed to lower the exchange ratio in the proposed merger to a level that would give the API stockholders a 38% ownership interest in the combined business on a fully diluted basis. On January 10, 2015, Mooreland emailed B. Riley and API's chairman regarding a revised exchange ratio. On January 13, 2015, the B. Riley engagement letter was amended to provide analyses of the new, proposed exchange ratio and to advise API with respect to the development of a counter proposal. Between January 9, 2015 and January 15, 2015, the parties, in consultation with their respective financial advisors, continued to discuss the appropriate exchange ratio, and on

January 15, 2015, Messrs. Pastor and Chung agreed to recommend to their respective boards of directors an exchange ratio of 0.31782, whereby API's stockholders would own 43% of the common stock of the combined company on a fully diluted basis.

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At a meeting of the Luna board of directors on January 16, 2015, Mr. Chung provided an update on the status of the potential merger with API, including, among other things, the revised exchange ratio and the anticipated support of API's board of directors and management in favor of the transaction. Mr. Chung noted that Luna management had concluded its business due diligence of API, noting that API's explanations for its weak fiscal third quarter appeared credible. A representative of Mooreland led the Board through a detailed presentation of API and the respective valuations of API and Luna, as well as the potential cost savings and potential market perception of the combined company. Mr. Kemper summarized the terms of the proposed Merger Agreement, a draft of which had been distributed to Luna's directors. A representative of Cooley discussed the potential timeline for completion of the transaction, in view of SEC filing requirements and the necessity of receiving approvals from both companies' stockholders.

On January 16, 2015, Luna provided revised drafts of the Merger Agreement and form of voting agreement to API and Tarter Krinsky. From January 16, 2015 through January 18, 2015 representatives of Luna and API, in consultation with their respective financial and legal advisors, continued to negotiate the terms of the Merger Agreement and the form of voting agreement and discuss the exchange ratio.

On January 18, 2015, Mooreland provided B. Riley and API an updated exchange ratio proposal, along with the underlying calculations, of 0.31782 shares of Luna common stock for each share of API common stock, based on the closing prices of the companies' respective shares of common stock on January 16, 2015, and Mr. Graeff spoke with API management regarding the updated exchange ratio.

The Luna board of directors met on January 23, 2015 to discuss the status of the potential merger with API. On January 26, 2015 and January 29, 2015, Mr. Roedel spoke with API's chairman regarding governance matters of the combined company.

At a meeting of the board of directors of API held on January 28, 2015, B. Riley discussed with API's board of directors its analysis of the proposed transaction and on January 29, 2015, B. Riley delivered to API's board of directors its formal opinion that the exchange ratio contemplated in the Merger is fair from a financial point of view to the stockholders of API as of January 29, 2015. See the section entitled "The Merger" Opinion of B. Riley & Co., LLC to the Board of Directors of API beginning on page 90.

The API board of directors met again on the morning of January 30, 2015 to consider the potential business combination transaction with Luna. The API board of directors received an update regarding the status of the potential transaction, and reviewed the terms of the proposed Merger Agreement and related agreements. Representatives of Tarter Krinsky and the law firm of Morris, Nichols, Arsht and Tunnell LLP, special Delaware counsel to API, reviewed the API board's fiduciary duties with respect to the transaction and the provisions of the Merger Agreement and voting agreements and responded to questions from the directors with respect thereto. After deliberation, the API board of directors unanimously adopted the resolutions declaring the Merger Agreement to be advisable and in the best interest of the stockholders and determined to recommend that the stockholders vote in favor of adoption of the Merger Agreement. In addition, the API board of directors approved the related voting agreements.

That same morning, the Luna board of directors held a meeting with representatives of Mooreland and Cooley present. During this meeting, Cooley reviewed the board's fiduciary duties with respect to the proposed transaction with API. The Luna board of directors also engaged in a thorough review with representatives of Cooley of key provisions of the Merger Agreement and voting agreements, and representatives of Cooley and Mr. Kemper responded to questions from directors regarding these agreements. Mooreland presented its financial analysis of the exchange ratio and delivered an oral opinion, subsequently confirmed in writing, that, as of January 30, 2015 and based upon and subject to the assumptions, factors and qualifications set forth in the written opinion, the exchange ratio of 0.31782 shares of

Luna common stock for each outstanding share of API common stock pursuant to the Merger Agreement was fair from a financial point of view to Luna's common stockholders. See the section entitled "The Merger" Opinion of Mooreland Partners LLC to the Board of

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Directors of Luna beginning on page 78. After further discussion, the Luna board of directors unanimously determined that the Merger Agreement, the Merger and the other transactions contemplated by the Merger Agreement were advisable and fair to and in the best interest of Luna and its common stockholders and approved the Merger Agreement and voting agreements. The Luna board of directors also resolved unanimously to recommend to the Luna stockholders that they vote to approve the issuance of shares of Luna's common stock pursuant to the Merger Agreement.

Following the approval of the transaction by the Luna and API board of directors, the Merger Agreement was executed by the parties, and voting agreements were delivered by each of Luna's and API's executive officers and directors, on the night of January 30, 2015. On the morning of February 2, 2015, Luna and API each issued a press release announcing the Merger. Copies of these press releases, along with the Merger Agreement and form of voting agreements, were filed as exhibits to Current Reports on Form 8-K, filed by each of Luna and API with the SEC on February 2, 2015.

Recommendation of the Luna Board of Directors and its Reasons for the Merger

At a meeting held on January 30, 2015, among other things, the Luna board of directors unanimously:

determined that the Merger Agreement, the Merger, and the other transactions contemplated by the Merger Agreement are advisable and in the best interests of Luna and its stockholders;

approved the Merger Agreement and authorized and directed the officers of Luna to execute and deliver the Merger Agreement for and on behalf of Luna;

authorized and directed the officers of Luna, for and on behalf of Luna, to take all actions necessary to list the shares of Luna common stock to be issued in the Merger pursuant to the Merger Agreement on the NASDAQ Capital Market in order to proceed with the Merger and the other transactions contemplated by the Merger Agreement; and

authorized and directed the officers of Luna to submit the issuance of shares of Luna common stock in accordance with the terms of the Merger Agreement for approval by the Company's stockholders at a meeting of the holders of Luna's common stock.

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 connection with the Merger, Luna's financial advisor, Mooreland, delivered a written fairness opinion to the Luna board of directors regarding the fairness, from a financial point of view, of the Exchange Ratio to the Luna stockholders. The full text of Mooreland'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.

In reaching its decision to approve the Merger, the Luna board of directors consulted with Luna's management regarding the strategic aspects of the Merger, Luna's legal counsel regarding the legal terms of the Merger and Luna's financial advisors regarding the financial aspects of the Merger and the fairness, from a financial point of view, of the Exchange Ratio to Luna's stockholders. In evaluating the Merger, Luna also considered a number of factors in reaching its decision to take the foregoing actions, including, but not limited to the following:

management's belief that the Merger would more than double Luna's revenue base;

annual cost savings derived from a single public company infrastructure and management, including only one board, chief executive officer and chief financial officer;

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the belief that the combined company, in addition to Luna and API calling on many of the same customers today in Luna's test and measurement and API's HSOR businesses, will be able to benefit from API's existing customer relationships, especially through API's deep and long-standing relationships with some of the largest telecommunications companies;

the use of Luna common stock as the sole consideration in the Merger, which will allow Luna to proceed with the Merger while retaining existing cash resources, net of transaction expenses, that will fund the combined company's operations;

other potential operating synergies between Luna and API, including, among other things, greater manufacturing expertise;

the belief that the Merger represents a strengthened position in optical products and technologies industries, with increased test and measurement capabilities to address the needs of a broader market base;

the longstanding history of revenues from Luna's core telecommunications test and measurement products, and API's High Speed Optical Receivers and API's Optoelectronic components and subsystems, which will enable continued investment in the combined company's expected growth areas, such as Luna's strain and temperature sensing business and API's next generation of optical receiver and detector products;

the expectation the combined company will be able to continue to develop a pipeline of technologies for future commercialization in Luna's Technology Development Division and API's Terahertz operations;

the belief that Luna's longstanding history of contract research, and recent history of improved success in obtaining contract awards, may enable API's Terahertz operations to obtain additional government funding and decrease reliance on internal funding;

the belief that the increased capitalization of the combined company, with approximately 27 million shares of common stock outstanding after the Merger, may attract more attention from institutional investors and coverage by securities analysts;

the belief that API's core business and enterprise value may have been discounted by its liquidity position and potential need for additional capital resources in the future, which could be overcome through the Merger;

the belief that the larger size of the combined company may attract and make it easier to obtain business opportunities;

the fact that the combined company will have significant intellectual property protection for the many technologies in its combined product portfolio, with over 200 patents and patent applications and many more in-licensed patents and patent applications;

the fact that the combined company would initially retain Luna's chief executive officer and a senior management team that possess the extensive industry knowledge and experience necessary to manage and operate the combined company;

the fact that the board of directors of the combined company would be composed initially of four of the current directors of Luna, including Luna's chairman of the board and Luna's president and chief executive officer, API's current chairman of the board, and two additional directors designated by API;

the belief that the terms and conditions of the Merger Agreement, including the parties' mutual representations and warranties, covenants, deal protection provisions and closing conditions, are reasonable for a transaction of this nature;

the fact that the Merger Agreement allows the Luna board of directors, subject to the payment of the termination fee, to terminate the Merger Agreement in the event that Luna receives a superior offer from a third party, subject to specified exceptions;

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the fact that the Exchange Ratio is fixed and will not fluctuate based upon changes in the stock prices of API or Luna prior to the completion of the Merger; and

the opinion letter of Mooreland, dated January 30, 2015, to the Luna board of directors as to the fairness, from a financial point of view and as of the date of the opinion, of the Exchange Ratio to Luna (see section entitled "Opinion of Mooreland Partners LLC to the board of directors of Luna" beginning on page 78 and Annex B).

There can be no assurance that the anticipated strategic and financial benefits of the Merger will be achieved, including that the anticipated synergies resulting from the Merger will be achieved or reflected in the trading price of Luna common stock following the completion of the Merger.

In addition, Luna's board of directors identified and considered a variety of risks and other countervailing factors in its deliberations concerning whether to recommend the proposal regarding the issuance of Luna common stock in connection with the Merger to Luna's stockholders, including, but not limited to, the following:

the risks described under the section entitled "Risk Factors" beginning on page 20;

the fact that both companies forecast significant growth in product revenue, which may be difficult to achieve;

the risk that if API's weak fiscal third quarter 2015 represents a trend, rather than an anomaly due to temporarily delayed customer orders and government funding, the combined company's business could be weaker than expected;

the substantial transaction costs to be incurred by Luna in connection with the Merger, even if the Merger is not completed in a timely manner or at all;

the potential challenges associated with integrating two companies with distant company headquarters in Ann Arbor, Michigan and Roanoke, Virginia, respectively, particularly if any key personnel were to unexpectedly resign;

the possibility that integration of operations and administrative and management functions may prove more difficult than expected and could distract the combined company's leadership from focusing on achievement of strategic growth initiatives;

the risk that operating synergies, both in terms of greater revenue opportunities or costs savings beyond direct public company infrastructure, may not be realized;

the general challenges associated with successfully integrating two companies that may have different corporate cultures; and

the risk that conditions to the completion of the Merger will not be satisfied and that the Merger may not be completed in a timely manner or at all.

The Luna board of directors concluded, however, that these negative factors could be managed or mitigated by Luna or by the combined company or were unlikely to have a material impact on the Merger or the combined company, and that, overall, the potentially negative factors associated with the Merger were outweighed by the potential benefits of the Merger.

In considering the recommendation of the Luna board of directors with respect to the proposal to adopt the Merger Agreement and approve the transactions contemplated thereby, you should be aware that some of Luna's directors and executive officers may have interests in the Merger that are different from, or in addition to, yours. The Luna board of directors was aware of and considered these interests, among other matters, in evaluating the Merger Agreement and the transactions contemplated by the Merger Agreement, and in recommending that the Merger Agreement be adopted by Luna stockholders. See the section entitled *Interests of Directors, Executive Officers and Affiliates of Luna* beginning on page 106 of this joint proxy statement/prospectus.

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The above discussion of the material factors considered by the Luna board of directors is not intended to be exhaustive, but does set forth the principal factors considered by it. The Luna board of directors collectively reached the unanimous conclusion to approve the Merger Agreement, the Merger and the transactions contemplated thereby in light of the various factors described above and other factors that each member of the Luna board of directors felt were appropriate. In view of the wide variety of factors considered by it in connection with its evaluation of the Merger and the complexity of these matters, the Luna board of directors did not consider it practical, and did not attempt, to quantify, rank or otherwise assign relative weights to the specific factors it considered in reaching its decision. Rather, the Luna board of directors made its recommendation based on the totality of information presented to and the investigation it conducted. In considering the factors discussed above and in making their determinations, individual directors may have given different weights to different factors.

Recommendation of the API Board of Directors and its Reasons for the Merger

At a meeting held on January 30, 2015, the API board of directors unanimously (1) approved the Merger Agreement and the transactions contemplated by the Merger Agreement, upon the terms and subject to the conditions set forth in the Merger Agreement, (2) authorized management to submit the Merger Agreement to the API stockholders for adoption at the API stockholder meeting and (3) recommended that API's stockholders adopt the Merger Agreement and approve the transactions contemplated by the Merger Agreement.

In connection with the Merger, API's financial advisor, 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.

Accordingly, the API board of directors unanimously recommends that API stockholders vote FOR the proposal to adopt the Merger Agreement and approve the transactions contemplated thereby at the API stockholder meeting.

The API board of directors believes that the Merger presents a strategic opportunity to create value for API's stockholders. In reaching its decision to approve the Merger Agreement and recommend the adoption of the Merger Agreement to its stockholders, the API board of directors consulted with management, as well as its legal advisors and financial advisors, and considered a number of factors, including, among others, the following:

the API board's evaluation of the significant strategic opportunities and benefits of the Merger, including, among others, the following:

- (1) the expectation based on estimates by API and Luna management prior to the execution of the Merger Agreement that the Merger will result in significant cost savings on an annualized basis;
- (2) the value of the consideration to be received by API stockholders as a result of the transaction and the relationship between the current and historical market values of API common stock and Luna common

stock;

- (3) the fact that the exchange ratio represented a premium to the trading price of API common stock at the time the Merger Agreement was signed that was significant for a merger of equals transaction;
- (4) its conclusion that the businesses of API and Luna are a complementary fit and that the Merger will provide expanded product offerings, greater opportunities for innovation, synergy opportunities, scale advantages and enhanced opportunities for growth, including in the test and measurement markets; and
- (5) the potential to increase revenue through cross-selling to shared strategic customer accounts; and

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the API board's knowledge of API's business, financial and competitive position, and of API's operating plan for 2015 and its strategic plans for subsequent years;

the API board's understanding of Luna's business, financial and competitive position, and of Luna's operating plan for 2015 and its strategic plans for subsequent years;

the access to additional capital for product development that could be derived from the proposed business combination by reason of Luna's comparatively strong balance sheet;

the governance provisions of the Merger Agreement, the credentials of those persons designated as the initial members of the board of directors of the combined business, and the dissatisfaction previously expressed by stockholders with the composition of the API board of directors;

current financial market conditions and historical market prices, volatility and trading information with respect to API's common stock and Luna's common stock;

current industry, economic and market conditions and the various alternatives to the Merger, including API continuing to operate as an independent enterprise or completing a business combination with another party and the benefits and risks associated with those alternatives;

the perceived similarity in corporate cultures, which would facilitate integration and implementation of the Merger;

the ability and likelihood of API and Luna to complete the Merger, including their ability to obtain necessary stockholder approvals and the obligations to attempt to obtain those approvals, and measures taken by API and Luna to provide reasonable assurance to each other that the Merger will occur, including the provisions of the Merger Agreement that require API or Luna to compensate the other in some circumstances if the Merger does not occur;

the fact that the Merger is not subject to any financing condition;

the expectation that the transaction will be treated as a tax-free reorganization to API and Luna and their respective stockholders for U.S. federal income tax purposes;

the fact that the Luna common stock that API stockholders will receive pursuant to the Merger will be registered and freely tradable following the Merger;

its review and discussions with API management concerning the due diligence examination of Luna's business, operations, financial condition and prospects;

in connection with the Merger, API's financial advisor, 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;

the terms and conditions of the Merger Agreement and the course of negotiations of the Merger Agreement, including, among other things, the ability of the API board, if there is a superior offer or other specified intervening event, to withdraw or modify its recommendation to API stockholders concerning the transactions contemplated by the Merger Agreement; and

other terms of the Merger Agreement, including the mutual representations, warranties and covenants, and the conditions to each party's obligations to complete the Merger.

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The API board of directors also weighed the factors described above against certain factors and potential risks associated with entering into the Merger Agreement, including, among others, the following:

the difficulty inherent in integrating the businesses, assets and workforces of the two companies and the risk that the anticipated synergies and other benefits expected from the Merger might not be fully realized;

the risk that the cultures of the two companies may not be as compatible as anticipated;

the fact that the exchange ratio is fixed, indicating that API stockholders could be adversely affected by a decrease in the trading price of Luna common stock during the pendency of the Merger and the fact that the Merger Agreement does not provide API with a price-based termination right or other similar protection;

the fact that the termination fee or reimbursement fee to be paid to Luna under the circumstances specified in the Merger Agreement may discourage other parties that might otherwise have an interest in a business combination with, or an acquisition of, API (see the section entitled *The Merger Agreement Termination Fee* beginning on page 120 of this joint proxy statement/prospectus);

the amount of time it could take to complete the Merger, including the fact that completion of the Merger depends on factors that are outside API's control

the fact that if the proposed Merger is not completed, API will have expended significant human and financial resources on a failed transaction, and may also be required to pay a termination fee or reimbursement fee in various circumstances, as described under *The Merger Agreement Termination Fee* beginning on page 120; and

the risks associated with the Merger and the business of API and the combined company in the section entitled *Risk Factors Risks Relating to the Merger* beginning on page 20 of this joint proxy statement/prospectus.

In considering the recommendation of the API board of directors with respect to the proposal to adopt the Merger Agreement and approve the transactions contemplated by the Merger Agreement, you should be aware that some of API's directors and executive officers may have interests in the Merger that are different from, or in addition to, yours. The API board of directors was aware of and considered these interests, among other matters, in evaluating the Merger Agreement and the transactions contemplated by the Merger Agreement, and in recommending that the Merger Agreement be adopted by API stockholders. See the section entitled *Interests of Directors, Executive Officers and Affiliates of API* beginning on page 105 of this joint proxy statement/prospectus.

The foregoing discussion of the information and factors considered by the API board of directors in reaching its conclusions and recommendations is not intended to be exhaustive, but includes the material factors considered by the API board of directors. In view of the wide variety of factors considered in connection with its evaluation of the Merger Agreement and the transactions contemplated by the Merger Agreement, and the complexity of these matters,

the API board of directors did not find it practicable to, and did not attempt to, quantify, rank or assign any relative or specific weights to the various factors considered in reaching its determination and making its recommendation. In addition, individual directors may have given different weights to different factors. The API board of directors considered all of the foregoing factors as a whole and based its recommendation on the totality of the information presented.

Opinion of Mooreland Partners LLC to the Board of Directors of Luna

Luna retained Mooreland Partners LLC (Mooreland) to act as its financial advisor in connection with the Merger and to render an opinion as to the fairness, from a financial point of view, to the holders of Luna common stock of the exchange ratio pursuant to the Merger Agreement.

Mooreland, founded in 2002, is a leading independent investment bank providing M&A and private capital advisory services to the global technology industry, serving clients from its offices in Silicon Valley, Greenwich

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(CT), and London. Mooreland provides industry domain and transaction expertise across all major technology sectors including communications technology, mobile and digital media, enterprise software and services, as well as industrial technology and electronics.

On January 30, 2015, Mooreland delivered its oral opinion, which it subsequently confirmed in writing, to the Luna Board of Directors that, as of that date and based upon and subject to the assumptions and other matters described in the written opinion, the exchange ratio of 0.31782 pursuant to the Merger Agreement was fair, from a financial point of view, to the holders of Luna common stock.

Mooreland provided its opinion for the information and assistance of the Luna board of directors in connection with and for the purpose of the Luna board of directors' evaluation of the transactions contemplated by the Merger Agreement.

Mooreland's opinion relates only to the fairness, from a financial point of view, to the holders of Luna common stock of the exchange ratio, which was determined through arm's length negotiations between Luna and API. While Mooreland provided independent financial advice to the Luna board of directors during the course of negotiations between Luna and API, the decision to approve and recommend the Merger was made independently by the Luna board of directors. Mooreland's opinion does not address any other aspect of the Merger, or any related transaction, and does not constitute a recommendation to any stockholder of Luna as to how that stockholder should vote or act on any matter relating to the Merger.

The complete text of Mooreland's opinion, which sets forth the assumptions made, procedures followed, matters considered, and qualifications and limitations on and scope of the review undertaken by Mooreland, is attached to this joint proxy statement/prospectus as Annex B and is incorporated by reference in this joint proxy statement/prospectus. The summary of Mooreland's opinion set forth below is qualified in its entirety by reference to the full text of the opinion. **Luna stockholders should read this opinion carefully and in its entirety.**

In connection with its opinion, Mooreland made such reviews, analyses and inquiries as it deemed necessary and appropriate under the circumstances. Mooreland also took into account its assessment of general economic, market and financial conditions, as well as its experience in business valuation matters. For purposes of its opinion, Mooreland, among other things:

reviewed certain publicly available financial statements and other business and financial information of both API and Luna;

reviewed certain internal financial statements and other financial and operating data concerning both API and Luna, furnished to Mooreland by Luna; and treated the accrued, unissued dividends on Luna's Series A Preferred Stock consistent with Luna's Series A Preferred Stock;

reviewed certain financial projections prepared by the management teams of API and Luna and provided to Mooreland by Luna;

discussed with senior executives of both API and Luna the past and current operations, financial condition and future prospects and financial projections of API and Luna, respectively;

reviewed the reported prices and trading activity for both API common stock and Luna common stock;

compared the financial performance of API and Luna and the prices and trading activity of the API common stock and Luna common stock with that of certain other publicly-traded companies and their securities that Mooreland deemed relevant for purposes of its opinion;

compared the financial terms of the proposed Merger with the financial terms, to the extent publicly available, of certain merger transactions that Mooreland deemed relevant for purposes of its opinion;

considered information obtained by Mooreland during discussions with other potential transaction parties approached by Mooreland on behalf of Luna;

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participated in discussions and negotiations among representatives of API and Luna and their respective financial and legal advisors;

reviewed a draft of the Merger Agreement, dated January 30, 2015; and

performed such other analyses and considered such other factors as Mooreland deemed appropriate in connection with its engagement.

In connection with its review and in arriving at its opinion, Mooreland assumed and relied on the accuracy and completeness of all of the financial, accounting, legal, tax and other information discussed with or reviewed by it for purposes of its opinion and did not independently verify, nor did Mooreland assume responsibility for independent verification of, any of that information. Mooreland assumed the accuracy of the representations and warranties contained in the Merger Agreement and all agreements related thereto relevant to our analysis. In addition, Mooreland assumed that the Merger will qualify as a reorganization within the meaning of Section 368(a) of the Internal Revenue Code of 1986 and will be consummated on the terms and subject to the conditions set forth in the draft Merger Agreement furnished to Mooreland without waiver, modification or amendment of any material term, condition or agreement thereof and that, in the course of obtaining the necessary regulatory or third party approvals, consents and releases for the Merger, no delay, limitation, restriction or condition will be imposed that would have an adverse effect on Luna, API or the contemplated benefits of the Merger. In addition, Mooreland assumed that the financial forecasts for Luna and API provided to Mooreland by Luna management were reasonably prepared on bases reflecting the best currently available estimates and judgments of management, at the time of preparation, of the future operating and financial performance of Luna and API and the combined companies, and Mooreland relied, without independent verification, upon the estimates of Luna and API management of the potential cost savings and other synergies, including the amount and timing thereof, that may be achieved as a result of the Merger. Mooreland expressed no opinion with respect to any of those forecasts, including those costs savings and other synergies, or the assumptions on which they were based.

Mooreland did not assume any responsibility for or make or obtain any independent evaluation, appraisal or physical inspection of the assets or liabilities of API, Luna or any of their respective subsidiaries nor did Mooreland evaluate the solvency or fair value of API, Luna or any of their respective subsidiaries under any state or federal laws relating to bankruptcy, insolvency or similar matters. Mooreland's opinion states that it was based on economic, monetary and market conditions as they existed and could be evaluated as of its date, and Mooreland assumed no responsibility to update or revise its opinion based upon circumstances and events occurring after its date. Mooreland's opinion is limited to the fairness, from a financial point of view, to the holders of Luna common stock of the exchange ratio pursuant to the Merger Agreement and Mooreland expressed no opinion as to the fairness of the Merger to, or any consideration received in connection therewith by, the holders of any other class of securities, creditors or other constituencies of Luna, or as to Luna's underlying business decision to engage in the Merger or the relative merits of the Merger as compared to other business strategies that might be available to Luna. In addition, Mooreland expressed no opinion with respect to the amount or nature or any other aspect of any compensation payable to or to be received by any officers, directors or employees of any party to the Merger, or any class of those persons, relative to the exchange ratio pursuant to the Merger Agreement or with respect to the fairness of any such compensation. Mooreland did not express any opinion as to what the value of Luna common stock will be when issued pursuant to the Merger or the prices at which API common stock or Luna common stock will actually trade at any time.

Luna imposed no limitations on Mooreland with respect to the investigations made or procedures followed by Mooreland in rendering its opinion.

In preparing its opinion, Mooreland performed a variety of financial and comparative analyses. The following paragraphs summarize the material financial analyses performed by Mooreland in arriving at its opinion. The order of analyses described does not represent relative importance or weight given to those analyses by Mooreland. Some of the summaries of the financial analyses include information presented in tabular format.

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The tables are not intended to stand alone, and in order to more fully understand the financial analyses used by Mooreland, the tables must be read together with the full text of each summary. The following quantitative information, to the extent it is based on market data, is, except as otherwise indicated, based on market data as it existed on or prior to January 29, 2015, and is not necessarily indicative of current or future market conditions.

Historical Trading Range.

Mooreland presented to the Luna board of directors the trading range of API's common shares for the 52-week period ended January 29, 2015, with closing prices ranging from a low of \$0.29 per share to a high of \$0.81 per share, and compared that to the closing price of API's common shares on January 29, 2015 of \$0.34 per share. Mooreland also reviewed with the Luna board of directors the Volume Weighted Average Price (VWAP) of API's common stock for the 52-week period ended January 29, 2015, which was \$0.51 per share, and compared that to the implied per share equity value of the Merger Consideration of \$0.52, calculated as of January 29, 2015. Over the 52-week period ended January 29, 2015, the closing price of API's common shares was at or above the Implied Offer Price per Share of \$0.52 for 133 days out of 253 trading days.

Mooreland also presented to the Luna board of directors the trading range of Luna's common shares for the 2-year period ended January 29, 2015, with closing prices ranging from a low of \$1.13 per share to a high of \$2.50 per share, and compared that to the closing price of Luna's common shares on January 29, 2015 of \$1.64 per share. Over the 2-year period ending January 29, 2015, the closing price of Luna's common shares was at or above the January 29, 2015 closing price of \$1.64 for 23 days out of 505 trading days.

Mooreland noted that the historical trading range analysis is not a valuation methodology and that such analysis was presented merely for reference purposes only and not as a component of the determination as to the fairness of the transaction.

Historical Stock Trading Ratio Analysis.

Mooreland reviewed the historical trading prices of API common stock and Luna common stock as of and for various periods ended January 29, 2015, the last full trading day prior to the date of Mooreland Partner's opinion, in order to determine the various stock price ratios that existed for those periods and to compare those average stock price ratios to the exchange ratio in the Merger of 0.31782. The following table presents the average stock price ratios for January 29, 2015, and the three month, six month, one year, and two year periods ending on January 29, 2015.

Average stock price ratio data represent the daily closing price of API common stock divided by the daily closing price of Luna common stock averaged over the respective periods.

Date or Period	Average Stock Price Ratio
January 29, 2015	0.20537
Three month	0.25139
Six month	0.31756
One year	0.35860
Two year	0.40527

Relative Contribution Analysis.

Mooreland reviewed and analyzed the implied percentage contribution of each of Luna and API to pro forma projected combined operating results. In calculating the pro forma projected combined operating results, Mooreland used API management's financial forecasts of API's projected calendar years 2014 through 2015 operating results and Luna management's standalone company financial forecasts of projected calendar years 2014 through 2015 operating results. Mooreland reviewed, among other things, the implied percentage contributions to pro forma combined revenues and gross profit. Mooreland also reviewed contributions to

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earnings before interest, taxes, depreciation, amortization, or EBITDA, but determined that the results were not meaningful because of both companies' negative last twelve months (LTM) EBITDA. Mooreland also reviewed the implied percentage contributions to pro forma combined net cash using API and Luna's forecasted balance sheets as of March 31, 2015. The following tables present the results of this analysis and the estimated percentage ownership of the combined company on a pro forma basis by the API stockholders and the Luna stockholders and estimated pro forma equity value contributions of API and Luna, based on the exchange ratio of 0.31782.

	Implied Actual/Estimated Percentage Contribution	
	API	LUNA
Pro forma combined revenues		
calendar year 2014E	57.0%	43.0%
calendar year 2015E	55.3%	44.7%
Pro forma combined gross profit		
calendar year 2014E	54.6%	45.4%
calendar year 2015E	49.4%	50.6%
Mean Relative Contribution from Operations	54.1%	45.9%

Mooreland also reviewed and factored both API management and Luna management's forecasted balance sheet ending March 31, 2015 to adjust the relative contribution. API's management forecast for net cash (debt) position was \$0.1 million in cash minus total debt of \$4.1 million. Luna's management forecast for net cash position was computed by adding Luna's forecasted cash position of \$12.9 million, minus \$0.3 million of debt minus \$8.0 million which represents the \$4.69159 per share liquidity preference associated with the 1,321,514 outstanding shares of Series A Preferred Stock and the related 393,277 shares of unregistered, unpaid accrued dividends on the Series A Preferred Stock.

	Forecasted Balance Sheet Adjustments (\$ in millions)	
	API	LUNA
Forecasted Pro forma net cash (debt) at March 31, 2015	(\$ 4.0)	\$ 4.6

Mooreland calculated an implied Luna enterprise value and divided Luna's implied enterprise value by the Mean of Luna's Implied Relative Contributions from Operations of 45.9% to derive an implied enterprise value, which Mooreland defines as fully-diluted equity value using the treasury stock method, plus debt, preferred stock and minority interests, less cash and cash equivalents (EV), for API. Mooreland then adjusted the respective implied enterprise values for the Forecasted Balance Sheet Adjustments in order to compute the Pro forma equity ownership. Mooreland also performed these calculations assuming that Luna receives the \$8 million payment from Intuitive upon Intuitive's accomplishment of certain technical specifications with respect to the medical shape sensing technology Luna sold to Intuitive in 2014 (the Technical Specification Payment).

**Estimated Pro Forma
Percentage Equity**

	Ownership	
	API	LUNA
Pro forma equity ownership	44.9%	55.1%
Pro forma equity ownership (assuming Technical Specifications Payment)	38.0%	62.0%

The results of the equity ownership analysis are not necessarily indicative of the contributions that the respective businesses may have in the future, and may not rely on the exact same approximations as other places in this joint proxy statement/prospectus.

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Selected Public Company Analysis for API.

Using publicly available information, Mooreland compared selected financial data of API with data for publicly traded companies engaged in similar businesses that also had financial parameters that Mooreland judged to be analogous to API's business or aspects thereof. The companies were as follows:

Electro-Sensors Inc.

Giga-tronics, Inc.

GigOptix, Inc.

LightPath Technologies, Inc.

NeoPhotonics Corporation

Optical Cable Corporation

For each company listed above, Mooreland calculated and compared various financial multiples and ratios based on publicly available financial data as of January 29, 2015. Among other calculations, Mooreland calculated, for each of the companies, the multiples of EV to historical and estimated revenue and gross profit projections of API, as well as API's estimated December 26, 2014 tangible book value.

The following table sets forth information concerning the following multiples for the selected companies and for API:

EV as a multiple of projected calendar year 2014 revenues;

EV as a multiple of projected calendar year 2015 revenues;

EV as a multiple of projected calendar year 2014 gross profit;

EV as a multiple of projected calendar year 2015 gross profit; and

price as a multiple of tangible book value per share.

Mooreland calculated the Implied Offer Multiples based on the closing stock price for Luna of \$1.64 on January 29, 2015 and the exchange ratio of 0.31782 and using API's forecasted December 26, 2014 balance sheet as a means to

calculate EV. All financial information in this analysis excludes the impact of non-recurring items. Projected calendar year 2014E and 2015E results for API were based on API management's stand-alone company financial forecasts.

	Selected Companies				Implied Offer Multiples
	25 th Percentile	75 th Percentile	Mean	Median	
EV to projected calendar year 2014 revenues	0.6x	1.0x	0.8x	0.8x	0.8x
EV to projected calendar year 2015 revenues	0.4x	0.9x	0.7x	0.6x	0.7x
EV to projected calendar year 2014 gross profit	1.4x	2.5x	2.0x	1.9x	2.4x
EV to projected calendar year 2015 gross profit	1.1x	2.0x	1.7x	1.3x	2.0x
Price to tangible book value per share	1.2x	1.5x	1.4x	1.4x	4.2x

Selected Public Company Analysis for Luna.

Using publicly available information, Mooreland compared selected financial data of Luna with data for publicly traded companies engaged in similar businesses that also had financial parameters that Mooreland judged to be analogous to Luna's business or aspects thereof. The companies were as follows:

Dynasil Corporation of America

Electro-Sensors Inc.

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Giga-tronics, Inc.

GigOptix, Inc.

LightPath Technologies, Inc.

NeoPhotonics Corporation

Optical Cable Corporation

For each company listed above, Mooreland calculated and compared various financial multiples and ratios based on publicly available financial data as of January 29, 2015. Among other calculations, Mooreland calculated for each of the companies the multiples of EV to historical and estimated revenue and gross profit projections of Luna, as well as Luna's estimated December 31, 2014 tangible book value. Projected calendar year 2014E and 2015E results for Luna were based on Luna management's stand-alone company financial forecasts.

Based on this information, Mooreland calculated and compared the following multiples for Luna and the selected companies:

EV as a multiple of projected calendar year 2014 revenues;

EV as a multiple of projected calendar year 2015 revenues;

EV as a multiple of projected calendar year 2014 gross profit;

EV as a multiple of projected calendar year 2015 gross profit; and

price as a multiple of tangible book value per share.

Mooreland calculated the Luna Multiples based on the closing stock price for Luna of \$1.64 on January 29, 2015 and using Luna's forecasted December 31, 2014 balance sheet as a means to calculate enterprise value. Mooreland calculated the Luna Multiples Assuming Technical Specifications Payment by adjusting the enterprise value to reflect the impact on enterprise value in the event the Technical Specifications Payment was to be collected.

						Luna Multiples Assuming Technical Specifications Payment
	25th Percentile	75th Percentile	Mean	Median	Luna Multiples	

EV to projected calendar year 2014 revenues	0.6x	1.0x	0.8x	0.8x	1.0x	0.6x
EV to projected calendar year 2015 revenues	0.4x	0.9x	0.7x	0.6x	0.8x	0.5x
EV to projected calendar year 2014 gross profit	1.4x	2.5x	2.0x	1.9x	2.6x	1.6x
EV to projected calendar year 2015 gross profit	1.1x	2.0x	1.7x	1.3x	1.8x	1.1x
Price to tangible book value per share	1.2x	2.2x	1.7x	1.4x	2.6x	1.5x

None of the selected companies reviewed is identical to API or Luna, as applicable, and certain of these companies may have characteristics that are materially different from those of API and Luna, as applicable. These companies were selected, among other reasons, because they are publicly traded companies with operations and businesses that, for purposes of Mooreland's analysis, may be considered similar to those of API and Luna, as applicable, based on sector participation, financial metrics and form of operations. The analyses necessarily involve complex considerations and judgments concerning differences in financial and operational characteristics of the companies involved and other factors that could affect the companies differently than would affect API and Luna, as applicable.

Mooreland also reviewed for the selected public companies EV as a multiple of EBITDA, but determined that the results were not meaningful because of both API's and Luna's negative LTM EBITDA.

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Mooreland analyzed publicly available financial information for the following selected merger and acquisition transactions, which represent transactions completed since January 1, 2010 that involved target companies that were involved in lines of business that may be considered similar to or have similar characteristics with API's lines of business and with EV of less than \$150 million (based on the reported transaction value):

Acquirer	Target
NeoPhotonics Corporation	EMCORE Corporation (Tunable Laser and Transceiver Product Lines)
Finisar Corporation	u2t Photonics AG
Murata Electronics North America, Inc.	RF Monolithics Inc.
Oclaro, Inc.	Opnext, Inc.
NeoPhotonics Corporation	Santur Corporation
II-VI Incorporated	Aegis Lightwave, Inc.
Francisco Partners Management LLC	Source Photonics, Inc.
Oclaro, Inc.	Mintera Corporation

In reviewing the selected transactions, Mooreland calculated, for the selected transactions EV as a multiple of LTM revenues. Mooreland also reviewed, for the selected transactions, EV as a multiple of LTM EBITDA, but determined that the results were not meaningful because of API's negative LTM EBITDA. Mooreland calculated the API Implied Multiple by Merger as an enterprise value as a multiple of LTM revenue multiple using API management's December 26, 2014 forecast, Luna's closing stock price on January 29, 2015 and the exchange ratio of 0.31782.

The following table sets forth information concerning the multiples described above for the selected transactions and the same multiple implied by the Merger.

	Selected Transactions				API Implied Multiple by Merger
	25th Percentile	75th Percentile	Mean	Median	
EV to LTM revenues	0.6x	0.8x	0.8x	0.7x	0.8x

Premiums Paid Analysis.

Mooreland analyzed publicly available financial information for 12 merger and acquisition transactions, which represent transactions announced and closed between January 1, 2009 and January 29, 2015 that involved all stock consideration, acquired companies that were publicly-traded on U.S. listed exchanges, and had an equity value between \$10 and \$100 million. In reviewing these transactions, Mooreland analyzed the premium of consideration offered to the acquired company's stock price one trading day prior and 30 calendar days prior to the announcement of the transaction.

Mooreland calculated premiums for API based on the Implied Offer Price per Share and the API closing stock price of \$0.34 on January 29, 2015. The following table sets forth information concerning the stock price premiums in the selected transactions and the stock price premiums implied by the Merger.

	Median Premium	Implied Merger Premium
One trading day prior stock price premium	35.2%	54.8%
30 calendar days prior stock price premium	28.9%	64.4%

Present Value of Future Share Price Analysis for API.

Mooreland performed an analysis of the present value of the implied future price per share of API common stock, which is designed to provide an indication of the present value of a theoretical future value of a company's

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equity per share as a function of the company's estimated future revenue and gross profit and its assumed EV to LTM revenue and EV to LTM gross profit multiples. Mooreland applied the median multiples of 0.8x EV / LTM revenue and 1.5x EV / LTM gross profit, respectively, to estimated revenues and gross profits of API for each of the calendar years 2015, 2016, and 2017 as provided by API's management. These selected medians of revenues and gross profit were based upon the median multiples from the Selected Public Company Analysis for API. Mooreland then discounted the 2015, 2016, and 2017 values back to present by using a discount rate of 14.0%, reflecting an estimate of Selected Public Company Analysis for API weighted average cost of capital (WACC), which takes into account certain company-specific metrics, including a company's equity value, as well as certain financial metrics for the United States financial markets generally. This analysis resulted in a range of implied equity per share values for API of \$0.27 to \$0.70 per share. Mooreland noted that the per share value implied by the assumed exchange ratio of 0.31782 and the Luna closing stock price on January 29, 2015 was \$0.52.

Present Value of Future Share Price Analysis for Luna.

Mooreland also performed an analysis of the present value of the implied future price per share of Luna common stock. Mooreland applied an enterprise value to LTM revenue of 0.7x to estimated revenues of Luna for each of the calendar years 2015, 2016, and 2017 revenue forecast, as provided by Luna's management. This selected multiple was the median multiple based upon the Selected Public Company Analysis for Luna. Mooreland then discounted the 2015, 2016, and 2017 values back to present by using a discount rate of 14.0%, reflecting an estimate of Selected Public Company Analysis for Luna WACC. Mooreland also reviewed and calculated the potential impact of the Technical Specifications Payment. These analyses resulted in a range of implied equity per share values for Luna of \$1.18 to \$1.66 per share.

No company, transaction or business used in the Selected Public Company Analysis, Selected Transactions Analysis or Premiums Paid Analysis as a comparison is identical to API, Luna or the Merger. Accordingly, an evaluation of the results of these analyses is not entirely mathematical; rather, it involves complex considerations and judgments concerning differences in the financial and operating characteristics and other factors that could affect the acquisition, public trading or other values of the selected companies or selected transactions or the business segment, company or transaction to which they are being compared.

The summary set forth above does not purport to be a complete description of the analyses performed by Mooreland in connection with the rendering of its opinion. The preparation of a fairness opinion is a complex analytical process involving various determinations as to the most appropriate and relevant quantitative and qualitative methods of financial analyses and the application of those methods to the particular circumstances and, therefore, such an opinion is not readily susceptible to summary description. Accordingly, Mooreland believes that its analyses must be considered as a whole and that selecting portions of its analyses or the factors it considered, without considering all analyses and factors, could create a misleading or incomplete view of the process underlying its analyses and opinion. Mooreland did not attribute any specific weight to any factor or analysis considered by it. The fact that any specific analysis has been referred to in the summary above is not meant to indicate that such analysis was given greater weight than any other analysis.

In performing its analyses, Mooreland made numerous assumptions with respect to industry performance, general business and economic conditions and other matters, many of which are beyond API's or Luna's control. Any estimates contained in or underlying these analyses, including estimates of future performance, are not necessarily indicative of actual values or predictive of future results or values, which may be significantly more or less favorable than those estimates. Additionally, analyses relating to the values of businesses or assets do not purport to be appraisals or necessarily reflect the prices at which businesses or assets may actually be sold or the prices at which any securities have traded or may trade at any time in the future. Accordingly, these analyses and estimates are inherently subject to

substantial uncertainty. Mooreland's opinion and its related analyses were only one of many factors considered by Luna's board of directors in their evaluation of the Merger and should not be viewed as determinative of the views of Luna's board of directors or management with respect to the exchange ratio or the Merger.

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Mooreland is a financial institution engaged in various activities, which may include financial advisory, mergers, acquisitions, divestitures, capital raising activities, among others. Mooreland has not provided investment banking or financial advisory services to API or Luna for which compensation was received before the signing of their letter of engagement with Luna on March 25, 2014. Under the terms of its engagement letter with Mooreland, Luna has paid or agreed to pay Mooreland fees in amounts that Luna and Mooreland believe are customary in transactions of this nature. These fees include retainer fees of \$100,000, which are creditable against the fee for the consummation of the Merger, a non-refundable fee for rendering the Mooreland fairness opinion of \$200,000 and a transaction fee payable upon consummation of the Merger of \$750,000. In addition, Luna has agreed to reimburse Mooreland for certain of its out-of-pocket expenses and to indemnify Mooreland and related persons against various liabilities, including certain liabilities under the federal securities laws. In the future, Mooreland may perform additional financial advisory and investment banking services for Luna, for which it may receive customary fees and expenses.

Mooreland, its members, affiliates, directors and officers may at any time invest on a principal basis, hold long or short positions, finance positions, and may trade or otherwise structure and effect transactions, for their own account in securities of Luna, API, or any other company (including debt, equity and convertible securities), or any currency or commodity, that may be involved in this transaction.

Nature of Financial Projections Reviewed by the Luna Board of Directors and Luna's Financial Advisor

Luna does not make public disclosure of forecasts or projections of its expected financial performance because of, among other things, the inherent difficulty of accurately predicting future periods and the likelihood that the underlying assumptions and estimates may prove incorrect. In connection with its evaluation of the Merger, however, Luna management prepared and provided to the Luna board of directors and Mooreland Partners, some non-public internal financial projections regarding Luna's anticipated future operations and estimated synergies arising in connection with the Merger. In addition, Luna management provided to Mooreland Partners and the Luna board of directors certain non-public internal financial projections for API prepared by API management. A summary of these financial projections and estimated synergies is included below to provide Luna stockholders and API stockholders access to specific non-public information that was considered by the Luna board of directors for purposes of evaluating the Merger and provided to Mooreland Partners for its use in evaluating the fairness, from a financial point of view, of the Exchange Ratio to Luna stockholders.

The financial projections and estimated synergies summarized below were not prepared for purposes of public disclosure, nor were they prepared on a basis designed to comply with published guidelines of the SEC, the guidelines established by the American Institute of Certified Public Accountants for preparation and presentation of projections, or U.S. GAAP. Luna's independent registered public accounting firm, which is listed as an expert below in *Experts*, did not compile, examine or perform any procedures with respect to the projections or estimated synergies summarized below, and has not expressed any opinion or any other form of assurance on this information or its achievability, and assumes no responsibility for, and disclaims any association with, these projections and estimated synergies. The reports of the independent registered public accounting firms included in this joint proxy statement/prospectus relate to historical financial statements. They do not extend to any prospective financial information and should not be seen to do so.

Although presented with numerical specificity, the projections and estimated synergies were prepared in the context of numerous variables, estimates and assumptions that are inherently uncertain and may be beyond the control of Luna, and which may prove not to have been, or to no longer be, accurate. The projections and the estimated synergies are subject to many risks and uncertainties. Important factors that may affect actual results and cause actual results to differ materially from these projections and synergies include risks and uncertainties relating to Luna's and API's businesses (including their ability to achieve strategic goals, objectives and targets over the applicable periods),

industry performance, the regulatory environment, general business and economic conditions, market and financial conditions, various risks set forth in Luna's and API's reports filed with the SEC, and other factors described in Risk Factors or referenced under Cautionary Statement Concerning Forward-Looking Statements, beginning on pages 20 and 59, respectively, of this joint proxy statement/

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prospectus. The projections and estimated synergies also reflect assumptions that are subject to change and are susceptible to multiple interpretations and periodic revisions based on actual results, revised prospects for Luna's and API's businesses, changes in general business or economic conditions, or any other transaction or event that has occurred or that may occur and that was not anticipated at the time the projections and estimated synergies were prepared. In addition, other than with respect to the estimated synergies discussed below, the projections do not take into account any of the transactions contemplated by the Merger Agreement, including the Merger and associated expenses, or Luna's and API's compliance with their respective covenants under the Merger Agreement. Moreover, the projections and estimated synergies do not take into account any circumstances, transactions or events occurring after the date the projections and estimated synergies were prepared. Accordingly, actual results will likely differ, and may differ materially, from those contained in the projections and estimated synergies. Neither Luna nor API can assure you that these projections and estimated synergies will be realized or that future financial results of Luna or API will not materially vary from these projections and estimated synergies.

The inclusion of a summary of the projections and estimated synergies in this joint proxy statement/prospectus should not be regarded as an indication that any of Luna, API or their respective affiliates, officers, directors, financial advisors or other representatives consider the projections or estimated synergies to be necessarily predictive of actual future events, and neither the projections nor the estimated synergies should be relied upon as such. None of Luna, API or their respective affiliates, officers, directors, financial advisors or other representatives gives any stockholder of Luna, stockholder of API or other person any assurance that actual results will not differ materially from the projections and estimated synergies, and, except as otherwise required by law, none of them undertakes any obligation to update or otherwise revise or reconcile the projections or estimated synergies to reflect circumstances existing after the date the projections and estimated synergies were generated or to reflect the occurrence of future events, even in the event that any or all of the assumptions and estimates underlying the projections or estimated synergies are shown to be in error.

No one has made or makes any representation to any Luna stockholder, API stockholder or anyone else regarding, nor assumes any responsibility for the validity, reasonableness, accuracy or completeness of, the information included in the projections and estimated synergies set forth below. Readers of this joint proxy statement/prospectus are cautioned not to rely on the projections and estimated synergies. Luna has not updated and, except as otherwise required by law, does not intend to update or otherwise revise the projections or estimated synergies, even in the short term, to reflect circumstances existing after the date when the projections or estimated synergies were made or to reflect the occurrence of future events, including the Merger. Moreover, the projections and estimated synergies do not take into account the effect of any failure of the Merger to occur and should not be viewed as accurate or continuing in that context.

A summary of these financial projections and estimated synergies is included solely to give Luna stockholders and API stockholders access to the information that was made available to the Luna board of directors and Mooreland Partners, as described below, and is not included in this document in order to influence your decision whether to vote for or against the proposals regarding the issuance of Luna common stock in connection with the Merger or adoption of the Merger Agreement, as applicable, at the Luna stockholder meeting or the API stockholder meeting. The inclusion of this information should not be regarded as an indication that the Luna board of directors, its advisors or any other person considered, or now considers, this information to be material or to be a reliable prediction of actual future results. Luna management's internal financial projections upon which the Luna Projections (as defined below) were based, as well as the estimated synergies that may result from the Merger, are subjective in many respects. Neither Luna nor API can assure you that these projections or estimated synergies will be realized or that actual results will not be significantly higher or lower than forecasted. The projections included below cover multiple years, and this information by its nature becomes subject to greater uncertainty with each successive year. The financial projections and summary information should be evaluated, if at all, in conjunction with the historical financial

statements and other information contained in Luna's and API's respective public filings with the SEC.

Table of Contents**Summary of Financial Projections Reviewed by the Luna Board and Mooreland Partners**

As part of its evaluation of the Merger, Luna's management prepared the unaudited financial projections regarding Luna's future operations for fiscal years ending December 31, 2014 through 2017 that are summarized below (which projections are referred to in this document as the "Luna Projections"). In addition, API's management provided various unaudited financial projections to Luna's management (which projections are referred to in this document as the "API Projections"). The API Projections were derived from API's internal fiscal year projections and were converted to a calendar year format to facilitate comparative financial analysis of Luna, which has a December 31 fiscal year, and the API Projections are summarized under "Nature of Financial Projections Reviewed by the API Board of Directors and API's Financial Advisor" beginning on page 100 of this joint proxy statement/prospectus). As part of its evaluation of the Merger, both the Luna Projections and the API Projections were provided to the Luna board of directors for use in its evaluation of the Merger and were provided to Mooreland Partners for its use in evaluating the fairness, from a financial point of view, of the Exchange Ratio to Luna stockholders.

The following tables present a summary of the Luna Projections:

<i>(\$ in thousands)</i>	2014E	2015E	2016E	2017E
Revenues:				
Technology Development	\$ 12,457	\$ 12,480	\$ 12,540	\$ 12,916
Products and Licensing	8,803	13,958	20,858	28,741
Total Revenue	21,260	26,438	33,398	41,657
Cost of Revenue:				
Technology Development	9,496	9,331	9,400	9,600
Products and Licensing	3,937	5,449	8,700	10,725
Total Cost of Revenue	13,433	14,780	18,100	21,325
Gross Profit				
Technology Development	2,961	3,149	3,140	3,316
Products and Licensing	4,866	8,509	12,158	17,016
Total Gross Profit	7,827	11,658	15,298	20,332
Operating Expenses ⁽¹⁾	12,799	13,667	14,702	17,174
Operating (Loss) Income	(4,972)	(2,009)	596	3,158
Other Income (expense), net	(12)			
Interest Income (expense), net	(96)	(96)		
(Loss) Income from Operations before Income Taxes	(5,080)	(2,104)	596	3,158
Reorganization Costs				
Income tax expense / (benefit)	175	18		
Loss from Continuing Operations	(5,255)	(2,123)	596	3,158
Income from Discontinued Operations	10,698			

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Net Income / (Loss)	5,443	(2,123)	596	3,158
Preferred Stock Dividend	112	144		
Net Loss Attributed to Common Stockholders	\$ 5,331	(\$ 2,267)	\$ 596	\$ 2,720
Adjusted EBITDA ⁽²⁾	(\$ 2,728)	(\$ 374)	\$ 2,216	\$ 4,778

(1) 2014E operating expenses includes \$600 in bonuses under Luna's 2014 senior management incentive plan.

(2) Adjusted EBITDA represents earnings before interest, taxes, depreciation and amortization, adjusted to exclude stock-based compensation expenses.

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Luna's management also prepared estimates of annual cost savings synergies that Luna would realize beginning in the first year following completion of the Merger and provided these estimates to the Luna board of directors and to Mooreland for purposes of its financial analyses. These estimates are summarized in the following table. Based on these synergies, Luna's management estimated that Luna would realize approximately \$3.0 million in annual cost savings.

<i>(\$ in thousands)</i>	Run-Rate
Public Company Costs	
Public Accountants	\$ 150
Legal	300
Transfer Agent	20
Proxy Services	30
Board Fees	300
D&O Insurance	108
Listing Fees	120
Investor Relations	120
Total Estimated Public Company Savings	1,148
Executive Salaries & Benefits	923
Other Operational Synergies	900
Total Estimated Cost Savings	\$ 2,971

Opinion of B. Riley to the Board of Directors of API

The API board of directors retained B. Riley to provide a fairness opinion, from a financial point of view, to API's stockholders, of the Exchange Ratio being used in connection with the Merger. The API board of directors engaged B. Riley for such opinion due to its experience in similar transactions, institutional knowledge of the optical technology sector and intimate familiarity with API's business and financial condition.

A complete copy of the fairness opinion, dated January 29, 2015, provided by B. Riley is attached as Annex C to this joint proxy statement/prospectus and is incorporated herein by reference. The description of the B. Riley opinion set forth in this joint proxy statement/prospectus is qualified in its entirety by reference to the full text of such opinion and related documents. Holders of API common stock are urged to read the B. Riley opinion in its entirety for a description of the procedures followed, assumptions made, matters considered and qualifications and limitations on the review undertaken by B. Riley in connection with the opinion. The B. Riley opinion is for the benefit of the API board of directors and only addresses the fairness, from a financial point of view, to API's stockholders, of the Exchange Ratio being used in connection with the Merger as of the date of the B. Riley opinion. The B. Riley opinion does not address the relative merits of the Merger as compared to any alternative transaction or opportunity that might be available to API, nor does it address the underlying business decision by API to engage in the Merger, and it does not constitute a recommendation to any holder of API common stock as to how such holder should vote on the Merger or any matter related thereto. The B. Riley opinion is necessarily based on economic, market, monetary and other conditions as they existed and could be evaluated, and the information made available to B. Riley, as of the date of the B. Riley opinion. B. Riley has assumed no responsibility for updating or revising its opinion based on circumstances or events occurring after the date of the opinion. The following is only a summary of the B. Riley opinion. API

stockholders are urged to read the entire opinion, a copy of which is attached as Annex C.

The API board of directors held a meeting on January 28, 2015 to review the proposed terms of the Merger. During this meeting B. Riley rendered its oral opinion, subsequently confirmed in writing on January 29, 2015, that as of that date based upon and subject to the procedures followed, assumptions made, matters considered and

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qualifications and limitations on the review undertaken by B. Riley, the Exchange Ratio being used in connection with the Merger was fair to API's stockholders, from a financial point of view. The API board of directors and API management represented that there were no material changes to the draft of the Merger Agreement reviewed by B. Riley prior to delivering its opinion. The API board of directors held a subsequent meeting on January 30, 2015 to approve the terms of the Merger.

In preparing its opinion to the board of directors, B. Riley held discussions with members of senior management of API and Luna concerning their evaluations of the Merger and the business, operating and regulatory environment, financial condition, prospects, and strategic objectives of API and Luna, as well as such other matters as B. Riley deemed necessary or appropriate for purposes of rendering the opinion. Additionally B. Riley reviewed and analyzed documents and materials related to the proposed Merger. Included in this were the following:

the financial terms of the latest drafts provided to B. Riley as of January 26, 2015 of the Merger Agreement;

certain publicly available information, which B. Riley believed to be relevant, concerning the business, financial condition and operations of API and Luna;

certain information internal to API and Luna concerning their respective business, financial condition and operations, prepared and furnished to B. Riley by API and Luna management;

the three-year financial forecasts of API and Luna as furnished to B. Riley by API and Luna management;

certain internal financial analyses, estimates and forecasts, prepared and furnished to B. Riley by the management of API and Luna;

API and Luna's annual audited and quarterly unaudited financial statements through September 2014;

certain publicly available financial data, stock market performance data and trading multiples of companies which B. Riley deemed to be generally comparable to API and Luna; and

the publicly available financial terms of certain other business combinations that B. Riley deemed to be relevant in industries similar to those in which API and Luna participate and the consideration received for such companies that B. Riley believed to be generally relevant.

In addition to reviewing these materials, B. Riley also performed the following actions, among other things:

performed a discounted cash flow analysis of API and Luna utilizing pro forma financial information prepared by and furnished to B. Riley by the respective management teams;

reviewed and analyzed premiums paid in business combinations involving publicly traded companies that B. Riley deemed to be generally comparable to API with respect to size and industry; and

performed such other financial studies, analyses and investigations, and considered such other matters, as B. Riley deemed necessary or appropriate for purposes of rendering the opinion.

In preparing the opinion, at the direction of the API board of directors, B. Riley has relied, without assuming responsibility or liability for independent verification, upon the accuracy and completeness of all financial and other information available from public sources and all other information provided to B. Riley or otherwise discussed with or reviewed by B. Riley. B. Riley has assumed, at the direction of the API board of directors and with its consent, that the financial and other projections prepared by API and Luna's management and the assumptions underlying those projections, including the amounts and the timing of all financial and other performance data, have been reasonably prepared in accordance with industry practice and represent API and Luna management's best estimates and judgments as of the date of their preparation. B. Riley has assumed at the direction of the API board of directors no responsibility for and expresses no opinion as to such analyses or forecasts or the assumptions on which they are based. B. Riley has also assumed that there have been no material changes in the assets, financial condition, results of operations, business or prospects of API and Luna since the

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respective dates of the last financial statements made available to B. Riley. B. Riley has further relied, with the API board of directors' consent, upon the assurances of the management of API and Luna that they are not aware of any facts that would make the information and projections provided by them inaccurate, incomplete or misleading.

In rendering its opinion to the board of directors, B. Riley assumed that:

the final executed form of the Merger Agreement would not differ in any material respects from the latest draft provided to B. Riley;

the consummation of the Merger would be effected in accordance with the terms and conditions of the Merger Agreement, without waiver, modification or amendment of any material term, condition or agreement; and

in the course of obtaining the necessary regulatory or third party consents and approvals (contractual or otherwise) for the Merger, no delay, limitation, restriction or condition will be imposed that would have an adverse effect on API or Luna or the contemplated benefits of the Merger.

B. Riley did not express any opinion as to legal, tax and regulatory matters with respect to the proposed Merger. The B. Riley opinion is limited to the fairness, from a financial point of view, to API's stockholders of the Exchange Ratio being used in connection with the Merger. B. Riley expressed no opinion as to the fairness of the Merger to the holders of any other class of securities, creditors or other constituencies of API or as to the underlying decision by API to engage in the Merger. The B. Riley opinion does not address any other aspect or implication of the Merger, the Merger Agreement, or any other agreement or understanding entered into in connection with the Merger or otherwise. B. Riley also expressed no opinion as to the fairness of the amount or nature of the compensation to any of API's officers, directors or employees, or any class of such persons relative to the Exchange Ratio in connection with the Merger. B. Riley expressed no opinion as to the prices or trading ranges at which API or Luna common stock would trade at any time before consummation of the Merger. Furthermore, B. Riley did not express any opinion as to the impact of the Merger on the solvency or viability of API, or the ability of API to pay its obligations when they become due before consummation of the Merger.

B. Riley's opinion is necessarily based upon economic, market, monetary, regulatory and other conditions as they existed and can be evaluated, and the information made available to B. Riley, as of the date of the opinion. B. Riley assumes no responsibility for updating or revising B. Riley's opinion based on circumstances or events occurring after the date of the opinion.

The following is a brief summary of the material financial analyses that B. Riley deemed appropriate for this type of transaction and that were performed by B. Riley in connection with rendering its opinion. The summary of B. Riley's analyses described below is not a complete description of the analyses underlying its opinion. The preparation of a fairness opinion is a complex analytical process involving determinations as to the most appropriate and relevant methods of financial analyses and the application of those methods to the particular circumstances, and, therefore, is not readily susceptible to summary description. In arriving at its opinion, B. Riley considered the results of all of the analyses and did not attribute any particular weight to any factor or analysis considered by it; rather, B. Riley made its determination as to the fairness, from a financial point of view, to API's stockholders, of the Exchange Ratio being used in connection with the Merger, on the basis of its experience and professional judgment after considering the results of all of the analyses.

In its analyses, B. Riley considered industry performance, general business, economic, market and financial conditions and other matters, many of which are beyond the control of API. No company or business used in B. Riley's analyses as a comparison is identical to API or Luna, and an evaluation of the results of those analyses is not entirely mathematical. Rather, the analyses involve complex considerations and judgments concerning financial, operating, and geographical characteristics and other factors that could affect the public trading or other values of the companies analyzed. The estimates contained in B. Riley's analyses and the ranges of

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valuations resulting from any particular analysis are not necessarily indicative of actual values or predictive of future results or values, which may be significantly more or less favorable than those suggested by the analyses. In addition, analyses relating to the value of businesses or securities do not purport to be appraisals or to reflect the prices at which businesses or securities actually may be sold. Accordingly, the estimates used in, and the results derived from, B. Riley's analyses are inherently subject to substantial uncertainty.

The financial analyses summarized below include information presented in tabular format. In order to fully understand B. Riley's financial analyses, the tables must be read together with the text of each summary. The tables alone do not constitute a complete description of the financial analyses. Considering the data in the tables below without considering the full narrative description of the financial analyses, including the methodologies and assumptions underlying the analyses, could create a misleading or incomplete view of B. Riley's financial analyses.

Historical Trading Range

B. Riley presented to the API board of directors the trading range of API's common stock for the 52-week period ended January 27, 2015, which ranged from \$0.26 per share to \$0.85 per share, and compared that to the closing price of API's common shares of \$0.33 on January 27, 2015 and the implied per share equity value based on the Exchange Ratio of \$0.51, calculated as of January 27, 2015. B. Riley also reviewed with the API board of directors the trading range of Luna's common stock for the 52-week period ending January 27, 2015, which ranged from \$1.20 per share to \$2.70 per share, and compared that to the closing price of Luna's common stock of \$1.61 on January 27, 2015. The implied per share equity value of API of \$0.51 as used throughout this summary was calculated based on the Exchange Ratio of 0.31782 multiplied by the closing stock price of Luna on January 27, 2015 of \$1.61. B. Riley noted that the historical trading range analysis is not a valuation methodology and that such analysis was presented merely for reference purposes only and not as a component of its fairness analysis.

Comparable Companies Analysis

Using publicly available information, B. Riley compared selected financial data of API with similar data for publicly traded companies engaged in businesses that B. Riley judged to be sufficiently analogous to API's business segments or aspects thereof. The companies were as follows:

Optoelectronics:

First Sensor AG

Micropac Industries Inc.
High Speed Optical Receivers:

Exar Corporation

EMCORE Corporation

NeoPhotonics Corporation

Oclaro, Inc.

GigOptix, Inc.
Terahertz:

American Science and Engineering, Inc.

Aware, Inc.

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Using publicly available information, B. Riley compared selected financial data of Luna with similar data for publicly traded companies engaged in businesses that B. Riley judged to be sufficiently analogous to Luna's business or aspects thereof. The companies were as follows:

Technology Development Division (TDD):

Serma Technologies SA

RCM Technologies, Inc.

Intermolecular, Inc.

Sagentia Group plc.

Dynasil Corporation of America

ABIST Co., Ltd.

Lightwave Division:

Xcerra Corporation

Vishay Precision Group, Inc.

Photon Control, Inc.

Acorn Energy, Inc.

None of the selected companies reviewed is identical to API or Luna, as applicable, and certain of these companies may have characteristics that are materially different from those of API and Luna, as applicable. These companies were selected, among other reasons, because they are publicly traded companies with operations and businesses that, for purposes of B. Riley's analysis, may be considered similar to those of API or Luna, as applicable, based on sector participation, financial metrics and form of operations. The analyses necessarily involve complex considerations and judgments concerning differences in financial and operational characteristics of the companies involved and other factors that could affect the companies differently than would affect API or Luna, as applicable.

For each company listed above, B. Riley calculated and compared various financial multiples and ratios based on publicly available financial data as of January 27, 2015. The financial multiples reviewed included:

Enterprise value (EV) as a multiple of estimated Revenue for the last twelve months, or LTM Revenue, ;

EV as a multiple of estimated revenue for the calendar year ended December 31, 2014, or 2014E Revenue ;

EV as a multiple of estimated revenue for the calendar year ended December 31, 2015, or 2015E Revenue ;

EV as a multiple of estimated gross profit for the last twelve months, or LTM Gross Profit ;

EV as a multiple of estimated gross profit for the calendar year ended December 31, 2014, or 2014E Gross Profit ;

EV as a multiple of estimated gross profit for the calendar year ended December 31, 2015, or 2015E Gross Profit ;

EV as a multiple of estimated earnings before interest, taxes, depreciation, amortization and stock-based compensation (referred to in this section of this joint proxy statement/prospectus as EBITDAS) for the last twelve months, or LTM EBITDAS ;

EV as a multiple of estimated EBITDAS for the calendar year ended December 31, 2014, or 2014E EBITDAS
and

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EV as a multiple of estimated EBITDAS for the calendar year ended December 31, 2015, or 2015E EBITDAS. Based on the results of this analysis, B. Riley applied multiple reference ranges of 0.59x to 1.35x for EV/LTM Revenue, 0.84x to 1.16x for EV/2014E Revenue, 0.80x to 1.49x for EV/2015E Revenue, 1.68x to 4.27x for EV/LTM Gross Profit, 2.10x to 3.58x for EV/2014E Gross Profit, 2.07x to 3.00x for EV/2015E Gross Profit and 8.09x to 9.56x for 2015E EV/EBITDAS. The aforementioned multiple ranges were applied to API's estimates for revenue, gross profit, and EBITDAS, respectively, which were provided by API management to B. Riley. Based on this methodology, B. Riley arrived at the following implied equity value per share ranges for API:

	Public Trading Analysis	
	Implied Equity	
	Value per Share for	
	API	
LTM Revenue (0.59x 1.35x)	\$	0.37 \$0.95
Estimated 2014 Revenue (0.84x 1.16x)	\$	0.52 \$0.76
Estimated 2015 Revenue (0.80x 1.49x)	\$	0.59 \$1.17
LTM Gross Profit (1.68x 4.27x)	\$	0.32 \$0.96
Estimated 2014 Gross Profit (2.10x 3.58x)	\$	0.42 \$0.78
Estimated 2015 Gross Profit (2.07x 3.00x)	\$	0.52 \$0.80
Estimated 2015 EBITDAS (8.09x 9.56x)	\$	0.13 \$0.18

The ranges of implied equity value for API were compared to the closing price of API's common shares of \$0.33 on January 27, 2015 and the implied per share equity value based on the Exchange Ratio of \$0.51 per share, calculated as of January 27, 2015.

Based on the results of this analysis, B. Riley applied multiple reference ranges of 0.65x to 0.93x for EV/LTM Revenue, 0.78x to 0.91x for EV/2014E Revenue, 0.73x to 0.86x for EV/2015E Revenue, 1.74x to 2.57x for EV/LTM Gross Profit, 1.86x to 1.99x for EV/2014E Gross Profit, and 1.48x to 1.66x for EV/2015E Gross Profit. The aforementioned multiple ranges were applied to Luna's estimates for revenue and gross profit, respectively, which were provided by Luna management to B. Riley. Due to Luna's forecasted negative 2015E EBITDAS, B. Riley did not consider EBITDAS multiples. Based on this methodology, B. Riley arrived at the following implied equity value per share ranges for Luna:

	Public Trading Analysis	
	Implied Equity	
	Value per Share for	
	Luna	
LTM Revenue (0.65x 0.93x)	\$	1.38 \$1.72
Estimated 2014 Revenue (0.78x 0.91x)	\$	1.60 \$1.77
Estimated 2015 Revenue (0.73x 0.86x)	\$	1.76 \$1.96
LTM Gross Profit (1.74x 2.57x)	\$	1.36 \$1.73
Estimated 2014 Gross Profit (1.86x 1.99x)	\$	1.48 \$1.54
Estimated 2015 Gross Profit (1.48x 1.66x)	\$	1.64 \$1.77

The ranges of implied equity value for Luna were compared to the closing price of Luna's common shares of \$1.61 on January 27, 2015.

Selected Transaction Multiples Analysis

Using publicly available information, B. Riley examined selected transactions involving businesses that B. Riley judged to be sufficiently analogous to API's business or aspects thereof. For each of the selected transactions, B. Riley calculated the ratio of the target's EV to the target's revenue for the last twelve months (LTM) as of the date of transaction announcement.

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Optoelectronics:

Acquiror
 Sensor Holding Corporation
 UEC Electronics, LLC
 SymCom, Inc.
 MRSI Systems, LLC
 Spanoptic Ltd
 CyOptics, Inc.
 Lightworks Optics, Inc.
 Roctest Ltd.
 Semco Instruments, Inc.
 SphereOptics, LLC
 Applied Optical Systems, Inc.
 New Focus, Inc.
 AXSUN Technologies, Inc.
 Weed Instrument, Inc.
 General Optics
 Copley Controls Corporation
High Speed Optical Receivers:

Acquiree
 Semiconductor Components Industries, LLC
 Arotech Corporation
 Littelfuse, Inc.
 Undisclosed
 Gooch & Housego plc
 Avago Technologies Wireless Manufacturing, Inc.
 Exotic Electro-Optics, Inc.
 Nova Metrix, LLC
 TransDigm Group, Inc. (NYSE:TDG)
 Labsphere, Inc.
 Optical Cable Corporation (NasdaqGM:OCC)
 Newport Corporation (NasdaqGS:NEWP)
 Volcano Corporation (NasdaqGS:VOLC)
 Ultra Electronics Holdings plc (LSE:ULE)
 Gooch & Housego plc (AIM:GHH)
 Analogic Corporation (NasdaqGS:ALOG)

Acquiror
 MRSI Systems, LLC
 Micronetics Inc.
 RF Monolithics Inc.
 Santur Corporation
 Aegis Lightwave, Inc.
 GarrettCom, Inc.
 Mintera Corporation
 Merrimac Industries, Inc.
 New Focus, Inc.
 General Optics
Terahertz:

Acquiree
 Undisclosed
 Mercury Systems, Inc. (NasdaqGS:MRCY)
 Murata Electronics N.A., Inc.
 NeoPhotonics Corporation (NYSE:NPTN)
 II-VI Incorporated (NasdaqGS:IIVI)
 Belden Inc. (NYSE:BDC)
 Oclaro, Inc. (NasdaqGS:OCLR)
 Crane Co. (NYSE:CR)
 Newport Corporation (NasdaqGS:NEWP)
 Gooch & Housego plc (AIM:GHH)

Acquiror
 Sensor Holding Corporation

 Hamlin Electronics, LP

 Infimed, Inc.

 Ophthalmic Imaging Systems

Acquiree
 Semiconductor Components Industries, LLC

 Littelfuse, Inc.

 Varian Medical Systems, Inc. (NYSE:VAR)

 Merge Healthcare, Inc. (NasdaqGS:MRGE)

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LMI Technologies, Inc.	Augusta Technologie AG (DB:ABE1)
RAE Systems, Inc.	Vector Capital
Cambridge Research & Instrumentation, Inc.	Caliper Life Sciences, Inc.
Roctest Ltd.	Nova Metrix LLC
Lumen Dynamics Group Inc.	The Riverside Co.
OI Corporation	ITT Corporation (NYSE:ITT)
Semco Instruments, Inc.	TransDigm Group, Inc. (NYSE:TDG)

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Using publicly available information, B. Riley examined selected transactions involving businesses that B. Riley judged to be sufficiently analogous to Luna's business or aspects thereof. For each of the selected transactions, B. Riley calculated the ratio of the target's EV to the target's revenue for the last twelve months (LTM) as of the date of transaction announcement.

Technology Development Division (TDD):

Acquiror
 Centro Sviluppo Materiali S.p.A.
 Dentsu Marketing Insight, Inc.
 Applied Science Associates, Inc.
 Shanghai Fast. and Welding Mat. Tech. Research Centre
 Lightning Technologies, Inc.
 Ktech Corporation (nka:Raytheon Ktech)
 LabGenomics Co., Ltd.
 Ecowise Environmental Pty, Ltd.
 Shanghai Research Institute of Petrochemical Technology
 Proytecsa Security, S.L.

Digital Fusion, Inc.
 Aerostructures Group
Lightwave Division:

Acquiror
 BlueView Technologies, Inc.
 Infimed, Inc.
 Celesco Transducer Products, Inc.
 Ophthalmic Imaging Systems
 LMI Technologies, Inc.
 Roctest Ltd.
 O.I. Corporation
 Semco Instruments, Inc.
 Mintera Corporation
 Photonic Instruments, Inc.
 Weed Instrument, Inc.
 SANS Group

Acquiree
 RINA S.p.A.
 Macromill, Inc.
 RPS Group plc
 Shanghai Prime Machinery, Ltd.
 NTS Technical Systems, Inc.
 Raytheon Missile Systems
 Mora Resource Co., Ltd. (nka:VO Industrial Co., Ltd.)
 Australian Laboratory Services Pty. Ltd.
 China Petroleum & Chemical Corporation
 Miura Private Equity, SGEGR, S.A.; Miura Fund I,
 FCR
 Kratos Defense & Security Solutions, Inc.
 QinetiQ Group Plc

Acquiree
 Teledyne RD Instruments, Inc.
 Varian Medical Systems, Inc. (NYSE:VAR)
 Measurement Specialties Inc. (NasdaqGS:MEAS)
 Merge Healthcare, Inc. (NasdaqGS:MRGE)
 Augusta Technologie AG
 Nova Metrix, LLC
 ITT Corporation
 TransDigm Group, Inc.
 Oclaro, Inc.
 Andor Technology plc
 Ultra Electronics Holdings plc
 MTS Systems (China), Ltd.

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Based on the results of this analysis, B. Riley selected an EV/LTM Revenue multiple reference range of 0.88x to 1.73x for API. The aforementioned multiples were applied to both API's LTM Revenue and 2014 estimated calendar revenue (provided by API management to B. Riley). Included in the assessment of the select precedent transactions were the price per share premium one day prior to announcement of the transaction and the price per share premium one month prior to announcement of the transaction. B. Riley noted that the price per share premiums were derived from a sample set of 129 information technology transactions for companies with a market capitalization equal to or less than \$500 million market capitalization since January 1, 2012. Based on this methodology, B. Riley arrived at the following implied equity value per share ranges for API:

	Transaction Multiples Analysis Implied Equity Value per Share for API	
LTM Revenue (0.88x – 1.73x)	\$	0.59 – \$1.25
Estimated 2014 Revenue (0.88x – 1.73x)	\$	0.55 – \$1.17
1-Day Premium (12.4% – 62.5%)	\$	0.37 – \$0.54
1-Month Premium (16.5% – 65.3%)	\$	0.38 – \$0.55

The ranges of implied equity value for API were compared to the closing price of API's common shares of \$0.33 on January 27, 2015 and the implied per share equity value based on the Exchange Ratio of \$0.51 per share, calculated as of January 27, 2015.

Based on the results of this analysis, B. Riley selected an EV/LTM Revenue multiple reference range of 1.09x to 1.74x for Luna. The aforementioned multiple was applied to both Luna's LTM Revenue and 2014 estimated calendar revenue (provided by Luna management to B. Riley). Based on this methodology, B. Riley arrived at the following implied equity value per share ranges for Luna:

	Transaction Multiples Analysis Implied Equity Value per Share for Luna	
LTM Revenue (1.09x – 1.74x)	\$	1.91 – \$2.65
Estimated 2014 Revenue (1.09x – 1.74x)	\$	1.99 – \$2.77

The ranges of implied equity value for Luna were compared to the closing price of Luna's common shares of \$1.61 on January 27, 2015.

Discounted Cash Flow Analysis

B. Riley conducted a discounted cash flow analysis for the purpose of determining the fully diluted equity value per share for both API and Luna on a stand-alone basis. A discounted cash flow analysis is a method of evaluating an asset using estimates of the future unlevered free cash flows generated by the asset, and taking into consideration the time value of money with respect to those cash flows by calculating their present value. The unlevered free cash flows refers to a calculation of the future cash flows generated by an asset without including in such calculation any debt servicing costs. Specifically, unlevered free cash flow represents unlevered net operating profit after tax, adjusted for depreciation, capital expenditures, changes in net working capital, and certain other one-time cash expenses as

applicable. Present value refers to the current value of the cash flows generated by the asset, and is obtained by discounting those cash flows back to the present using an appropriate discount rate and applying a discounting convention that assumes that all cash flows were generated at the midpoint of each period. Terminal value refers to the present value of all future cash flows generated by the asset for periods beyond the projections period.

B. Riley utilized the unlevered free cash flows for API and Luna for calendar years 2015 through 2017 as reflected in API and Luna's respective projections, which were obtained from each management team. See "Certain Projected Financial Information" below. Terminal value was derived by applying either an

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(1) enterprise value to revenue multiple or (2) enterprise value to gross profit multiple to the 2017 calendar year revenue and gross profit estimates, respectively. B. Riley noted that both the discount rate ranges and multiple ranges applied to the terminal value for API and Luna were derived assuming a weighted average of each company's business segments. The unlevered free cash flows and the range of terminal values were discounted to present value using a range of discount rates from 24.1% to 26.1% for API, which was chosen by B. Riley based upon an analysis of the weighted average cost of capital of API, and a range of discount rates from 14.4% to 16.4% for Luna, which was chosen by B. Riley based upon an analysis of the weighted average cost of capital of Luna. B. Riley's analyses of the weighted average cost of capital of API and Luna were based upon the capital assets pricing model to derive a discount rate that takes into account macroeconomic assumptions and estimates of risk, the opportunity cost of capital and other appropriate factors. Furthermore, a market risk premium and micro-cap size premium per the 2013 Ibbotson® SBBi® Risk Premia Over Time Report was also applied in deriving both API's and Luna's respective weighted average costs of capital. Finally, an additional 5% discount rate was applied to API's resulting weighted average cost of capital to reflect API's projected liquidity constraints and other financial difficulties on a standalone basis. The implied equity values were divided by the number of fully diluted shares outstanding of each company to arrive at a range of implied equity value per share as follows:

API's implied equity value was derived using either a terminal value multiple of revenue and gross profit ranging from 0.73x to 1.13x and 1.70x to 2.50x, respectively. The resulting ranges of implied equity value per share for API included:

	Discounted Cash Flow Implied API Equity Value Per Share	
2015E Revenue Exit Multiple (0.73x – 1.13x)	\$	0.39 – \$0.70
2015E Gross Profit Exit Multiple (1.70x – 2.50x)	\$	0.31 – \$0.55

Luna's implied equity value was derived using either a terminal value multiple of revenue and gross profit ranging from 0.65x to 1.05x and 1.52x to 2.32x, respectively. The resulting ranges of implied equity value per share for Luna included:

	Discounted Cash Flow Implied Luna Equity Value Per Share	
2015E Revenue Exit Multiple (0.65x – 1.05x)	\$	1.65 – \$2.34
2015E Gross Profit Exit Multiple (1.52x – 2.32x)	\$	1.79 – \$2.47

Relative Implied Exchange Ratio Analysis

B. Riley compared the results for API to the results for Luna with respect to the Comparable Companies, Selected Transaction Multiples, and the Discounted Cash Analysis referenced above on a combined basis. For each comparison, B. Riley compared the highest equity value per share for API to the highest equity value per share for Luna, and compared the lowest equity value per share for API to the lowest equity value per share for Luna to derive the low exchange ratio. On a combined basis, the implied exchange ratios resulting from these analyses were:

	Implied Exchange Ratio	
	Low	High
Comparable Companies	0.2337	0.4080
Selected Transaction Multiples	0.3333	0.4735
Discounted Cash Flow	0.2849	0.3628

The implied exchange ratios were compared to the Exchange Ratio in the Merger of 0.31782 and the exchange ratio of 0.2050 implied by the closing price of API's common stock of \$0.33 on January 27, 2015 and the closing price of Luna's common stock of \$1.61 on January 27, 2015.

Table of Contents***General***

The API board of directors retained B. Riley to provide an opinion as to the fairness, from a financial point of view, to API's stockholders, of the Exchange Ratio being used in connection with the Merger. As part of its investment banking business, B. Riley is engaged in the valuation of company securities in connection with mergers and acquisitions, negotiated underwritings, secondary distributions of listed and unlisted securities, private placements and valuations for other purposes. B. Riley has experience in, and knowledge of, the valuation of enterprises. In the ordinary course of its business as a broker-dealer, B. Riley may, from time to time, purchase securities of the firms involved in this Merger. As a market maker in securities, B. Riley may from time to time have a long or short position in, and buy or sell, debt or equity securities of API for B. Riley's own account and for the accounts of its customers.

As described above, the B. Riley opinion was one of many factors taken into consideration by the API board of directors in making the determination to approve the Merger Agreement. Consequently, the analyses described above should not be viewed as determinative of the opinion of the API board of directors. The Exchange Ratio was determined through extensive negotiations between the API and Luna. Except as described in this summary, API imposed no other instructions or limitations on the investigations made or procedures followed by B. Riley in rendering its opinion.

B. Riley and its affiliates are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, investment research, principal investment, hedging, financing and brokerage activities. B. Riley and its affiliates have, from time to time, performed, and may in the future perform, various financial advisory and investment banking services for API, for which it has received or will receive customary fees and expenses. Additionally, B. Riley and its affiliates, from time to time, may in the future perform various financial advisory and investment banking services for Luna, for which it may receive customary fees and expenses. Except as set forth below, B. Riley and its affiliates have not provided investment banking or financial advisory services to API or Luna for which compensation was received during the two-year period prior to delivery by B. Riley of its opinion to API's board of directors in connection with the Merger. In 2013, B. Riley was engaged by the API board of directors to evaluate strategic alternatives and to explore the potential divestiture of its High Speed Optical Receiver business for which it received \$70,000. In 2014, B. Riley received approximately \$229,400 in connection with its role as underwriter for the sale of 6,200,000 shares of API common stock. The fees received by B. Riley for each of those past services to API were customary fees charged by B. Riley for similar transactions to other similarly situated clients of B. Riley and were not related to the services provided by B. Riley to API in connection with the opinion. For rendering the opinion, B. Riley will receive \$125,000, no portion of which is contingent upon conclusions reached in the opinion, which was due and payable upon delivery of the opinion. In addition, B. Riley will receive \$50,000 upon closing of the Merger for services rendered in negotiating, at the direction of API management and API board of directors, the Exchange Ratio.

B. Riley and its affiliates have accumulated API common stock as a result of B. Riley's prior investment banking and financial advisory services to API. As of the date of the opinion, B. Riley and its affiliates owned approximately 1.85 million shares of API common stock, which is approximately 4.9% of API's outstanding common stock.

The opinion has been approved by B. Riley's Fairness Opinion Committee in accordance with its established policies and procedures.

Nature of Financial Projections Reviewed by the API Board of Directors and API's Financial Advisor

Although API has historically publicly issued limited short-term guidance concerning various aspects of its expected financial performance, API does not make public disclosure of detailed forecasts or projections of its expected

financial performance for extended periods because of, among other things, the inherent difficulty of accurately predicting future periods and the likelihood that the underlying assumptions and estimates may prove

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incorrect. In connection with its evaluation of the Merger, however, API management prepared and provided to the API board of directors and B. Riley, some non-public internal financial projections regarding API's anticipated future operations and estimated synergies arising in connection with the Merger. In addition, API management provided to B. Riley and the API board of directors certain non-public internal financial projections for Luna prepared by Luna management. A summary of these financial projections and estimated synergies is included below to provide API stockholders and Luna stockholders access to specific non-public information that was considered by the API board of directors for purposes of evaluating the Merger and provided to B. Riley for its use in evaluating the fairness, from a financial point of view, of the Exchange Ratio to API stockholders.

The financial projections and estimated synergies summarized below were not prepared for purposes of public disclosure, nor were they prepared on a basis designed to comply with published guidelines of the SEC, the guidelines established by the American Institute of Certified Public Accountants for preparation and presentation of projections, or U.S. GAAP. API's independent registered public accounting firm, which is listed as an expert below in *Experts*, did not compile, examine or perform any procedures with respect to the projections or estimated synergies summarized below, and has not expressed any opinion or any other form of assurance on this information or its achievability, and assumes no responsibility for, and disclaims any association with, these projections and estimated synergies. The reports of the independent registered public accounting firms included in this joint proxy statement/prospectus relate to historical financial statements. They do not extend to any prospective financial information and should not be seen to do so.

Although presented with numerical specificity, the projections and estimated synergies were prepared in the context of numerous variables, estimates and assumptions that are inherently uncertain and may be beyond the control of API, and which may prove not to have been, or to no longer be, accurate. The projections and the estimated synergies are subject to many risks and uncertainties. Important factors that may affect actual results and cause actual results to differ materially from these projections and synergies include risks and uncertainties relating to API's and Luna's businesses (including their ability to achieve strategic goals, objectives and targets over the applicable periods), industry performance, the regulatory environment, general business and economic conditions, market and financial conditions, various risks set forth in API's and Luna's reports filed with the SEC, and other factors described in *Risk Factors* or referenced under *Cautionary Statement Concerning Forward-Looking Statements*, beginning on pages 20 and 59, respectively, of this joint proxy statement/prospectus. The projections and estimated synergies also reflect assumptions that are subject to change and are susceptible to multiple interpretations and periodic revisions based on actual results, revised prospects for API's and Luna's businesses, changes in general business or economic conditions, or any other transaction or event that has occurred or that may occur and that was not anticipated at the time the projections and estimated synergies were prepared. In addition, other than with respect to the estimated synergies discussed below, the projections do not take into account any of the transactions contemplated by the Merger Agreement, including the Merger and associated expenses, or API's and Luna's compliance with their respective covenants under the Merger Agreement. Moreover, the projections and estimated synergies do not take into account any circumstances, transactions or events occurring after the date the projections and estimated synergies were prepared. Accordingly, actual results will likely differ, and may differ materially, from those contained in the projections and estimated synergies. Neither API nor Luna can assure you that these projections and estimated synergies will be realized or that future financial results of API or Luna will not materially vary from these projections and estimated synergies.

The inclusion of a summary of the projections and estimated synergies in this joint proxy statement/prospectus should not be regarded as an indication that any of API, Luna or their respective affiliates, officers, directors, financial advisors or other representatives consider the projections or estimated synergies to be necessarily predictive of actual future events, and neither the projections nor the estimated synergies should be relied upon as such. None of API, Luna or their respective affiliates, officers, directors, financial advisors or other representatives gives any stockholder

of API, stockholder of Luna or other person any assurance that actual results will not differ materially from the projections and estimated synergies, and, except as otherwise required by law, none of them undertakes any obligation to update or otherwise revise or reconcile the projections or

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estimated synergies to reflect circumstances existing after the date the projections and estimated synergies were generated or to reflect the occurrence of future events, even in the event that any or all of the assumptions and estimates underlying the projections or estimated synergies are shown to be in error.

No one has made or makes any representation to any API stockholder, Luna stockholder or anyone else regarding, nor assumes any responsibility for the validity, reasonableness, accuracy or completeness of, the information included in the projections and estimated synergies set forth below. Readers of this joint proxy statement/prospectus are cautioned not to rely on the projections and estimated synergies. API has not updated and, except as otherwise required by law, does not intend to update or otherwise revise the projections or estimated synergies, even in the short term, to reflect circumstances existing after the date when the projections or estimated synergies were made or to reflect the occurrence of future events, including the Merger. Moreover, the projections and estimated synergies do not take into account the effect of any failure of the Merger to occur and should not be viewed as accurate or continuing in that context.

A summary of these financial projections and estimated synergies is included solely to give API stockholders and Luna stockholders access to the information that was made available to the API board of directors and B. Riley, as described below, and is not included in this document in order to influence your decision whether to vote for or against the proposals regarding the issuance of Luna common stock in the Merger or adoption of the Merger Agreement, as applicable, at the API stockholder meeting or the Luna stockholder meeting. The inclusion of this information should not be regarded as an indication that the API board of directors, its advisors or any other person considered, or now considers, this information to be material or to be a reliable prediction of actual future results. API management's internal financial projections upon which the API Projections (as defined below) were based, as well as the estimated synergies that may result from the Merger, are subjective in many respects. Neither API nor Luna can assure you that these projections or estimated synergies will be realized or that actual results will not be significantly higher or lower than forecasted. The projections included below cover multiple years, and this information by its nature becomes subject to greater uncertainty with each successive year. The financial projections and summary information should be evaluated, if at all, in conjunction with the historical financial statements and other information contained in API's and Luna's respective public filings with the SEC.

Summary of Financial Projections Reviewed by the API Board and B. Riley

As part of its evaluation of the Merger, API's management prepared the unaudited financial projections regarding API's future operations for calendar years ending December 31, 2014 through 2017 that are summarized below (which projections are referred to in this document as the "API Projections"). The API Projections were derived from API's internal fiscal year projections and were converted to a calendar year format to facilitate comparative financial analysis of Luna, which has a December 31 fiscal year. In addition, Luna's management provided various unaudited financial projections to API's management (which projections are referred to in this document as the "Luna Projections"). The Luna Projections are summarized under "Nature of Financial Projections Reviewed by the Luna Board of Directors and Luna's Financial Advisor" beginning on page 87 of this joint proxy statement/prospectus). As part of its evaluation of the Merger, both the API Projections and the Luna Projections were provided to the API board of directors for use in its evaluation of the Merger and were provided to B. Riley for its use in evaluating the fairness, from a financial point of view, of the Exchange Ratio to API stockholders.

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The following tables present a summary of the API Projections:

\$ in thousands	Estimated CY14E	CY15E	Projected CY16E	CY17E
Revenue:				
Opto Solutions	\$ 14,684	\$ 15,054	\$ 16,090	\$ 16,599
HSOR	11,197	13,536	21,866	28,400
Terahertz	2,351	4,073	4,425	7,201
Total Revenue	28,232	32,663	42,381	52,200
Gross Profit:				
Opto Solutions	5,085	5,097	5,563	5,854
HSOR	3,203	3,832	8,127	9,963
Terahertz	1,127	2,465	1,991	3,307
Gross Profit	\$ 9,416	\$ 11,394	\$ 15,681	\$ 19,125
Operating Expenses	\$ 11,592	\$ 11,272	\$ 12,308	\$ 14,162
EBIT	\$ (2,176)	\$ 122	\$ 3,373	\$ 4,963
Net Income	\$ (2,480)	\$ (523)	\$ 1,649	\$ 2,862
Adjusted EBITDA (1)	\$ (688)	\$ 1,119	\$ 4,574	\$ 6,326

(1) Adjusted EBITDA represents earnings before interest, taxes, depreciation and amortization, adjusted to exclude stock-based compensation expense.

API's management also prepared estimates of annual cost savings synergies that the combined company would realize beginning in the first year following completion of the Merger and provided these estimates to the API board of directors and to Mooreland for purposes of its financial analyses. These estimates are summarized in the following table. Based on these synergies, API's management estimated that the combined company would realize approximately \$3.0 million in annual cost savings.

<i>\$ in thousands</i>	Run-Rate
Public Company Costs	
Public Accountants	\$ 150
Legal	300
Transfer Agent	20
Proxy Services	30
Board Fees	300
D&O Insurance	108
Listing Fees	120
Investor Relations	120
Total Estimated Public Company Savings	\$ 1,148
Executive Salaries & Benefits	\$ 923

Other Operational Synergies	900
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Total Estimated Cost Savings	\$ 2,971
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Ownership Interests

As of the record date for the API special meeting, the directors and executive officers of API, together with their affiliates, owned in the aggregate 4,022,152 shares of API's outstanding common stock, entitling them to exercise 10.8% of the voting power of the API common stock at the API special meeting. API cannot complete the Merger unless the Merger Agreement is adopted by 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. Certain of API directors and executive officers, and their affiliates, have entered into voting agreements in connection with the Merger and

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have granted irrevocable proxies appointing My E. Chung, Luna's president and chief executive officer, and Luna their lawful proxy and attorney-in-fact to vote at any meeting of API stockholders called for purposes of considering whether to adopt the Merger Agreement and approve the transactions contemplated thereby. For a more detailed discussion of these voting agreements, see the section entitled "Certain Agreements Related to the Merger - API Voting Agreements" in this joint proxy statement/prospectus.

Appraisal Rights

Neither Luna stockholders nor API stockholders are entitled to appraisal rights under the Delaware General Corporation Law in connection with the Merger.

NASDAQ Listing of Luna Shares Issued in Connection with the Merger

Luna will use commercially reasonable efforts to cause all shares of Luna common stock to be issued in connection with the Merger to be listed on the NASDAQ Capital Market as of the Effective Time.

Effective Time of the Merger

The Merger will be completed and become effective at the time the certificate of merger is filed with the Secretary of State of the State of Delaware, merging API Merger Sub, Inc. with and into API, or at such later time as specified in the certificate of merger. The parties intend to complete the Merger as soon as practicable following receiving the approvals from each of the API and Luna stockholders, and the satisfaction or waiver of the conditions to closing of the Merger set forth in the Merger Agreement. The parties to the Merger Agreement currently anticipate that the Merger will be completed sometime in the first half of 2015. However, because the Merger is subject to a number of conditions, the exact timing of the completion of the Merger cannot be determined with any certainty, if it is completed at all.

The Board of Directors and Management of the Combined Company Following the Merger

After completion of the Merger, the Luna board of directors will consist of seven directors. Luna currently anticipates that the following individuals will serve as its board of directors immediately following completion of the Merger:

Name	Age	Position and Director Term Expiration
Donald Pastor	61	Class III Director (term expires at 2015 annual meeting)
My E. Chung	62	Class III Director (term expires at 2015 annual meeting)
Richard W. Roedel	65	Chairman/Class I Director (term expires at 2016 annual meeting)
Ed J. Coringrato Jr.	56	Class I Director (term expires at 2016 annual meeting)
Michael M. Wise	64	Class II Director (term expires at 2017 annual meeting)
John B. Williamson, III	60	Class II Director (term expires at 2017 annual meeting)
Gary Spiegel	64	Class II Director (term expires at 2017 annual meeting)

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

After the completion of the Merger, the following individuals will serve as the executive officers of the combined company:

Name	Age	Position
My E. Chung	62	President and Chief Executive Officer
Dale E. Messick	50	Chief Financial Officer
Scott A. Graeff	48	Chief Strategy Officer and Treasurer
Talfourd H. Kemper, Jr.	46	Vice President, General Counsel and Secretary

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Ownership of Luna Following the Merger

After the Merger, API will continue as a wholly owned subsidiary of Luna, and API stockholders will no longer have any interest in API, but will have an equity interest in Luna, the new parent company of API's operations. Immediately after the Merger, existing Luna stockholders are expected to own approximately 56% of the outstanding shares of Luna common stock and the former API stockholders are expected to own approximately 44% of the outstanding shares of Luna common stock. Upon attributing ownership to the former API's stockholders of the shares of common stock that may be issued upon exercise of the options or warrants to purchase Luna common stock issued in 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.

For detailed information regarding the beneficial ownership of certain key stockholders of the combined entity prior to and after consummation of the Merger, see the sections entitled *Principal Stockholders of Luna*, *Principal Stockholders of API* and *Principal Stockholders of the Combined Company* in this joint proxy statement/prospectus.

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 an aggregate of 1,324,535 shares of API common stock, 25,000 shares of API restricted stock and warrants to purchase an aggregate of 267,196 shares of API common stock 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 in an amount equal to two years of his current salary plus bonus, medical benefits and accrued vacation time (estimated to aggregate approximately \$647,000) 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 equal to one year of his current salary plus bonus, medical benefits and accrued vacation time (estimated to aggregate approximately \$227,000) 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.

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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 approve the Merger Agreement and the transactions contemplated by the Merger Agreement.

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;

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 in the aggregate amount of approximately \$585,000 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. The bonuses for My Chung, Luna's president and chief executive officer, Dale Messick, Luna's chief financial officer and Scott Graeff, Luna's chief strategy officer will be \$167,117, \$116,700 and \$119,075, respectively.

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.

Regulatory Approvals

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

Application will be made to NASDAQ to have the shares of Luna common stock issued in connection with the Merger approved for listing on the NASDAQ Capital Market, where Luna common stock currently is traded under the symbol LUNA. If the Merger is completed, API common stock will be delisted from the New York Stock Exchange MKT and there will no longer be a trading market for such stock. In addition, promptly following the closing of the

Merger, API common stock will be deregistered under the Exchange Act and API will no longer file periodic reports with the SEC.

Anticipated Accounting Treatment

Luna will account for the Merger using the acquisition method of accounting under U.S. GAAP. Under the acquisition method of accounting, the tangible and identifiable intangible assets and liabilities of API will be recorded, as of completion of the Merger, at their respective fair values. The excess of the purchase price over the net assets acquired will be recorded as goodwill to the extent not allocated to other identifiable intangible assets. Goodwill resulting from the Merger will not be amortized, but will be reviewed for impairment at least annually. Financial statements and reported results of operations of Luna issued after completion of the Merger will not be restated retroactively to reflect the historical financial position or results of operations of API.

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MATERIAL U.S. FEDERAL INCOME TAX CONSEQUENCES OF THE MERGER

The following discussion summarizes the material U.S. federal income tax consequences of the Merger to U.S. Holders (as defined below) of API common stock who exchange their API common stock for Luna common stock in connection with the Merger. This summary is based upon current provisions of the Code, existing Treasury Regulations promulgated thereunder and current administrative rulings and court decisions, all of which are subject to change and to differing interpretations, possibly with retroactive effect. Any such change could affect the continuing validity of this discussion. This discussion does not address any alternative minimum tax or any state, local or foreign tax consequences of the Merger. In addition, this summary assumes the truth and satisfaction of the statements and conditions described below as the basis for the tax opinions of Tarter Krinsky & Drogin LLP, tax counsel to API, and Cooley LLP, tax counsel to Luna.

This discussion addresses only API stockholders who are U.S. Holders and hold API common stock as a capital asset within the meaning of Section 1221 of the Code (generally, property held for investment). This discussion does not address all U.S. federal income tax consequences of the Merger that may be relevant to particular API stockholders that are subject to special treatment under U.S. federal income tax laws, including, without limitation:

dealers, brokers and traders in securities;

non-U.S. Holders;

tax-exempt entities;

financial institutions, mutual funds, regulated investment companies, real estate investment trusts or insurance companies;

entities or arrangements treated as partnerships for U.S. federal income tax purposes and investors in such partnerships;

holders who are subject to the alternative minimum tax provisions of the Code;

holders who acquired their shares of API common stock in connection with stock option or stock purchase plans or in other compensatory transactions;

holders who hold their shares of API common stock as part of an integrated investment such as a hedge or as part of a hedging, straddle or other risk reduction strategy;

persons who are non-U.S. holders;

U.S. expatriates; or

holders who have a functional currency other than the U.S. dollar.

For purposes of this discussion, U.S. Holder refers to a beneficial owner of API common stock that is, for U.S. federal income tax purposes, (1) an individual who is a citizen or resident of the United States; (2) a corporation, or other entity taxable as a corporation for U.S. federal income tax purposes, created or organized in or under the laws of the United States or any political subdivision thereof; (3) an estate, the income of which is subject to U.S. federal income taxation regardless of its source; or (4) a trust if it (i) is subject to the primary supervision of a court within the United States and one or more U.S. persons have the authority to control all substantial decisions of the trust, or (ii) has a valid election in effect under applicable U.S. Treasury regulations to be treated as a U.S. person. The term non-U.S. Holder means a beneficial owner of API common stock that is neither a U.S. Holder nor an entity or arrangement treated as a partnership for U.S. federal income tax purposes.

If an entity or arrangement treated as a partnership for U.S. federal income tax purposes holds API common stock, the tax treatment of a partner in such entity will generally depend upon the status of the partner and the activities of that partnership. A partner in a partnership holding API common stock should consult its tax advisor regarding the tax consequences of the Merger.

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In addition, this discussion does not address:

the tax consequences of transactions effectuated before, after or at the same time as the Merger, whether or not they are in connection with the Merger, including, without limitation, transactions in which shares of API common stock are acquired or expenses are reimbursed;

the tax consequences to holders of options or restricted stock units issued by API that are assumed, replaced, exercised or converted, as the case may be, in connection with the Merger; or

the tax consequences of the receipt of shares of Luna common stock other than in exchange for shares of API common stock.

API stockholders are advised to consult their tax advisors regarding the U.S. federal income tax consequences of the Merger in light of their personal circumstances and the consequences of the Merger under U.S. federal non-income tax laws and state, local and foreign tax laws.

The Merger has been structured to qualify as a reorganization within the meaning of Section 368(a) of the Code. As a condition to the completion of the Merger, Cooley LLP must render a tax opinion to Luna, and Tarter Krinsky & Drogin LLP must render a tax opinion to API, in each case dated as of the closing date of the Merger to the effect that the Merger will constitute a reorganization within the meaning of Section 368(a) of the Code. Neither Luna nor API intends to waive these conditions, and such conditions may not be waived without the approval of Luna and API stockholders.

These tax opinions will be based on customary assumptions and the truth and accuracy, as of the completion of the Merger, of certain representations and covenants made in representation letters by Luna, Merger Sub and API. The accuracy of those assumptions, representations and covenants may affect the conclusions set forth in these opinions, in which case the U.S. federal income tax consequences of the transaction could differ from those discussed herein. These tax opinions are not binding on the IRS or any court. In addition, no ruling from the IRS has been or will be requested regarding the U.S. federal income tax consequences of the Merger. Accordingly, there can be no assurance that the IRS will not disagree with or challenge any of the conclusions described therein and that such contrary position could be sustained by a court.

Subject to the qualifications and limitations set forth above and assuming the Merger qualifies as a reorganization within the meaning of Section 368(a) of the Code, the material U.S. federal income tax consequences to U.S. Holders of API common stock are as follows:

U.S. Holders of API common stock will recognize no gain or loss upon the receipt of Luna common stock for their API common stock, except with respect to cash received in lieu of fractional shares of Luna common stock (as discussed below);

the aggregate tax basis of the shares of Luna common stock that are received by U.S. Holders of API common stock in the Merger (including any fractional shares deemed received and exchanged for cash) will

be equal to the aggregate tax basis of the shares of API common stock surrendered in exchange therefor; and

the holding period of the shares of Luna common stock received by a U.S. Holder of API common stock in connection with the Merger will include the holding period of the shares of API common stock surrendered in exchange therefor.

A U.S. Holder of API common stock who receives cash in lieu of a fractional share of Luna common stock generally will be treated as having received such fractional share in the Merger and then as having received cash in exchange for such fractional share. Gain or loss generally will be recognized based on the difference, if any, between such stockholder's basis in the fractional share and the amount of cash received. Any such gain or loss generally will be long-term capital gain or loss if, as of the effective date of the Merger, the U.S. Holder's holding period in the API common stock exchanged is more than one year; otherwise, such capital gain will be short-term capital gain.

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API stockholders that immediately prior to the Merger owned at least five percent (by vote or value) of the total outstanding stock of API or API stock with a tax basis of \$1.0 million or more are required to attach a statement to their tax returns for the year in which the Merger is completed setting forth certain information listed in Treasury Reg. 1.368-3(b) pertaining to the Merger. In addition, all API stockholders must retain permanent records of certain information relating to the Merger.

For the purposes of the above discussion of basis and holding periods for shares of API common stock and Luna common stock, stockholders who acquired different blocks of API common stock at different times for different prices must calculate their basis, gains and losses and holding periods separately for each identifiable block of such stock exchanged or received in the Merger.

If the Merger does not qualify as a reorganization within the meaning of Section 368(a) of the Code, then a U.S. Holder of API common stock that receives Luna common stock in the Merger would generally recognize capital gain or loss equal to the difference between the fair market value of the Luna common stock and cash for fractional shares received and such holder's tax basis in the API common stock surrendered. U.S. Holders that realize a loss should consult their tax advisors regarding allowance of this loss.

Information Reporting and Backup Withholding.

Payments in lieu of fractional shares of Luna common stock may, under certain circumstances, be subject to information reporting and backup withholding unless the recipient provides proof of an applicable exemption or furnishes its taxpayer identification number, and otherwise complies with all applicable requirements of the backup withholding rules. Any amounts withheld under the backup withholding rules are not additional taxes and will be allowed as a refund or credit against such API stockholders' U.S. federal income tax liability, provided the information is timely furnished to the IRS.

THE PRECEDING DISCUSSION IS INTENDED ONLY AS A SUMMARY OF CERTAIN FEDERAL INCOME TAX CONSEQUENCES OF THE MERGER AND DOES NOT PURPORT TO BE A COMPLETE ANALYSIS OR DISCUSSION OF ALL POTENTIAL TAX EFFECTS RELEVANT THERETO. EACH API STOCKHOLDER IS STRONGLY URGED TO CONSULT HIS, HER OR ITS TAX ADVISOR TO DETERMINE THE PARTICULAR U.S. FEDERAL, STATE, LOCAL OR FOREIGN INCOME OR OTHER TAX CONSEQUENCES OF THE MERGER TO SUCH API STOCKHOLDER.

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THE MERGER AGREEMENT

The following is a summary of the material provisions of the Merger Agreement. This summary does not purport to describe all the terms of the Merger Agreement and is qualified by reference to the complete Merger Agreement, which is attached as Annex A to this joint proxy statement/prospectus and incorporated by reference. You should read the Merger Agreement in its entirety, as it represents the legal document governing the Merger.

Explanatory Note Regarding the Merger Agreement

The Merger Agreement is included to provide you with information regarding its terms. Factual disclosures about Luna and API contained in this joint proxy statement/prospectus or in the public reports of Luna and API filed with the SEC may supplement, update or modify the factual disclosures about Luna and API contained in the Merger Agreement. The Merger Agreement contains representations and warranties by Luna, on the one hand, and by API, on the other hand, made solely for the benefit of the other party. The representations, warranties and covenants made in the Merger Agreement by Luna and API are qualified and subject to important limitations agreed to by Luna and API in connection with negotiating the terms of the Merger Agreement. In particular, in your review of the representations and warranties contained in the Merger Agreement and described in this summary, it is important to bear in mind that the representations and warranties were negotiated with the principal purpose of establishing circumstances in which a party to the Merger Agreement may have the right not to consummate the Merger if the representations and warranties of the other party prove to be untrue due to a change in circumstance or otherwise, and allocating risk between the parties to the Merger Agreement, rather than establishing matters as fact. The representations and warranties also may be subject to a contractual standard of materiality different from that generally applicable to stockholders and reports and documents filed with the SEC and were qualified by the matters contained in the disclosure schedules that API and Luna each delivered in connection with the Merger Agreement and certain documents filed with the SEC. Moreover, information concerning the subject matter of the representations and warranties, which do not purport to be accurate as of the date of this joint proxy statement/prospectus, may have changed since the date of the Merger Agreement. Accordingly, the representations and warranties in the Merger Agreement should not be relied on by any persons as characterizations of the actual state of facts about Luna or API at the time they were made or otherwise.

The Merger

Pursuant to the Merger Agreement, API Merger Sub, Inc., a wholly owned subsidiary of Luna, will merge with and into API. API will survive the Merger and, as a result, will become a wholly owned subsidiary of Luna. The directors and officers of the surviving corporation at the Effective Time will be mutually agreed upon by Luna and API prior to the Effective Time. The certificate of incorporation and bylaws of the surviving corporation will be amended and restated at the Effective Time in the form agreed to by Luna and API pursuant to the Merger Agreement. The Merger is intended to constitute a reorganization for federal income tax purposes.

Timing of Closing and Effective Time

The closing of the Merger will take place on the second business day after satisfaction or waiver of all the conditions to the Merger (except for those conditions to be satisfied at closing), unless another time or date is agreed to by the parties.

Luna and API cannot assure you when, or if, all the conditions to completion of the Merger will be satisfied or waived or that the Merger will not be terminated. See **Conditions To The Merger and Termination**. The parties intend to complete the Merger as promptly as practicable, subject to the satisfaction or waiver of a number of customary closing conditions in the Merger Agreement, including, among others, the effectiveness of this registration statement, the

adoption of the Merger Agreement and approval of the transactions contemplated thereby by API's stockholders, approval by Luna's stockholders of the issuance of shares of Luna common stock, the absence of certain governmental restraints and the absence of a material adverse effect on Luna or API.

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The Merger will be completed and become effective when the certificate of merger is filed with the Secretary of State of the State of Delaware or at such later date or time as specified in the certificate of merger.

Merger Consideration

Stock Payment

At the completion of the Merger, holders of API common stock issued and outstanding prior to the completion of the Merger will have the right to receive 0.31782 shares of Luna common stock for each share of API common stock.

No fractional shares of Luna common stock will be issued in connection with the Merger, and no certificates or scrip for any such fractional shares will be issued. Any holder of API common stock who would otherwise be entitled to receive a fraction of a share of Luna common stock (after aggregating all fractional shares of Luna common stock issuable to such holder) shall, in lieu of such fraction of a share and upon surrender of such holder's API stock certificate(s), or non-certificated shares of API common stock represented by book entry, be paid in cash the dollar amount (rounded to the nearest whole cent), without interest, determined by multiplying such fraction by the closing price of a share of Luna common stock on the NASDAQ Capital Market on the last business day prior to the date on which the Merger becomes effective.

Common Stock Options, Restricted Stock and Warrants

Treatment of Options

At 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 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.

Treatment of Restricted Stock

At the Effective Time, 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 Luna shall assume such shares of API restricted common stock.

Treatment of Warrants

At the Effective Time, 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, each warrant to acquire API common stock outstanding immediately prior to the Effective Time will be assumed or substituted by Luna, 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 this Merger and the Exchange Ratio.

Exchange of API Stock Certificates

Exchange Agent

Luna has appointed American Stock Transfer & Trust Company (the Exchange Agent) to serve as exchange and payment agent to handle the exchange of API stock certificates for Luna common stock. On or prior to the Closing Date, Luna will cause to be deposited with the Exchange Agent a sufficient number of certificates representing whole shares of Luna common stock to make all deliveries required under the Merger Agreement.

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Payment Procedures

Promptly after the Effective Time, the Exchange Agent will mail to each former API common stockholder a (i) form of letter of transmittal and (ii) instructions explaining the procedure for surrendering API stock certificates for payment therefor.

Stock certificates and book entry shares should not be surrendered for exchange by API stockholders prior to the completion of the Merger and should be sent only pursuant to instructions set forth in the letters of transmittal, which the Merger Agreement provides will be mailed to API stockholders promptly following the completion of the Merger. In all cases, the certificates representing shares of Luna common stock and cash in lieu of fractional shares will be delivered only in accordance with the procedures set forth in the letter of transmittal.

Upon delivery to the Exchange Agent of the API certificates, along with the properly completed letter of transmittal duly executed and any other required documents, the Exchange Agent will deliver to the holder:

a stock certificate representing the number of whole shares of Luna common stock such holder has a right to receive pursuant to the Merger Agreement; and

cash in lieu of any fractional shares required to be delivered pursuant to the Merger Agreement.

Each API stock certificate and book entry share so surrendered to the Exchange Agent will thereafter be cancelled and retired.

If any API stock certificate has been lost, stolen or destroyed, Luna may, in its discretion and as a condition to the issuance of any non-certificated shares of Luna common stock in book entry form, require the owner of such lost, stolen or destroyed API stock certificate to post a bond, in such reasonable and customary amount as Luna may direct, as indemnity against any claim that may be made against Exchange Agent, Luna or API with respect to such API stock certificate.

From and after the Effective Time, until it is surrendered and exchanged, each certificate that previously evidenced API common stock and each book entry share will be deemed, from and after the Effective Time, to represent only the right to receive shares of Luna common stock (and cash in lieu of any fractional share of Luna common stock) in accordance with the terms of the Merger Agreement. Luna will not pay dividends or other distributions, if any, on any shares of Luna common stock to be issued in exchange for any unsurrendered API common stock certificate or book entry share until the API common stock certificate or book entry share is surrendered as provided in the Merger Agreement (at which time such holder shall be entitled, subject to abandoned property and similar laws, to receive all such dividends and distributions, without interest).

The Merger Agreement contemplates that, upon any demand by Luna following the first anniversary of the Effective Time, the Exchange Agent will deliver to Luna any shares of Luna common stock and any deposited funds which have not been disbursed to holders of API stock certificates or book entry shares. Any holders of API stock certificates or book entry shares who have not surrendered such certificates or book entry shares in compliance with the above-described procedures may thereafter look only to Luna for satisfaction of their claims for Luna common stock, cash in lieu of fractional shares of Luna common stock and any dividends or distributions with respect to shares of Luna common stock.

Representations and Warranties

The Merger Agreement contains a number of representations and warranties made by API to Luna and API Merger Sub, Inc., and by Luna and API Merger Sub, Inc. to API. Some of these representations and warranties are qualified as to materiality, knowledge, or the disclosures made by Luna or API in certain of their respective filings with the SEC or in their respective disclosure schedules.

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The representations and warranties made by API include, but are not limited to, those regarding:

capitalization;

corporate organization and good standing;

corporate power and authority to enter into and perform API's obligations under the Merger Agreement and, subject to receipt of API stockholder approval, to consummate the transactions contemplated thereby;

absence of violation or breach of its corporate governance documents, certain contracts and agreements and laws at the time of the Merger;

accuracy of certain financial statements and compliance with the filing requirements of the SEC;

no material change in API's accounting principles, methods or policies except as required by concurrent changes in generally accepted accounting principles, and the existence of internal controls over financial reporting;

the absence of broker's fees, other than those specified in the Merger Agreement;

the existence of any pending or served legal proceedings;

material indebtedness, obligations, and liabilities;

tax matters;

employee and labor matters and API's employee benefit plans;

certain API contracts and API's property and assets, including intellectual property;

compliance with laws, including environmental laws and the absence of unlawful payments and contributions;

accuracy of information supplied for use in this joint proxy statement/ prospectus and the registration statement of which it is a part; and

the receipt of a fairness opinion with respect to the consideration to be received by the holders of API common stock in the Merger.

The representations and warranties made by Luna include, but are not limited to, those regarding:

capitalization;

corporate organization and good standing;

corporate power and authority to enter into the Merger Agreement to consummate the transactions contemplated thereby, subject to receipt of Luna stockholder approval;

absence of violation or breach of its corporate governance documents, certain contracts and agreements and laws at the time of the Merger;

accuracy of certain financial statements and compliance with the filing requirements of the SEC;

no material change in Luna's accounting principles, methods or policies except as required by concurrent changes in generally accepted accounting principles, and the existence of internal controls over financial reporting;

the absence of broker's fees, other than those specified in the Merger Agreement;

the existence of any pending or served legal proceedings;

material indebtedness, obligations, and liabilities;

tax matters;

employee and labor matters and Luna's employee benefit plans;

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certain Luna contracts and Luna's property and assets, including intellectual property;

compliance with laws, including environmental laws and the absence of unlawful payments and contributions;

accuracy of information supplied for use in this joint proxy statement/ prospectus and the registration statement of which it is a part; and

the receipt of a fairness opinion with respect to the Exchange Ratio.

Covenants

Conduct of API's Business Prior to Completion of The Merger

API has agreed to certain restrictions on the manner in which it will carry on its business until either completion of the Merger or the termination of the Merger Agreement. In general, except as specifically contemplated by the Merger Agreement, or to the extent Luna consents in writing, API will conduct its business in the ordinary course and consistent with past practices and use commercially reasonable efforts to preserve the material components of its current business organization, keep available the services of its current officers and directors, and maintain its relations and goodwill with all material suppliers, material customers, material licensors and governmental bodies. In addition, API has agreed that, subject to specified exceptions or the written consent of Luna, it will not, among other things:

declare, accrue, set aside or pay any dividend or make any other distribution in respect of any shares of capital stock, or repurchase, redeem or otherwise reacquire any shares of capital stock or other securities;

effect or become a party to any merger, consolidation, share exchange, business combination, amalgamation, recapitalization, reclassification of shares, stock split, reverse stock split, division or subdivision of shares, consolidation of shares or similar transaction;

sell, issue, grant or authorize the sale, issuance or grant of shares of its capital stock or securities convertible into any shares of its capital stock;

amend its certificate of incorporation or bylaws;

enter into or become bound by, or permit any of the assets owned or used by it to become bound by, any new material contract or amend, terminate, or waive any material right or remedy under, any existing material contract;

establish, adopt, enter into or amend any employee plan or employee agreement, pay any bonus or make any profit-sharing or similar payment to, pay any severance, retention or change-of-control or similar benefits, or increase the amount of the wages, salary, commissions, fringe benefits or other compensation (including equity-based compensation, whether payable in stock, cash or other property) or remuneration payable to, any of its directors or any of its officers or other employees;

lend money to any person or incur or guarantee any indebtedness;

acquire, lease or license any right or other asset or sell or otherwise dispose of, or lease or license, any right or other asset;

settle any legal proceeding or other material claim, other than pursuant to a settlement that results solely in monetary obligation involving payment of the amount specifically reserved in accordance with GAAP with respect to such legal proceedings or claim on API's audited balance sheet or that results solely in monetary obligation involving only the payment of monies by API of not more than \$200,000 in the aggregate; or

take any action that would reasonably be expected to cause the Merger to fail to qualify as a reorganization under Section 368(a) of the Code or fail to take any action reasonably necessary to cause the Merger to so qualify.

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Conduct of Luna's Business Prior to Completion of The Merger

Luna has also agreed to certain restrictions on the manner in which it will carry on its business until either completion of the Merger or the termination of the Merger Agreement. In general, except as specifically contemplated by the Merger Agreement, or to the extent API consents in writing, Luna will conduct its business in the ordinary course and consistent with past practices and use commercially reasonable efforts to preserve the material components of its current business organization, keep available the services of its current officers and directors, and maintain its relations and goodwill with all material suppliers, material customers, material licensors and governmental bodies. In addition, Luna has agreed that, subject to specified exceptions or the written consent of API, it will not, among other things:

declare, accrue, set aside or pay any dividend or make any other distribution in respect of any shares of capital stock, or repurchase, redeem or otherwise reacquire any shares of capital stock or other securities;

effect or become a party to any merger, consolidation, share exchange, business combination, amalgamation, recapitalization, reclassification of shares, stock split, reverse stock split, division or subdivision of shares, consolidation of shares or similar transaction;

sell, issue, grant or authorize the sale, issuance or grant of shares of its capital stock or securities convertible into any shares of its capital stock;

amend its certificate of incorporation or bylaws;

enter into or become bound by, or permit any of the assets owned or used by it to become bound by, any new material contract or amend, terminate, or waive any material right or remedy under, any existing material contract;

establish, adopt, enter into or amend any employee plan or employee agreement, pay any bonus or make any profit-sharing or similar payment to, pay any severance, retention or change-of-control or similar benefits, or increase the amount of the wages, salary, commissions, fringe benefits or other compensation, including equity-based compensation, whether payable in stock, cash or other property, or remuneration payable to, any of its directors or any of its officers or other employees;

lend money to any person or incur or guarantee any indebtedness;

acquire, lease or license any right or other asset or sell or otherwise dispose of, or lease or license, any right or other asset;

settle any legal proceeding or other material claim, other than pursuant to a settlement that results solely in monetary obligation involving payment of the amount specifically reserved in accordance with GAAP with respect to such legal proceedings or claim on Luna's audited balance sheet or that results solely in monetary obligation involving only the payment of monies by Luna of not more than \$200,000 in the aggregate; or

take any action that would reasonably be expected to cause the Merger to fail to qualify as a reorganization under Section 368(a) of the Code or fail to take any action reasonably necessary to cause the Merger to so qualify.

Conditions To The Merger

The obligations of all parties to complete the Merger are subject to a number of customary conditions, subject to exceptions specified in the Merger Agreement or set forth in the confidential disclosure schedules exchanged by Luna and API, including the following:

adoption of the Merger Agreement and approval of the transactions contemplated thereby by the API stockholders;

approval of the issuance of the shares of Luna common stock pursuant to the Merger Agreement by the Luna stockholders;

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absence of any legal restraints or prohibitions preventing the consummation of the Merger or making the Merger illegal;

effectiveness of the registration statement of which this joint proxy statement/prospectus is a part and the absence of any stop order suspending its effectiveness;

any governmental authorization or other consent required to be obtained with respect to the Merger under any legal requirement must have been obtained and remain in full force and effect;

authorization of shares of Luna common stock to be issued in the Merger have been authorized for listing on the NASDAQ Capital Market; and

absence of any legal proceeding in which a governmental body with jurisdiction over the parties is a party: (a) challenging or seeking to restrain, prohibit, rescind or unwind the consummation of the Merger or any of transactions contemplated thereby; (b) seeking to prohibit or limit in any material respect Luna's ability to vote, transfer, receive dividends with respect to or otherwise exercise ownership rights with respect to the stock of API; (c) that would reasonably be expected to materially and adversely affect the right or ability of Luna or API to own any of the material assets or materially limit the operation of the business of API; (d) seeking to compel Luna or API to dispose of or hold separate any material assets or material business as a result of the Merger or any of the transactions contemplated thereby; or (e) relating to the Merger or the transactions contemplated thereby and seeking to impose any criminal sanctions or criminal liability on Luna or API.

Additionally, unless waived by Luna, Luna's obligations to complete the Merger are subject to a number of customary conditions, subject to exceptions specified in the Merger Agreement or set forth in the confidential disclosure schedules exchanged by Luna and API, including the following:

certain representations and warranties of API being accurate in all material respects, both as of the date of the Merger Agreement and the Effective Time;

API's performance or compliance in all material respects of all of its covenants and obligations under the Merger Agreement at or prior to the Effective Time;

receipt of an opinion from Cooley LLP regarding tax matters and receipt of a certificate executed by the chief executive officer of API that specified closing conditions have been satisfied;

absence of a material adverse effect on API and absence of any event or circumstance that, in combination with any other events or circumstances, would reasonably be expected to have or result in a material adverse effect on API;

receipt from API of a statement described in Section 1.1445-2(c)(3)(i) of the United States Treasury Regulations certifying the interests in API are not U.S. real property interests; and

receipt from API of (i) payoff letters in a form reasonably acceptable to Luna with respect to API's debt (other than SVB debt) for borrowed money as of immediately prior to the Effective Time, and (ii) evidence that all encumbrances relating to API's debt (other than SVB debt) for borrowed money as of immediately prior to the Effective Time have been removed.

Further, unless waived by API, API's obligations to complete the Merger are subject to a number of customary conditions, subject to exceptions specified in the Merger Agreement or set forth in the confidential disclosure schedules exchanged by Luna and API, including the following:

certain representations and warranties of Luna being accurate in all material respects, both as of the date of the Merger Agreement and the Effective Time;

Luna's performance or compliance in all material respects of all of its covenants and obligations under the Merger Agreement at or prior to the Effective Time;

receipt of an opinion from Tarter Krinsky & Drogin LLP regarding tax matters and receipt of a certificate executed by the chief executive officer of Luna; and

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absence of a material adverse effect on Luna and absence of any event or circumstance that, in combination with any other events or circumstances, would reasonably be expected to have or result in a material adverse effect on Luna.

Other Covenants

The Merger Agreement contains certain other covenants and agreements, including covenants relating to preparation and distribution of this joint proxy statement/prospectus, public announcements, and cooperation regarding certain filings with governmental and other agencies and organizations. In addition, the Merger Agreement contains a general covenant requiring each of the parties to use its reasonable best efforts to consummate the Merger and make effective the transactions contemplated thereby.

Stockholder Meetings

API has agreed to convene and hold a meeting of its stockholders as promptly as practicable after this registration statement is declared effective to vote upon the adoption of the Merger Agreement and the approval of the transactions contemplated thereby. Luna has agreed to convene and hold a meeting of its stockholders on the same date as the meeting of API's stockholders to vote upon the issuance of shares of Luna common stock in connection with the Merger Agreement. Luna and API have agreed to use their reasonable best efforts to hold Luna's stockholder meeting and API's stockholder meeting on the same date.

No Solicitation

The Merger Agreement provides that during the period beginning on the date of the Merger Agreement and continuing until the earlier of the termination of the Merger Agreement or the Effective Time, subject to specified exceptions, API will not, and will not permit its directors, officers, other employees, agents, attorneys, accountants, investment bankers, other advisors and representatives to:

solicit, initiate, knowingly encourage or knowingly facilitate the making, submission or announcement of any acquisition proposal or acquisition inquiry with respect to API;

knowingly furnish any information regarding API to any person in connection with or in response to an acquisition proposal or inquiry;

engage in discussions or negotiations with any person relating to any acquisition proposal or acquisition inquiry with respect to API;

approve, endorse or recommend any acquisition proposal or acquisition inquiry with respect to API; or

enter into any letter of intent or similar document or any contract contemplating or otherwise relating to any acquisition proposal or inquiry with respect to API.

However, prior to the adoption of the Merger Agreement by API's stockholders, nothing in the Merger Agreement prohibits API from furnishing information regarding API to, or entering into discussions and negotiations with, any

person in response to an acquisition proposal that API's board of directors determines in good faith is reasonably likely to lead to an API Superior Offer (as defined below) and that is submitted to API by such person (and not withdrawn) if: (A) such acquisition proposal did not result from any material breach of any of the non-solicitation provisions of the Merger Agreement; (B) API's board of directors concludes in good faith, after having consulted with its outside legal counsel, that failure to take such action would be inconsistent with the fiduciary duties of the API's board of directors to API's stockholders under applicable law; (C) prior to furnishing any such information to, or entering into discussions or negotiations with, such person, API gives Luna written notice of the identity of such person and of API's intention to furnish information to, or enter into discussions with, such person, and API receives from such person an executed confidentiality agreement containing provisions at least as favorable to API as the provisions of the confidentiality agreement with Luna as in effect immediately prior to the execution of the Merger Agreement; and (D) contemporaneously with

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furnishing any such information to Luna to such person, API furnishes such information to Luna (to the extent such information has not been previously furnished or made available to Luna).

API Superior Offer means an unsolicited bona fide written offer by a third party to purchase or otherwise acquire all or substantially all of the outstanding shares of API's common stock (whether through a tender offer, merger or otherwise) or all or substantially all of the assets of API, that is determined by API's board of directors, in its good faith judgment, after consulting with its outside financial advisor and outside legal counsel, and after taking into account the terms and conditions of the offer, including the likelihood and anticipated timing of consummation and all other financial, regulatory, legal and other aspects of such offer, including any financing condition, to be more favorable from a financial point of view to API's stockholders than the Merger.

The Merger Agreement also provides that during the period beginning on the date of the Merger Agreement and continuing until the earlier of the termination of the Merger Agreement or the Effective Time, subject to specified exceptions, Luna will not, and will not permit its directors, officers, other employees, agents, attorneys, accountants, investment bankers, other advisors and representatives to:

solicit, initiate, knowingly encourage or knowingly facilitate the making, submission or announcement of any acquisition proposal or acquisition inquiry with respect to Luna;

knowingly furnish any information regarding Luna to any person in connection with or in response to an acquisition proposal or acquisition inquiry;

engage in discussions or negotiations with any person relating to any acquisition proposal or acquisition inquiry with respect to Luna;

approve, endorse or recommend any acquisition proposal or acquisition inquiry with respect to Luna; or

enter into any letter of intent or similar document or any contract contemplating or otherwise relating to any acquisition with respect to Luna proposal or inquiry.

However, prior to the approval of the issuance of shares pursuant to the Merger by Luna's stockholders, nothing in the Merger Agreement prohibits Luna from furnishing information regarding Luna to, or entering into discussions and negotiations with, any person in response to an acquisition proposal that Luna's board of directors determines in good faith is reasonably likely to lead to a Luna Superior Offer (as defined below) and that is submitted to Luna by such person (and not withdrawn) if: (A) such acquisition proposal did not result from any material breach of any of the non-solicitation provisions of the Merger Agreement; (B) Luna's board of directors concludes in good faith, after having consulted with its outside legal counsel, that failure to take such action would be inconsistent with the fiduciary duties of Luna's board of directors to Luna's stockholders under applicable law; (C) prior to furnishing any such information to, or entering into discussions or negotiations with, such person, Luna gives API written notice of the identity of such person and of Luna's intention to furnish information to, or enter into discussions with, such person, and Luna receives from such person an executed confidentiality agreement containing provisions at least as favorable to Luna as the provisions of the confidentiality agreement with API as in effect immediately prior to the execution of the Merger Agreement; and (D) contemporaneously with furnishing any such information to such person,

Luna furnishes such information to API (to the extent such information has not been previously furnished or made available to API).

Luna Superior Offer means an unsolicited bona fide written offer by a third party to purchase or otherwise acquire all or substantially all of the outstanding shares of Luna's common stock (whether through a tender offer, merger or otherwise) or all or substantially all of the assets of Luna, that is determined by Luna's board of directors, in its good faith judgment, after consulting with its outside financial advisor and outside legal counsel, and after taking into account the terms and conditions of the offer, including the likelihood and anticipated timing of consummation and all other financial, regulatory, legal and other aspects of such offer, including any financing condition, to be more favorable from a financial point of view to Luna's stockholders than the Merger.

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Termination

The Merger Agreement may be terminated at any time prior to the Effective Time:

by mutual written consent of Luna and API;

by either party, if the Merger is not consummated by August 31, 2015, unless the failure to consummate the Merger by such date is attributable to a failure on the part of the terminating party to perform any covenant or obligation in the Merger Agreement required to be performed by such party at or prior to the Effective Time;

by either party if a court of competent jurisdiction or other governmental body has issued a final and nonappealable order, or has taken any other action, having the effect of permanently restraining, enjoining or otherwise prohibiting the Merger, unless such order or other action is attributable to a failure on the part of the terminating party to perform any covenant or obligation in the Merger Agreement required to be performed by such party at or prior to the Effective Time;

by either party, if API's stockholders do not adopt the Merger Agreement and approve the transactions contemplated thereby, or Luna's stockholders do not approve the issuance of shares of Luna common stock in the Merger, unless the failure of API's stockholders to adopt the Merger Agreement and approve the transactions contemplated thereby or of Luna's stockholders to approve the issuance of shares of Luna common stock in the Merger is attributable to a failure on the part of the terminating party to perform any covenant or obligation in the Merger Agreement required to be performed by such party at or prior to the Effective Time;

by Luna, if any of the API's representations and warranties contained in the Merger Agreement were inaccurate as of the date of the Merger Agreement, or have become inaccurate as of a date subsequent to the date of the Merger Agreement, subject to exceptions specified in the Merger Agreement or set forth in the confidential disclosure schedules exchanged by Luna and API, or any of the API's covenants or obligations contained in the Merger Agreement have been materially breached; *provided, however*, that if an inaccuracy in any of the API's representations and warranties or a breach of a covenant or obligation by API is curable by August 31, 2015 and API is continuing to exercise its reasonable best efforts to cure such inaccuracy or breach, then Luna may not terminate the Merger Agreement on account of such inaccuracy or breach unless such inaccuracy or breach remains uncured for a period of 30 days after the date that Luna gives API notice of such inaccuracy or breach;

by API, if any of the Luna's representations and warranties contained in the Merger Agreement were inaccurate as of the date of the Merger Agreement, or have become inaccurate as of a date subsequent to the date of the Merger Agreement, subject to exceptions specified in the Merger Agreement or set forth in the confidential disclosure schedules exchanged by Luna and API, or any of the Luna's covenants or obligations contained in the Merger Agreement have been materially breached; *provided, however*, that if an inaccuracy

in any of the Luna's representations and warranties or a breach of a covenant or obligation by Luna is curable by August 31, 2015 and Luna is continuing to exercise its reasonable best efforts to cure such inaccuracy or breach, then API may not terminate the Merger Agreement on account of such inaccuracy or breach unless such inaccuracy or breach remains uncured for a period of 30 days after the date that API gives Luna notice of such inaccuracy or breach;

by Luna (at any time prior to the adoption of the Merger Agreement by API's stockholders) if an API Triggering Event has occurred; an API Triggering Event will be deemed to have occurred if: (a) the API board of directors fails to recommend that API's stockholders vote to adopt the Merger Agreement or withdraws or modifies such recommendation in a manner adverse to Luna; (b) API fails to include in the joint proxy statement/prospectus API's board of directors recommendation and a statement to the effect that API's board of directors has determined and believes that the Merger Agreement and the Merger are advisable and fair to, and in the best interests of, API and its stockholders; (c) API effects an API Change in Recommendation (as defined below) or (d) API breaches, or is deemed to have breached, in any material respect, the non-solicitation provisions of the Merger Agreement or the provisions related to API's stockholder meeting;

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by API (at any time prior to the approval of the issuance of the shares of Luna's Common Stock in the Merger by Luna's stockholders) if a Luna Triggering Event has occurred; a Luna Triggering Event will be deemed to have occurred if: (a) the Luna board of directors fails to recommend that Luna's stockholders vote to approve the issuance of shares of Luna common stock in the Merger or withdraws or modifies such recommendation in a manner adverse to API; (b) Luna fails to include in the joint proxy statement/prospectus Luna's board of directors recommendation and a statement to the effect that Luna's board of directors has determined and believes that the Merger Agreement and the Merger are advisable and fair to, and in the best interests of, Luna and its stockholders; (c) Luna effects a Luna Change in Recommendation (as defined below) or (d) Luna breaches, or is deemed to have breached, in any material respect, the non-solicitation provisions of the Merger Agreement or the provisions related to Luna's stockholder meeting;

by Luna (at any time prior to the approval of the issuance of the shares of Luna common stock in the Merger by Luna's stockholders) in order to accept a Luna Superior Offer if (i) such Luna Superior Offer did not result from a material breach of the non-solicitation provisions of the Merger Agreement and (ii) Luna's board of directors has authorized Luna to enter into a binding written definitive agreement providing for the consummation of a transaction constituting a Luna Superior Offer and Luna shall have simultaneously paid the specified termination fee; or

by API (at any time prior to the adoption of the Merger Agreement by API's stockholders) in order to accept an API Superior Offer if (i) such API Superior Offer has not resulted from a material breach of the non-solicitation provisions of the Merger Agreement and (ii) API's board of directors has authorized API to enter into a binding written definitive agreement providing for the consummation of a transaction constituting an API Superior Offer and API has simultaneously paid the specified termination fee.

API Change in Recommendation means (i) API's board recommendation has been directly or indirectly withdrawn or modified in a manner adverse to Luna or (ii) API's board of directors or a committee thereof has: (A) failed to include API's board recommendation in the joint proxy statement/prospectus; (B) recommended, adopted or approved, or proposed publicly to recommend, adopt or approve, an acquisition proposal with respect to API; (C) failed to publicly reaffirm API's board recommendation within five business days after Luna requests in writing that such action be taken; or (D) resolved to take any of the foregoing actions.

Luna Change in Recommendation means (i) Luna's board recommendation has been directly or indirectly withdrawn or modified in a manner adverse to API or (ii) Luna's board of directors or a committee thereof has: (A) failed to include Luna's board recommendation in the joint proxy statement/prospectus; (B) recommended, adopted or approved, or proposed publicly to recommend, adopt or approve, an acquisition proposal with respect to Luna; (C) failed to publicly reaffirm Luna's board recommendation within five business days after API requests in writing that such action be taken; or (D) resolved to take any of the foregoing actions.

Effects of Termination

If the Merger Agreement is terminated as described above, it will be of no further force or effect, except with respect to the treatment of confidential information, payment of expenses and fees and certain other provisions as provided for in the Merger Agreement. The termination of the Merger Agreement will not relieve any party from any liability for any willful and material inaccuracy in or breach of any representation, warranty, covenant, obligation or other provision contained in the Merger Agreement.

Termination Fee

API will be required to pay a termination fee of \$750,000 to Luna if the Merger Agreement is terminated under the following circumstances:

if Luna terminates the Merger at any time prior to the adoption of the Merger Agreement by API's stockholders because of an API Triggering Event;

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if API terminates the Merger at any time prior to the adoption of the Merger Agreement by API's stockholders in order to accept an API Superior Offer if (i) such API Superior Offer has not resulted from a material breach of the non-solicitation provisions of the Merger Agreement and (ii) API's board of directors has authorized API to enter into a binding written definitive agreement providing for the consummation of a transaction constituting an API Superior Offer and API has simultaneously paid the specified termination fee; or

if API or Luna terminate the Merger because, following an API Change in Recommendation, API's stockholders do not adopt the Merger Agreement and approve the transactions contemplated thereby. In addition, if the Merger Agreement is terminated by either API or Luna because API's stockholders do not adopt the Merger Agreement and approve the transactions contemplated thereby, in the absence of an API Change in Recommendation, then API shall pay to Luna a nonrefundable reimbursement fee of up to \$250,000.

Luna will be required to pay a termination fee of \$750,000 to API if the Merger Agreement is terminated under the following circumstances:

if API terminates the Merger at any time prior to the approval of the issuance of the shares of Luna common stock in the Merger by Luna's stockholders because of a Luna Triggering Event;

if Luna terminates the Merger at any time prior to the approval of the issuance of the shares of Luna common stock in the Merger by Luna's stockholders in order to accept a Luna Superior Offer if (i) such Luna Superior Offer did not result from a material breach of the non-solicitation provisions of the Merger Agreement and (ii) Luna's board of directors has authorized Luna to enter into a binding written definitive agreement providing for the consummation of a transaction constituting a Luna Superior Offer and Luna shall have simultaneously paid the specified termination fee; or

if API or Luna terminate the Merger, following a Luna Change in Recommendation, because Luna's stockholders do not approve the issuance of shares of Luna common stock in the Merger. In addition, if the Merger Agreement is terminated by either API or Luna because Luna's stockholders do not approve the issuance of shares of Luna common stock in the Merger, in the absence of a Luna Change in Recommendation, then Luna shall pay to API a nonrefundable reimbursement fee of up to \$250,000.

Expenses

All costs and expenses incurred in connection with the Merger Agreement will be paid by the party incurring such expense, except that Luna and API will share equally all out-of-pocket fees and expenses, other than accountants' and attorneys' fees, incurred in connection with the filing, printing and mailing of this joint proxy statement/prospectus, and the registration statement of which it is a part and any amendments or supplements thereto.

Amendment, Extensions, Waivers

Luna and API may amend the Merger Agreement in writing at any time with the approval of the respective boards of directors of API and Luna. However, after Luna and API have received stockholder approval, no amendments will be

made that require further approval by API s or Luna s respective stockholders without the further approval of such stockholders. Any amendment must be made in writing.

At any time prior to the completion of the Merger, Luna or API may extend the time for performance of any of the obligations or other acts of the parties, waive any inaccuracies in the representations and warranties in the Merger Agreement or in any document delivered pursuant to the Merger Agreement, or waive compliance with any of the agreements or conditions contained in the Merger Agreement. Any agreement of extension or waiver must be in writing.

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CERTAIN AGREEMENTS RELATED TO THE MERGER

The following summary describes the material provisions of certain agreements that have been entered into in connection with, or otherwise relate to, the Merger. Copies of these agreements are attached as exhibits to the Merger Agreement, which is attached as Annex A to this joint proxy statement/prospectus, and are incorporated by reference into this joint proxy statement/prospectus. The rights and obligations of the parties to these agreements are governed by the express terms and conditions of such agreements, respectively, and not by this summary. This summary may not contain all of the information about these agreements that may be important to the stockholders of Luna and API, and are qualified in their entirety by reference to the complete text of these agreements. Luna and API encourage you to read these agreements carefully and in their entirety for a more complete understanding of these agreements.

Luna Voting Agreements

In order to induce API to enter into the Merger Agreement, each of Luna's executive officers and directors entered into a voting agreement with Luna and API (collectively, the Luna Voting Agreements). As of January 30, 2015, existing Luna stockholders that entered into the Luna Voting Agreements owned an aggregate of 992,283 shares of Luna common stock, representing approximately 6.6% of Luna's outstanding common stock as of January 30, 2015. A copy of the form of Luna Voting Agreement is attached as Exhibit A-1 in Annex A to this joint proxy statement/prospectus.

The Luna Voting Agreements include the following provisions, among others:

The Luna stockholders who are parties to the Luna Voting Agreements have agreed, solely in their capacity as Luna stockholders, and among other things, to vote all of their shares of common stock in favor of the issuance of shares of Luna common stock in connection with the Merger Agreement and the transactions contemplated thereby and to not vote any Shares in favor of the approval of any (i) other acquisition transaction; (ii) any change in a majority of the board of directors of Luna; (iii) any amendment to Luna's certificate of incorporation or bylaws, which amendment would in any manner frustrate, prevent or nullify the Merger, the Merger Agreement or any transactions contemplated by the Merger Agreement or change in any manner the voting rights of any class of Luna's capital stock; (iv) any material change in the capitalization of Luna, or Luna's corporate structure; or (v) any other action which is intended, or could reasonably be expected, to impede, interfere with, delay, postpone, discourage or adversely affect the Merger or any of the other transactions contemplated by the Merger Agreement or the Luna Voting Agreements. The stockholders that are parties to the Luna Voting Agreements also granted Donald Pastor, API's chairman of the board of directors, and API an irrevocable proxy to vote their respective common stock in accordance with the terms of the Luna Voting Agreements.

The Luna Voting Agreements provide that each stockholder who is a party to the Luna Voting Agreements will not, subject to specified exceptions and among other things, sell, pledge, encumber, grant an option with respect to, transfer or dispose of, or enter into any agreement or commitment contemplating the possible sale of, pledge of, encumbrance of (other than restrictions imposed by applicable laws or legal requirements or pursuant to the Luna Voting Agreements), grant of an option with respect to, transfer of or disposition of, any Luna common stock beneficially owned by such stockholder, or grant any proxies with respect to such shares. Pursuant to the Luna Voting Agreements, each stockholder who is a party to the Luna Voting Agreements has also agreed not to: (i) make certain solicitations regarding any alternative acquisition proposal related to Luna; (ii) knowingly furnish any information regarding Luna in connection with an acquisition proposal; (iii) engage in discussions or negotiations with any person relating to any acquisition proposal with respect to Luna; (iv) approve, endorse or recommend any alternative acquisition proposal with respect to Luna; (v) enter into any letter of intent or similar document relating to any alternative acquisition transaction with respect to Luna; (vi) make any disclosure or communication to any person of or with respect to any non-public information relating to the Merger or indicating that such stockholder is against the

Merger or any of the transactions contemplated thereby, subject to certain specified exceptions; (vii) take any action that could result in the revocation or invalidation of the proxy; and (viii) agree or publicly propose to take any actions prohibited by the Luna Voting Agreements.

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The Luna Voting Agreements will terminate upon the earliest to occur of: (i) the termination of the Merger Agreement in accordance with its terms; (ii) the date of any modification, waiver, change or amendment of the Merger Agreement executed after the date of the Luna Voting Agreements that is materially adverse to the Luna stockholders or that results in a (a) decrease in the Exchange Ratio or (b) change in the form of consideration payable to the Luna stockholders under the Merger Agreement; and (iii) the Effective Time.

API Voting Agreements

In order to induce Luna to enter into the Merger Agreement, each of API's executive officers and directors entered into a voting agreement with Luna and API (collectively, the API Voting Agreements). As of January 30, 2015, API stockholders that entered into these API Voting Agreements owned an aggregate of 4,022,152 shares of API common stock, representing approximately 10.8% of the outstanding API common stock as of January 30, 2015. A copy of the form of API Voting Agreement is attached as Exhibit A-2 in Annex A to this joint proxy statement/prospectus.

The API Voting Agreements include the following provisions, among others:

The stockholders who are parties to the API Voting Agreements have agreed, solely in their capacity as stockholders, and among other things, to vote all of their shares of common stock in favor of the adoption of the Merger Agreement and approval of the transactions contemplated thereby and to not vote any Shares in favor of the approval of any (i) other acquisition transaction; (ii) any change in a majority of the board of directors of API; (iii) any amendment to API's certificate of incorporation or bylaws, which amendment would in any manner frustrate, prevent or nullify the Merger, the Merger Agreement or any transactions contemplated by the Merger Agreement or change in any manner the voting rights of any class of API's capital stock; (iv) any material change in the capitalization of API, or API's corporate structure; or (v) any other action which is intended, or could reasonably be expected, to impede, interfere with, delay, postpone, discourage or adversely affect the Merger or any of the other transactions contemplated by the Merger Agreement or the API Voting Agreements. The stockholders that are parties to the API Voting Agreements also granted My E. Chung, Luna's president and chief executive officer, and Luna an irrevocable proxy to vote their respective common stock in accordance with the terms of the API Voting Agreements.

The API Voting Agreements provide that each stockholder who is a party to the API Voting Agreements will not, subject to specified exceptions and among other things, sell, pledge, encumber, grant an option with respect to, transfer or dispose of, or enter into any agreement or commitment contemplating the possible sale of, pledge of, encumbrance of (other than restrictions imposed by applicable laws or legal requirements or pursuant to the API Voting Agreements), grant of an option with respect to, transfer of or disposition of, any API common stock beneficially owned by such stockholder, or grant any proxies with respect to such shares. Pursuant to the API Voting Agreements, each stockholder who is a party to the API Voting Agreements has also agreed not to: (i) make certain solicitations regarding any alternative acquisition proposal related to API; (ii) knowingly furnish any information regarding API in connection with an acquisition proposal; (iii) engage in discussions or negotiations with any person relating to any acquisition proposal with respect to API; (iv) approve, endorse or recommend any alternative acquisition proposal with respect to API; (v) enter into any letter of intent or similar document relating to any alternative acquisition transaction with respect to API; (vi) make any disclosure or communication to any person or with respect to any non-public information relating to the Merger or indicating that such stockholder is against the Merger or any of the transactions contemplated thereby, subject to certain specified exceptions; (vii) take any action that could result in the revocation or invalidation of the proxy; and (viii) agree or publicly propose to take any actions prohibited by the API Voting Agreements.

The API Voting Agreements will terminate upon the earliest to occur of: (i) the termination of the Merger Agreement in accordance with its terms; (ii) the date of any modification, waiver, change or amendment of the Merger Agreement

executed after the date of the API Voting Agreements that is materially adverse to the API stockholders or that results in a (a) decrease in the Exchange Ratio or (b) change in the form of consideration payable to the API stockholders under the Merger Agreement; and (iii) the Effective Time.

Table of Contents**INFORMATION ABOUT LUNA****Overview**

Luna develops, manufactures and markets fiber optic sensing and test & measurement products 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. In addition, Luna provides applied research services, typically under research programs funded by the United States government, in areas of advance materials, sensing, and healthcare applications. Luna's business model is designed to accelerate the process of bringing new and innovative products to market. Luna uses in-house technical expertise across a range of technologies to perform applied research services for companies and government-funded projects. Luna continues to invest in product development and commercialization, which Luna anticipates will lead to increased product sales growth.

Luna's corporate growth strategy is focused on becoming a leading provider of fiber optic strain and temperature sensing solutions and standard test methods for composite, as well as non-composite materials, structures and systems. Luna is organized into two main business segments, Luna's Products and Licensing segment and Luna's Technology Development segment. Luna's Products and Licensing segment develops, manufactures and markets Luna's fiber optic sensing, as well as test and measurement products. Luna's Products and Licensing segment also includes the funded development of Luna's fiber optic shape sensing technology for minimally invasive medical applications.

On January 21, 2014, Luna sold the assets associated with Luna's fiber optic shape sensing technology in the medical field to affiliates of Intuitive Surgical, Inc. (as referring either to these affiliates in such capacity as buyers or to Intuitive Surgical, Inc., Intuitive), as described more fully below. As part of this transaction, Luna entered into a revocable license agreement with Intuitive pursuant to which Luna has the right 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. Luna is continuing to develop and commercialize Luna's fiber optic technology for strain and temperature sensing applications for the aerospace, automotive, and energy industries. Luna's Products and Licensing segment revenues represented approximately 36%, and 38% of Luna's total revenues for the years ended December 31, 2012 and 2013, respectively.

Luna's Technology Development segment performs applied research principally in the areas of sensing & instrumentation, advanced materials and health sciences. Luna's Technology Development segment revenues comprised approximately 64% and 62% of Luna's total revenues for the years ended December 31, 2012 and 2013, respectively. Historically, this segment also included Luna's secure computing and communications group (SCC), which focused on technologies for ensuring the integrity of integrated circuits used in defense systems. On March 1, 2013, Luna sold the assets associated with SCC to MacAulay-Brown, Inc. (Mac-B), another defense contractor. Most of the government funding for Luna's Technology Development segment outside of SCC is derived from the Small Business Innovation Research (SBIR) program coordinated by the U.S. Small Business Administration (SBA). Luna's SBIR research is focused on technological areas with commercial potential and Luna strives to commercialize any resulting scientific advancements. For the year ended December 31, 2013, approximately 54% of Luna's revenues were generated under the SBIR program, compared to 65% in 2012. For the years ended December 31, 2012 and 2013, 66% and 64%, respectively, of Luna's revenues were derived from the U.S. government.

Products and Licensing

In Luna's Products and Licensing segment Luna has been successful in developing and marketing fiber optic test and measurement products which provide solutions primarily for the telecommunications industry. In 2011, Luna first introduced Luna's ODiSI platform of products for distributed sensing of strain and temperature. Luna's key initiative

for long term growth is to become a leading provider of fiber optic strain & temperature sensing systems and standard test methods based upon this product platform. Luna's Products and Licensing segment includes approximately 44 full-time employees. Luna's primary product lines and development services in this segment are described in more detail below.

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Test & Measurement, Sensing, and Instrumentation Products

Test and Measurement Equipment for Fiber Optic Components and Sub-Assemblies

Luna's product lines in the test and measurement domain include Luna's Optical Vector Analyzer (OVA), Luna's Optical Backscatter Reflectometer (OBR), and the Phoenix family of tunable lasers.

Historically, Luna's test and measurement products have primarily served the telecommunications industry, although most of Luna's products have valuable applications in other fields. Luna's test and measurement products monitor the integrity of fiber optic network components and sub-assemblies. These products are designed for manufacturers and suppliers of optical components and sub-assemblies and allow them to reduce development, test and production costs and improve the quality of their products. Most manufacturers and suppliers of optical components and modules currently use a combination of different types of optical test equipment to identify and measure failures in optical networks, such as bad splices, bends, crimps and other reflective and non-reflective events that can cause defects and negatively impact product performance. Luna's optical test equipment products replace the need to employ multiple test products by addressing all stages of the end user's product development lifecycle, including design verification, component qualification, assembly process verification and failure analysis. Luna's OVA platform allows manufacturers and suppliers of optical components and sub-assemblies to reduce development, test and production costs and time-to-market by replacing multiple, time consuming and expensive measurement platforms with a single, integrated and easy-to-use instrument.

Luna's OBR is a highly sensitive diagnostic device which has application in the telecommunications industry and flexibility to provide measurements in various other applications. Luna's OBR allows data and telecommunications companies and the service providers who maintain their own fiber optic networks to reduce test time and improve product quality. Luna's OBR provides the ability to inspect fiber networks with higher resolution and better sensitivity than is possible with other existing test products. Its user-friendly graphical user interface also makes the OBR product suitable for both research and manufacturing applications. The OBR gives end users a very high resolution view that is similar to an X-Ray into the inner workings of a fiber optic network. The OBR also has a feature that allows users to turn standard optical fiber into multiple sensors that could be used in a variety of temperature measurement and monitoring applications including power generation; civil structure monitoring; industrial process control; component-level heating in optical amplifiers; strain and load distribution measurements of aircraft harnesses; and temperature monitoring inside telecommunications cabinets and enclosures.

ODiSI Sensing Solution; Optical Distributed Sensor Interrogator

In 2011, Luna launched Luna's new sensing platform called ODiSI. These products provide fully distributed strain or temperature measurements and deliver an extraordinary amount of data by using an optical fiber as a continuous sensor over up to 50 meters of surface. Compared to traditional sensing methods, such as strain gages, this technology provides greater insight into the performance, tolerances and failure mechanisms of structures and vehicles. Luna believes the technology can provide exceptional value to the aerospace, automotive, and energy industries providing solutions for composite, as well as non-composite materials, structures and systems.

Luna has significant expertise in distributed sensing systems, such as ODiSI, which are products composed of multiple sensors whose inputs are integrated through a fiber optic network and software. These products use fiber optic sensing technology with an innovative monitoring system that allows several thousand sensors to be networked along a single optical fiber. Potential key applications and markets of Luna's fiber optic sensing solutions include the airframe industry, integrated structural monitoring of civil structures and space applications. For example, a major airframe manufacturer has explored the use of Luna's system during fatigue testing to measure strain through a

network of sensors distributed throughout an aircraft. Luna's ODiSI platform also enables the direct monitoring of temperature. Potential markets include automotive manufacturing, automotive component manufacturing, motorsports, industrial process control and electrical system monitoring. For example, Luna's network of distributed temperature sensors has been tested by a major manufacturer of electrical generators for the purpose of increasing operational efficiency and prolonging generator life.

Table of Contents**Tunable Lasers**

Luna has acquired the rights to manufacture a line of swept tunable lasers to allow Luna to compete more effectively in Luna's existing fiber optic test and measurement as well as sensing markets. This laser is in production, and this technology is being integrated into current and new products to help Luna provide Luna's customers with faster, more flexible and cost-effective test and measurement products. The laser has desirable properties in the quality of the laser light produced, the speed at which it can operate, the small size of the package, and the environmental conditions in which it can operate. Luna believes that these traits make it possible for Luna to move Luna's fiber optic sensing capabilities out of the laboratory, and into more demanding environments such as aircraft structural health monitoring, automotive manufacturing, green energy, and industrial applications.

Sales & Marketing

Luna primarily markets fiber optic test and measurement products to telecommunications companies, defense agencies, government system integrators, researchers, original equipment manufacturers, distributors, testing labs and strategic partners worldwide. Luna has a regional sales force that markets and sells Luna's products through manufacturer representative organizations to customers in North America and through partner and distribution channels for other sales around the world. Luna is building a dedicated sales force for direct marketing of Luna's distributed sensing products, with an initial focus on customers in the automotive, aerospace, and energy industries. Luna believes that Luna provides a high level of support in developing and maintaining Luna's long-term relationships with Luna's customers. Customer service and support are provided through Luna's offices and those of Luna's partners that are located throughout the world.

Fiber Optic Shape Sensing Solutions for Robotic, Non-Robotic and Minimally Invasive Surgical Systems

On January 21, 2014, Luna sold assets associated with the development of fiber optic shape sensing for the medical field to affiliates of Intuitive. However, Luna has a development and supply agreement with Hansen Medical, Inc. (Hansen) under which Luna develops localization and shape sensing solutions for Hansen's medical robotics system and under which Luna would supply fiber optic shape sensing systems to Hansen. Although the terms of Luna's sale to Intuitive generally preclude Luna from pursuing fiber optic shape sensing in medical applications in the future, Luna is specifically permitted to continue to develop this technology and supply related products to Hansen. At this time, however, Hansen is not requesting Luna to perform any development work towards this solution. Luna's business relationship with Hansen is further described below under "Litigation and Agreements with Hansen Medical, Inc."

In 2012, Luna entered into a development agreement with Philips Healthcare, acting through Philips Medical Systems Nederland BV (Philips). Under the development agreement, Luna conducted certain development work during 2012 and during 2013 in cooperation with Philips to advance Luna's fiber-optic shape sensing technology towards commercialization in the non-robotic medical field. Under the development agreement, Philips agreed to pay Luna monthly on a time and materials basis, less a specified holdback amount, in accordance with corresponding milestones and estimated resource requirements. In addition, under the development agreement, Philips purchased specified prototype systems from us. Luna's agreement with Philips expired at the end of 2013 and was not renewed or extended. As a result of the sale of Luna's shape sensing assets related to medical applications to Intuitive in January 2014, Luna does not expect to do any further work with Philips.

Technology Development

Luna provides applied research for customers in Luna's primary areas of focus, including sensing and materials such as nanomaterials, coatings, adhesives, composites and bio-engineered materials. Until Luna's sale of SCC, Luna also

provided applied research in the area of secure computing. Luna generally competes to win contracts in these areas on a fee-for-service basis. Luna's Technology Development segment has a successful track record of evaluating innovative technologies to address the needs of Luna's customers.

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Luna seeks to maximize the benefits Luna derives from Luna's contract research business, including revenue generation and identification of promising technologies for further development. Luna focuses primarily on opportunities in which Luna develop intellectual property rights in areas that Luna believes have commercialization potential. Luna takes a disciplined approach to contract research to try to ensure that the costs of any contract Luna undertakes will be fully reimbursed. Luna believes that this model is cost-efficient and significantly reduces Luna's development risk in that it enables Luna to defray the costs of riskier technology development with third-party funding.

As of January 30, 2015, Luna's Technology Development segment was engaged in more than 50 active contracts, with typical terms ranging from six months to three years. These projects span a wide range of applications across Luna's areas of focus.

Although Luna conducts Luna's applied research on a fee-for-service basis for third parties, Luna seeks to retain full or partial rights to the technologies and patents developed under those contracts and to continuously enlarge and strengthen Luna's intellectual property portfolio. New technology that Luna develops may complement existing technologies and enable Luna to develop applications and products that were not previously possible. In addition, the technologies Luna develops may also be applicable to commercial markets beyond the scope of the applications originally contemplated in the contract research stage, and Luna endeavors to capture the value of those opportunities.

As of January 30, 2015, Luna's Technology Development segment consisted of approximately 55 full time employees, of whom 27 hold advanced degrees, including 18 Ph.D. degrees. Luna also utilizes the knowledge and experience of researchers employed through the academic institutions, corporations and government agencies with which Luna subcontracts. Luna's Technology Development segment is organized into subgroups according to areas of technology, with each subgroup being managed by its own director who is responsible for its financial performance. In addition, Luna has in place disciplined processes designed to ensure quality control of proposal preparation, program reviews, pipeline reviews, revenue tracking and financial reporting.

Each year, U.S. government federal agencies and departments are required to set aside a portion of their grant awards for SBIR-qualified organizations. SBIR contracts include Phase I feasibility contracts of up to \$150,000 and Phase II proof-of-concept contracts, which can be as high as \$1,000,000. Luna has won three National Tibbetts Awards from the SBA for outstanding SBIR performance. Luna has also won research contracts outside the SBIR program from corporations and government entities. These contracts typically have a longer duration and higher value than SBIR grants. In the future, Luna will seek to derive a larger portion of Luna's contract research revenues from contracts outside of the SBIR program.

Materials

Luna is actively developing a wide variety of materials. One of these is a new class of non-halogenated fire retardant additives developed as a possible replacement for brominated fire retardants, which are coming under increasing criticism due to health concerns. Luna's non-halogenated fire retardant additives are being evaluated for use in composites, such as fiber reinforced composites.

Luna has developed a range of coatings, including both hydrophobic and superoleophobic coatings. These coatings are being evaluated for use in a number of applications. Other coatings under development include anti-corrosion and damage-indicating coatings.

Luna is also working on a variety of bioengineered materials for homeostatic agents and wound healing. These materials must be approved by the FDA or similar foreign regulatory agencies before they can be marketed, which

Luna does not expect to occur for at least several years, if at all.

Luna's nanomaterials activity is focused on fullerenes and tri-metal nitride endohedral fullerene (Trimetasphere® materials. The Trimetasphere® nanomaterial is a carbon sphere with three metal atoms and

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an enclosed nitrogen atom. Luna has obtained an exclusive license from Virginia Tech to commercialize Trimetasphere® nanomaterials under an issued U.S. patent and pending U.S. patent applications.

Luna is also researching other applications for nanomaterial-based drugs based on the anti-oxidative characteristics of fullerenes. These products are in the early stages of development, but if successful, could offer new market opportunities for Luna.

In 2009, Luna has acquired a patent portfolio from Tego Biosciences, Inc., including in- and out-licenses, generally for the use of carbon fullerene nanomolecules in the treatment of human health. Luna believes this acquisition strengthened Luna's patent position in this area, but there can be no assurances that Luna will be able to obtain commercial success as a result of these patents and licenses.

Sensing

Luna's Technology Development segment also performs a significant amount of applied research towards developing new sensors. This includes sensors for the purpose of corrosion, temperature, strain, pressure, structural health and chemical detection. Much of the work is directed to harsh environments and uses optics. Examples include measuring temperature and neutron flux in nuclear reactors, pressure and temperature in gas turbines, and temperatures of cryogenic lines. The effort utilizes both discrete and distributed sensors. Luna's technology development work in this area is closely aligned with Luna's Products and Licensing segment and is directed at advancing the technology and the development of new applications.

Intellectual Property

Luna seeks patent protection on inventions that Luna considers important to the development of Luna's business. Luna relies on a combination of patent, trademark, copyright and trade secret laws in the United States and other jurisdictions, as well as confidentiality procedures and contractual provisions to protect Luna's proprietary technology and Luna's brand. Luna controls access to Luna's proprietary technology and enter into confidentiality and invention assignment agreements with Luna's employees and consultants and confidentiality agreements with other third parties.

Luna's success depends in part on Luna's ability to develop patentable products and obtain, maintain and enforce patent and trade secret protection for Luna's products, as well as to successfully defend these patents against third-party challenges both in the United States and in other countries. Luna will only be able to protect Luna's technologies from unauthorized use by third parties to the extent that Luna owns or has licensed valid and enforceable patents or trade secrets that cover them. Furthermore, the degree of future protection of Luna's proprietary rights is uncertain because Luna may not be able to obtain patent protection on some or all of Luna's technology and 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.

Currently, Luna owns or in-licenses approximately 85 U.S. and international patents and approximately 102 U.S. and international patent applications, and Luna intends to file, or request that Luna's licensors file, additional patent applications for patents covering Luna's products. Luna's issued patents generally have terms that are scheduled to expire between 2015 and 2031. However, patents may not be issued for any pending or future pending patent applications owned by or licensed to us. 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. Any issued patents owned by or licensed to Luna now or in the future may be challenged, invalidated or circumvented, and, in addition, 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, which could make it easier for competitors to capture or increase their market share with respect to related technologies.

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A discussion of Luna's material patents and patent applications is set forth below.

Siemens Patent

Luna has licensed a U.S. patent and related patents in Canada, Switzerland, Germany, Great Britain, Italy, Netherlands and France from Siemens AG concerning methods of preparing fullerene derivatives for use. Luna uses these methods in Luna's nanotechnology area to attach certain materials to carbon fullerenes. The U.S. patent expires in January 2016. The Canadian patent expires in 2015 and the European patents expire in 2014.

NASA Patents

Luna has licensed, on a non-exclusive basis, four U.S. patents and related patents in Japan, Canada, Germany, France, Great Britain and Belgium from the National Aeronautics and Space Administration, an agency of the U.S. government (NASA), which patents concern the measurement of strain in optical fiber using Bragg gratings and Rayleigh scatter and the measurement of the properties of fiber-optic communications devices. These patents expire between February 2017 and September 2020.

VTIP Patents

Luna has licensed, on an exclusive basis, two U.S. patents from Virginia Tech Intellectual Properties, Inc. (VTIP) to commercialize Trimetasphere® nanomaterials for all fields of human endeavor. These patents expire in December 2019 and December 2022.

Coherent Patents

Luna has licensed, on a non-exclusive basis, several U.S. patents and other intellectual property rights owned or controlled by Coherent, Inc., related to the manufacturing, using, importing, selling and offering for sale of Coherent's Iolon brand of swept tunable lasers, which Luna markets under Luna's Phoenix brand of lasers. These U.S. patents expire between 2020 and 2025.

Shape Sensing Patents

As a part of Luna's sale of assets associated with Luna's fiber optic shape sensing technology in the medical field to Intuitive, Luna transferred Luna's related patents to Intuitive. Also as a part of this transaction, Luna entered into a revocable license agreement with Intuitive pursuant to which Luna has the right 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. Two U.S. patents that Luna now license back from Intuitive cover the use of optical frequency domain reflectometry, or OFDR, and multiple, closely spaced Bragg gratings for shape sensing, and the use of the inherent scatter as a strain sensor for shape sensing. These two patents expire in July 2025. Luna also has a license back from Intuitive for a patent application that covers certain refinements to the measurements covered in the first two patents, which are necessary in order to achieve the necessary accuracies for medical and other applications. This patent application was filed in the United States, the European Patent Office, China, India, Russia, Brazil, Japan and Indonesia. These patents and patent applications can support other nonmedical applications of Luna's fiber optic shape sensing technology.

Corporate History and Chapter 11 Reorganization

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Luna was incorporated in the Commonwealth of Virginia in 1990 and reincorporated in the State of Delaware in April 2003. Luna completed Luna's initial public offering in June 2006. Luna's executive offices are located at 1 Riverside Circle, Suite 400, Roanoke, Virginia 24016 and Luna's main telephone number is (540) 769-8400.

On July 17, 2009, Luna filed a voluntary petition for relief in order to reorganize under Chapter 11 of the United States Bankruptcy Code, including a proposed plan of reorganization, which Luna refers to in this report as the

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Reorganization Plan, with the United States Bankruptcy Court for the Western District of Virginia. On January 12, 2010, the Bankruptcy Court approved the Reorganization Plan and Luna emerged from bankruptcy on that date.

Litigation and Agreements with Hansen Medical, Inc.

In June 2007, Hansen, a company for which Luna had conducted certain research and performed certain services, filed a lawsuit against Luna for using allegedly misappropriated trade secrets from Hansen in connection with Luna's work with Intuitive or otherwise. On April 21, 2009, a jury found in favor of Hansen and awarded a verdict of \$36.3 million against Luna. As a result of this jury verdict, Luna filed for Chapter 11 reorganization in July 2009.

On December 11, 2009, Luna and Luna's wholly owned subsidiary Luna Technologies, Inc. entered into a settlement agreement with Hansen to settle all claims arising out of the litigation. On January 12, 2010, as part of Luna's Reorganization Plan, Luna entered into a series of agreements with Hansen and Intuitive that were contemplated by the settlement agreement. Under Luna's license agreement with Hansen (the Hansen License), Luna granted Hansen (i) a co-exclusive (with Intuitive), royalty-free, fully paid, perpetual and irrevocable license to Luna's fiber optic shape sensing/localization technology within the medical robotics field. The license can only be sublicensed by Hansen in connection with Hansen products, except that Hansen can grant full sublicenses to third parties for single degree of freedom robotic medical devices; (ii) an exclusive (and fully sublicenseable) royalty-free, fully paid, perpetual and irrevocable license to Luna's fiber optic shape sensing/localization technology for non-robotic medical devices within the orthopedics, vascular, and endoluminal fields; and (iii) a co-exclusive (with us) royalty-free, fully paid, perpetual and irrevocable license to Luna's fiber optic shape sensing/localization technology for non-robotic medical devices in other medical fields (including colonoscopies but not including devices described in clause (ii) above). In 2011, Hansen entered into certain agreements with Philips Medical Systems (and/or its affiliates) under which Hansen sublicensed its non-robotic medical rights to Luna's fiber optic shape sensing/localization technology.

In connection with the settlement agreement, Luna also entered into a development and supply agreement with Hansen. The agreement provides that Luna will perform product development services with respect to fiber optic shape sensing at Hansen's request and provide Luna's shape sensing products to Hansen. Revenues earned for product development will be determined in a manner consistent with Luna's normal contract development services and will be payable monthly to us. The agreement also sets forth certain terms under which Luna would supply fiber optic components to Hansen. In May 2011, Luna amended this development and supply agreement with Hansen in order to update the specifications and estimated budget amounts for certain development milestones and provide for additional development milestones and related budget estimates and specifications to be achieved. The amendment also provides for a payment structure whereby Luna shares a specified percentage of the development expenses otherwise payable in connection with certain of the development milestones, up to a certain cumulative maximum, and changes the mechanism for calculating amounts that Hansen may hold back from being paid to Luna while such expenses are being shared by the parties. Finally, the amendment adjusted the commercial transfer pricing mechanism for Luna's supply of fiber optic components to Hansen. At this time, Hansen is not requesting Luna to perform any development work under this development and supply agreement. Luna's sale of assets to Intuitive was made expressly subject to the development and supply agreement with Hansen and the Hansen License.

Material Agreements

Sale of Assets to Intuitive Surgical

On January 17, 2014, Luna entered into an Asset Purchase Agreement with Intuitive (the Asset Purchase Agreement). Under the Asset Purchase Agreement, effective as of 12:01 a.m. on January 21, 2014, Luna closed on the sale to Intuitive of substantially all of Luna's assets related to Luna's medical shape sensing business, including all of the

patents and patent applications used or useful for Luna's fiber optical shape sensing and

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localization technology, for \$6 million in cash at closing and a second \$6 million in cash to be paid no later than 90 days after closing, plus up to \$8 million upon the accomplishment by Intuitive of certain technical specifications (the Technical Specifications Payment) and up to \$10 million in potential future royalties (altogether, the Transaction). Luna had been engaged since 2007 in a development project for Intuitive developing a fiber optic-based shape sensing and position tracking system to be integrated into Intuitive s products. Also as a part of the Transaction, Intuitive has hired certain of Luna s employees, many of whom were historically engaged in this development project.

The second \$6 million to be paid within 90 days has been placed in escrow. The Technical Specifications Payment is tied to the achievement of certain technical specifications that were previously established for the development project between Luna and Intuitive. If these technical specifications are not achieved but Luna s fiber optical shape sensing and localization technology is nevertheless included in an Intuitive medical system that receives Food and Drug Administration approval as the system s only localization solution, then Intuitive shall pay Luna \$6 million upon such approval. The royalties will be paid at a rate of \$10,000 per commercially-sold medical robotic system that includes Luna s fiber optical shape sensing and localization technology. The foregoing deferred and potential payments are subject to set off against any liabilities Luna may have to Intuitive for any breach of Luna s representations or obligations under the Asset Purchase Agreement.

The Asset Purchase Agreement contains representations and warranties, covenants and indemnification provisions common to transactions of this nature, except that Luna s indemnification obligations are only limited in time until no further payments are due from Intuitive. Any disputes between the parties will be handled by mediation and arbitration in Chicago, Illinois. All of the transfers of technology contemplated in the Transaction have been made subject to Luna s existing licenses and related obligations to Hansen and Philips.

Also, in connection with the Transaction, Luna and Intuitive entered into a License Agreement of the same date under which Luna received a license back to 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. The license back to Luna outside the medical field is exclusive to Luna except that Intuitive retained certain non-sublicensable rights for itself. This license back to Luna is revocable if Luna were, after notice and certain time periods, (i) to challenge the validity or enforceability of the transferred patents and patent applications, (ii) to 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) to violate Luna s obligations related to Luna s ability to sublicense in the field of medicine or (iv) to violate Luna s confidentiality obligations in a manner that advantages a competitor in the field of medicine and not cure such violation. As a part of the Transaction, Luna retained assets and rights necessary to perform on Luna s development and supply project for Hansen if that project is re-started. Also, as a part of the Transaction, for a period of 15 years after closing, Luna agreed to exit and not develop or commercialize Luna s fiber optical shape sensing and localization technology in the field of medicine (except for Hansen as described above). For a period of 10 years after closing, Intuitive has agreed not to use any of the assets being acquired in the Transaction, including the key employees being hired, to compete with Luna outside the field of medicine for shape, strain and/or temperature sensing in the aerospace, automotive, and energy markets and for strain sensing in the civil structural monitoring and composite material markets.

Prior to Luna s recent sale of Luna s shape sensing assets related to medical applications to Intuitive, Luna was party to an intellectual property licensing, development and supply agreement with Intuitive, which Luna originally entered into in June 2007. Under this multi-year agreement, Luna was to develop and supply a fiber optic-based shape sensing and position tracking system for integration into Intuitive s future products.

Under the agreement, Intuitive agreed to pay Luna an up-front license fee, development fees payable in quarterly installments for the first 18 months of the agreement, and certain other fees, subject to specified termination rights by

Intuitive and other rights of repayment or reduction. There were also minimum purchase requirements by Intuitive, which were subject to Luna's successful completion of the development criteria and certain other terms and conditions.

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In January 2010, in connection with Luna's settlement with Hansen, and related emergence from Chapter 11 bankruptcy, Luna amended Luna's agreement with Intuitive in order to make it consistent with Luna's January 2010 license agreement with Hansen and to make certain other changes to provide, among other things, additional development of enhancements to the Intuitive product platform. The amendment also provided that Intuitive could request Luna to perform additional development work for a period of 10 years ending January 2020 and that this additional development work, if requested, would be paid by Intuitive on a time and materials basis. Under the amendment, Intuitive received a limited credit against a future portion of this development work and against the transfer pricing for the shape-sensing products supplied by Luna to Intuitive. The amendment also eliminated certain future fees that would have otherwise been payable by Intuitive and also eliminated all of Intuitive's future minimum purchase requirements. Intuitive continued to be obligated to purchase its reasonable commercial requirements of the shape-sensing products from us, subject to Intuitive's right to purchase optical fiber or sensors from other suppliers. The amendment also provided that the exclusive license granted by Luna to Intuitive in the medical robotics field was modified to allow for the co-exclusive license granted to Intuitive and Hansen and any restrictions or prohibitions on Luna to develop and manufacture products for Hansen were eliminated.

The agreement was further amended to provide for the development work to be conducted in 2010 and provide a budget for this work. The agreement was amended again in respect of development work to be conducted in 2011, setting certain milestones for Luna to achieve during 2011, establishing the amounts to be paid by Intuitive to Luna for this development work and providing that, if Luna successfully completed the milestones by a certain date, any remaining credit in favor of Intuitive would be eliminated. The agreement was amended again in respect of development work to be conducted in 2012, similarly setting certain milestones to be achieved by Luna during 2012, establishing the amounts to be paid by Intuitive to Luna for this development work and confirming that no further credit remained. In June 2013, Luna again amended Luna's agreement with Intuitive, to cover development work during the period of 2013 through 2015. This amendment established certain milestones for Luna to achieve during this period, as well as the amounts to be paid by Intuitive for development work during this period.

As amended, the term of Luna's agreement with Intuitive extended to January 2020 and was terminable by either party for cause upon notice and opportunity to cure.

As part of Luna's agreement with Intuitive, Luna granted Intuitive a co-exclusive (with Hansen), royalty-free, fully paid, perpetual and irrevocable license to Luna's fiber optic shape sensing/localization technology within the medical robotics field. The license can only be sublicensed by Intuitive in connection with Intuitive products and Intuitive and Hansen have the right to enforce the licensed intellectual property within the medical robotics field. Because of the nature of this perpetual license, the license does not provide for a term or termination provisions. Intuitive has granted to Luna a perpetual, royalty-free license to any intellectual property solely or jointly invented by Intuitive on Luna's development project for all fields outside of medical robotics, which is exclusive to the extent of any patents and patent applications included in such intellectual property.

Although after Luna's sale of assets to Intuitive Luna no longer has a development and supply relationship with Intuitive and Intuitive no longer has any payment obligations to us, this agreement remains in place.

Philips Healthcare

In 2012, Luna entered into a development agreement with Philips. Under the development agreement, Luna conducted certain development work during 2012 in cooperation with Philips on a project to advance Luna's fiber-optic shape sensing technology towards commercialization in the non-robotic medical field. Luna amended this development agreement to provide for certain development work to be performed in 2013. Under the development agreement, Philips agreed to pay Luna monthly on a time and materials basis, less a specified holdback amount, in accordance

with corresponding milestones and estimated resource requirements. In addition, under the development agreement, Philips purchased specified prototype systems from us. The term of this

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development agreement continued until December 31, 2013. The agreement expired on December 31, 2013 and was not renewed. In light of the sale of Luna's shape sensing assets related in the medical field to Intuitive, Luna will no longer conduct any more work for Philips.

Virginia Tech

Luna's nanomaterials activity is focused on Trimetasphere® materials. The Trimetasphere® nanomaterial is a carbon sphere with three metal atoms and a nitrogen atom enclosed. Luna has obtained an exclusive license from VTIP to commercialize Trimetasphere nanomaterials under two U.S. patents for all fields of human endeavor. The term of this license ends upon the last expiration date of the underlying patents, which is December 2022. The license provides for certain royalties to be paid as a percentage of Luna's net sales, certain percentages of amounts received from any of Luna's sublicensees and certain milestone payments based on product development phases. Luna paid VTIP a total of approximately \$3,000 in royalties in respect of 2012 and 2011 under the license. Luna reimburses VTIP for patent costs incurred under the license. VTIP may terminate the license for cause. Luna may terminate the license at any time for any reason on 60 days' notice.

Luna primarily utilize the VTIP license in Luna's ongoing research into the potential use of Trimetaspheres to improve the safety of contrast agents commonly utilized in magnetic resonance imaging (MRI) procedures. Luna believes that contrast agents utilizing Luna's Trimetasphere nanomaterials may be able to provide a higher image contrast than existing contrast agents but with a lower risk of toxicity. Medical contrast agents for human use, such as Luna's Trimetasphere nanomaterials, must be approved by the FDA or similar foreign regulatory agencies before they can be marketed, which Luna does not expect to occur for at least several years, if at all. As described below under

Government Regulation, this approval process can involve significant time and expense and may delay or prevent Luna's products from reaching the market.

Coherent

In December 2006, Luna entered into an asset transfer and license agreement with Coherent. Under the agreement, Luna acquired the rights to manufacture Coherent's Iolon brand of swept tunable lasers as well as certain manufacturing equipment and inventory previously used by Coherent to manufacture the lasers. Luna continues to enhance, produce, and market these lasers under Luna's Phoenix brand. Under this agreement, Coherent granted non-exclusive licenses to Luna for certain U.S. patents and other intellectual property rights owned or controlled by Coherent for making, having made, using, importing, selling and offering for sale the lasers. The term of this agreement is 10 years, but the patent licenses become fully paid and perpetual if Luna fulfills Luna's royalty obligations during this 10-year period and the license to the other intellectual property rights is perpetual. These U.S. patents expire between 2020 and 2025. As consideration, Luna agreed to pay Coherent a total of \$1.3 million over a period of two years and royalty payments on net sales of products sold by Luna that incorporate the lasers or that are manufactured using the intellectual property covered by the licenses. Luna paid Coherent a minimum royalty of \$100,000 for 2011 and approximately \$60,000 in royalties based on net sales for 2012. Luna also agreed to sell Coherent a limited number of lasers each year. The agreement is terminable by either party for cause after notice and an opportunity to cure.

The Phoenix laser is a miniaturized, external-cavity laser offering high performance in a compact footprint and is applicable to a range of fiber optic test and measurement, instrumentation, and sensing applications. These products employ frequency-tuned lasers to measure various aspects of the transmission properties of telecommunications fiber optic components and systems. Lasers are also used in fiber optic sensing applications such as distributed strain and temperature mapping, and distributed measurement of shape. Luna currently uses these lasers within Luna's ODiSI platform of products, Luna's fiber optic shape sensing products and certain of Luna's backscatter reflectometer

products, and Luna also sells variations of the Phoenix laser as standalone products. Under Luna's agreements related to Luna's sale of assets to Intuitive, Luna has certain obligations to supply Intuitive with these lasers and Intuitive has certain rights to require Luna to transfer and assign this Coherent license to Intuitive, in which case Intuitive would be similarly required to supply Luna with lasers.

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NASA

Luna has licensed, on a non-exclusive basis, certain patents from NASA under two license agreements.

These patents concern the measurement of strain in optical fiber using Bragg gratings and Rayleigh scatter, and also the measurement of the properties of fiber-optic communications devices. Under the license agreements, Luna pays NASA certain royalties based on a percentage of net sales of products covered by the patents. Luna incurs a royalty obligation to NASA based upon a specified percentage of the revenue earned on each product sold utilizing these patents subject to combined minimum royalties of \$220,000 per year under the license agreements. The term of the license agreements continues until the expiration of the last licensed patent, which is September 2020. These license agreements may be terminated by Luna on 90 days notice. Either party may terminate the license agreements for cause upon certain conditions.

Competition

Luna compete for government, university and corporate research contracts relating to a broad range of technologies. Competition for contract research is intense and the industry has few barriers to entry. Luna competes against a number of in-house research and development departments of major corporations, as well as a number of small, limited-service contract research providers and companies backed by large venture capital firms. The contract research industry continues to experience consolidation, which has resulted in greater competition for clients. Increased competition might lead to price and other forms of competition that could harm Luna's operating results. Luna competes for contract research on the basis of a number of factors, including reliability, past performance, expertise and experience in specific areas, scope of service offerings, technological capabilities and price.

Luna also competes, or will compete, with a variety of companies in several different product markets. The products that Luna has developed or are currently developing will compete with other technologically innovative products, as well as products incorporating conventional materials and technologies. Luna expects that Luna will compete with companies in a wide range of industries, including semiconductors, electronics, biotechnology, textiles, alternative energy, military, defense, healthcare, telecommunications, industrial measurement, security applications and consumer electronics. Although there can be no assurance that Luna will continue to do so, Luna believes that Luna competes favorably in these areas because Luna's products leverage advanced technologies to offer superior performance. If Luna is unable to effectively compete in these areas in the future, Luna could lose business to Luna's competitors, which could harm Luna's operating results.

Government Regulation

Qualification for Small Business Innovation Research Grants

SBIR is a highly competitive program that encourages small businesses to explore their technological potential and provides them with incentives to commercialize their technologies by funding research that might otherwise be prohibitively expensive or risky for companies like us. As noted above, Luna presently derives a significant portion of Luna's revenue from this program, but Luna must continue to qualify for the SBIR program in order to be eligible to receive future SBIR awards. The eligibility requirements are:

Ownership. The company must be at least 51 percent owned and controlled by U.S. citizens or permanent resident aliens, or owned by an entity that is itself at least 51 percent owned and controlled by U.S. citizens

or permanent resident aliens; and

Size. The company, including its affiliates, cannot have more than 500 employees. These requirements are set forth in the SBA's regulations and are interpreted by the SBA's Office of Hearings and Appeals. In determining whether Luna satisfies the 51% ownership requirement, agreements to merge, stock options, convertible debt and other similar instruments are given present effect by the SBA as though the

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underlying security were actually issued unless the exercisability or conversion of such securities is speculative, remote or beyond the control of the securityholder. Luna therefore believes Luna's outstanding options and warrants held by eligible individuals may be counted as outstanding equity for purposes of meeting the 51% equity ownership requirement. Luna believes that they are in compliance with the SBA ownership requirements.

In addition, to be eligible for SBIR contracts, 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, including all of Luna's divisions, had 117 full- and part-time employees. In determining whether Luna has 500 or fewer employees, the SBA may count the number of employees of entities that are large stockholders who are affiliated or have the power to control us. In determining whether firms are affiliated, the SBA evaluates factors such as stock ownership and common management, but it ultimately may make its determination based on the totality of the circumstances. Eligibility protests can be raised to the SBA by a competitor or by the awarding contracting agency. Luna understands that the SBA is in the process of performing a formal size determination in connection with some of Luna's SBIR contracts. Luna cannot provide assurances that the SBA will interpret its regulations in Luna's favor. Regardless of the outcome of the SBA's pending determination, if Luna grows larger, and if Luna's ownership becomes more diversified, Luna may no longer qualify for the SBIR program, and Luna may be required to seek alternative sources and partnerships to fund some of Luna's research and development costs.

FDA Regulation of Products

Some of the potential products that Luna is developing may be subject to regulation under the Food, Drug, and Cosmetic (FDC) Act. In particular, any Trimetasphere[®] nanomaterial-based MRI contrast agent would be considered a drug, and Luna's ultrasound diagnostic devices for measuring certain medical conditions will be considered medical devices, under the FDC Act. Both the statutes and regulations promulgated under the FDC Act govern, among other things, the testing, manufacturing, safety efficacy, labeling, storage, record keeping, advertising and other promotional practices involving the regulation of drug and devices. Compliance with the FDC Act may add time and expense to product development, and there can be no assurance that any of Luna's products will be successfully developed and approved for marketing by the FDA.

Medical Devices

Luna's existing and future health care products are regulated by the FDA as medical devices. The nature of the requirements applicable to devices depends on their classification by the FDA. A device Luna develops would be automatically classified as a Class III device, requiring pre-market approval, unless the device is substantially equivalent to an existing device that has been classified in Class I or Class II or to a pre-1976 device that has not yet been classified. Class I or Class II devices require registration through the 510(k) exemption. If Luna was unable to demonstrate such substantial equivalence and unable to obtain reclassification, Luna would be required to undertake the costly and time-consuming approval process, comparable to that for new drugs, of conducting preclinical studies, obtaining an investigational device exemption to conduct clinical tests, filing a pre-market approval application and obtaining FDA approval.

Environmental, Health and Safety Regulation

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 domestic and foreign laws and regulations and other requirements relating to employee health and safety, protection of the environment, product labeling and product take back. Regulated activities include the storage, use, transportation and disposal of, and exposure to, hazardous or potentially hazardous materials and wastes. Luna's current and proposed activities also

include potential exposure to physical hazards associated with work environment and equipment. Luna could incur costs, fines, civil and criminal penalties, personal injury and third-party property damage claims, or Luna could be required to incur substantial investigation or remediation costs,

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if Luna was to violate or become liable under environmental, health and safety laws and regulations or requirements. Liability under environmental, health and safety laws can be joint and several and without regard to fault. There can be no assurance that violations of environmental, health and safety laws will not occur in the future as a result of the inability to obtain permits in a timely manner, human error, equipment failure or other causes. Environmental, health and safety laws could also become more stringent over time, imposing greater compliance costs and increasing risks and penalties associated with violations, which could harm Luna's business. Further, violations of present and future environmental, health and safety laws could restrict Luna's ability to expand facilities and pursue certain technologies, as well as require Luna to acquire costly equipment or to incur potentially significant costs to comply with environmental, health and safety regulations and other requirements.

Luna has made, and will continue to make, expenditures to comply with current and future environmental, health and safety laws. Luna anticipates that Luna could incur additional capital and operating costs in the future to comply with existing environmental, health and safety laws and new requirements arising from new or amended statutes and regulations. In addition, because the applicable regulatory agencies have not yet promulgated final standards for some existing environmental, health and safety programs, Luna cannot at this time reasonably estimate the cost for compliance with these additional requirements. The amount of any such compliance costs could be material. Luna cannot predict the impact that future regulations will impose upon Luna's business.

Employees

As of January 30, 2015, Luna had 117 total employees of whom approximately 104 were full-time employees, and 32 of whom held advanced degrees, including approximately 22 Ph.D. degrees. None of Luna's employees are covered by a collective bargaining agreement, and Luna's relationship with Luna's employees is good.

Backlog

Luna has historically had a backlog of contracts for which work has been scheduled, but for which a specified portion of work has not yet been completed. The approximate value of Luna's backlog was \$8.7 million at December 31, 2013 of which substantially all was from Luna's Technology Development segment. The approximate value of Luna's backlog was \$13.6 million at December 31, 2012, of which substantially all was from Luna's Technology Development segment, including \$3.3 million from Luna's SCC group.

Luna defines backlog as the dollar amount of obligations payable to Luna under negotiated contracts upon completion of a specified portion of work that has not yet been completed, exclusive of revenues previously recognized for work already performed under these contracts, if any. Total backlog includes funded backlog, which is the amount for which money has been directly authorized by the U.S. Congress or for which a purchase order has been received from a commercial customer, and unfunded backlog, which represents firm orders for which funding has not yet been appropriated. Unfunded backlog was \$1.0 million as of December 31, 2013 and \$0.8 million as of December 31, 2012. Indefinite delivery and quantity contracts and unexercised options are not reported in total backlog. Luna's backlog is subject to delays or program cancellations that may be beyond Luna's control.

Properties

Luna leases approximately 12,000 square feet of space in Roanoke, Virginia from Carilion Clinic, Luna's largest institutional stockholder. This property is used for Luna's corporate headquarters as well as for general administrative functions.

Luna leases approximately 42,000 square feet of space in Blacksburg, Virginia, near Virginia Tech, which is used by both Luna's Technology Development segment and Luna's Products and Licensing segment.

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Luna leases approximately 16,000 square feet of space in Charlottesville, Virginia, near the University of Virginia, for use by certain groups in Luna's Technology Development segment.

Luna owns a 24,000 square foot facility in Danville, Virginia. This property was previously the subject of a lease with the city, and Luna exercised a purchase option during 2010 to acquire the building for approximately \$70,000. Luna's Technology Development segment primarily uses this facility for nanomaterials research and development and manufacturing.

Luna believes that Luna's existing facilities are adequate for Luna's current needs and suitable additional or substitute space will be available as needed to accommodate expansion of Luna's operations.

Legal Proceedings

From time to time, Luna may become involved in litigation or claims arising out of Luna's operations in the normal course of business. Management currently believes the amount of ultimate liability, if any, with respect to these actions will not materially affect Luna's financial position, results of operations, or liquidity.

Table of Contents**LUNA INNOVATIONS INCORPORATED MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS**

The following discussion and analysis of Luna's financial condition and results of operations should be read in conjunction with Luna's consolidated financial statements and the related notes to those statements included elsewhere in this joint proxy statement/prospectus. In addition to historical financial information, the following discussion and analysis contains forward-looking statements that involve risks, uncertainties and assumptions. Luna's actual results and timing of selected events may differ materially from those anticipated in these forward-looking statements as a result of many factors, including those discussed under "Risks Relating to Luna's Business" and elsewhere in this joint proxy statement/prospectus.

Overview

Luna develops, manufactures and markets fiber optic sensing and 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. In addition, Luna provides applied research services, typically under research programs funded by the U.S. government, in areas of advanced materials, sensing and healthcare applications. Luna's business model is designed to accelerate the process of bringing new and innovative products to market. Luna uses in-house technical expertise across a range of technologies to perform applied research services for companies and government-funded projects. Luna continues to invest in product development and commercialization, which Luna anticipates will lead to increased product sales growth.

Luna's corporate growth strategy is focused on becoming 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.

Luna is organized into two main business segments, a Products and Licensing segment and a Technology Development segment. Luna's Products and Licensing segment develops, manufactures and markets fiber optic sensing products, as well as test and measurement products, and also conducts applied research in the fiber optic sensing area for both corporate and government customers. Luna is continuing to develop and commercialize fiber optic technology for strain and temperature sensing applications for the aerospace, automotive, and energy industries. Luna's Products and Licensing segment revenues represented 43% and 33% of Luna's total revenues for the three months ended September 30, 2014 and 2013, respectively, 41% and 37% of Luna's total revenues for the nine months ended September 30, 2014 and 2013, respectively, and 38% and 36% of Luna's total revenues for the years ended December 31, 2013 and 2012, respectively.

Luna's Technology Development segment performs applied research principally in the areas of sensing and instrumentation, advanced materials and health sciences. Luna's Technology Development segment comprised approximately 57% and 67% of Luna's total revenues for the three months ended September 30, 2014 and 2013, respectively, 59% and 63% of Luna's total revenues for the nine months ended September 30, 2014 and 2013, respectively, and 62% and 64% of Luna's total revenues for the years ended December 31, 2013 and 2012, respectively. Luna's Technology Development segment predominantly performs applied research in the areas of sensing and materials. Most of the government funding for Luna's Technology Development segment is derived from the SBIR program coordinated by the SBA. Luna's Technology Development segment revenues have historically accounted for a large portion of total revenues, and Luna expects that they will continue to represent a significant portion of total revenues for the foreseeable future. Luna's Technology Development segment revenues were \$3.1 million for each of the three months ended September 30, 2014 and 2013, and were \$11.4 million and \$15.1 million for the years ended December 31, 2013 and 2012, respectively. Within the Technology Development segment, Luna has historically had a backlog of contracts for which work has been scheduled, but for which a specified portion of

work has not yet been completed. Luna defines backlog as the dollar amount of obligations payable to Luna under negotiated contracts upon completion of a specified portion of work that has

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not yet been completed, exclusive of revenues previously recognized for work already performed under these contracts, if any. Total backlog includes funded backlog, which is the amount for which money has been directly authorized by the U.S. Congress and for which a purchase order has been received by a commercial customer, and unfunded backlog, representing firm orders for which funding has not yet been appropriated. Indefinite delivery and quantity contracts and unexercised options are not reported in total backlog. The approximate value of Luna's Technology Development segment backlog was \$15.6 million at September 30, 2014 and \$8.7 million at December 31, 2013.

Revenues from product sales are mostly derived from the sales of Luna's sensing systems and products that make use of light-transmitting optical fibers, or fiber optics. Luna continues to invest in product development and commercialization, which Luna anticipates will lead to increased product sales growth. Although Luna has been successful in licensing certain technology in past years, Luna does not expect license revenues to represent a significant portion of future revenues. Over time, however, Luna intends to gradually increase such revenues. In the near term, Luna expects revenues from product sales and product development to be primarily in areas associated with Luna's fiber optic instrumentation, test and measurement and sensing platforms. In the long term, Luna expects that revenues from product sales will represent a larger portion of total revenues and that as Luna develops and commercializes new products, these revenues will reflect a broader and more diversified mix of products.

During the quarter ended March 31, 2014, Luna sold its medical shape sensing business to affiliates of Intuitive Surgical Inc. (Intuitive). As a part of this transaction, Luna entered into a revocable license agreement with Intuitive pursuant to which Luna has the right 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. Furthermore, in March 2013, Luna sold the assets associated with Luna's secure computing and communications group (SCC) to MacAulay-Brown, Inc. (Mac-B), another defense contractor. As a result of these sales, Luna has reported the results of operations from Luna's medical shape sensing business and SCC as discontinued operations in its consolidated financial statements included elsewhere in this joint proxy statement/prospectus. Net loss from continuing operations was \$0.5 million for the quarter ended September 30, 2014, compared to \$0.8 million for the quarter ended September 30, 2013. After giving effect to the results of discontinued operations, which consisted of a \$0.3 million loss, as a result of the intraperiod allocation of income taxes, Luna recorded net loss attributable to common stockholders of approximately \$0.8 million for the quarter ended September 30, 2014. For the quarter ended September 30, 2013, Luna recorded a net loss attributable to common stockholders of approximately \$0.6 million, which included the results of operations of Luna's medical shape sensing business for the period, net of tax and tax expense associated with the sale of SCC.

Luna may incur increasing expenses as Luna seeks to expand its business, including expenses for research and development, sales and marketing and manufacturing capabilities. Luna may also grow its business in part through acquisitions of additional companies and complementary technologies, which could cause Luna to incur 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.

Luna's sales of SCC in 2013 and of Luna's medical shape sensing business in 2014 are expected to result in lower revenues than historically realized until Luna can increase revenues significantly, primarily from product sales. As a result, Luna may incur greater net losses than Luna has in prior years.

Description of Revenues, Costs and Expenses*Revenues*

Luna generates revenues from technology development, product sales and commercial product development and licensing activities. Luna derives Technology Development segment revenues from providing research and development services to third parties, including government entities, academic institutions and corporations, and from achieving milestones established by some of these contracts and in collaboration agreements. In general,

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Luna completes contracted research over periods ranging from six months to three years, and recognizes these revenues over the life of the contract as costs are incurred or upon the achievement of certain milestones built into the contracts. Luna's Technology Development segment represented 57% and 67% of Luna's total revenues for the three months ended September 30, 2014 and 2013, respectively, 59% and 63% of Luna's total revenues for the nine months ended September 30, 2014 and 2013, respectively, and 62% and 64% of Luna's total revenues for the years ended December 31, 2013 and 2012, respectively.

Luna's Products and Licensing segment revenues reflect amounts that Luna receives from sales of products or development of products for third parties, as well as fees paid to Luna in connection with licenses or sublicenses of certain patents and other intellectual property. Luna's Products and Licensing segment represented 43% and 33% of Luna's total revenues for the three months ended September 30, 2014 and 2013, respectively, 41% and 37% of Luna's total revenues for the nine months ended September 30, 2014 and 2013, respectively, and 38% and 36% of Luna's total revenues for the years ended December 31, 2013 and 2012, respectively.

Cost of Revenues

Cost of revenues associated with Luna's Technology Development segment revenues consists of costs associated with performing the related research activities including direct labor, amounts paid to subcontractors and overhead allocated to Technology Development segment activities.

Cost of revenues associated with Luna's Products and Licensing segment revenues consists of license fees for use of certain technologies, product manufacturing costs including all direct material and direct labor costs, amounts paid to Luna's contract manufacturers, manufacturing, shipping and handling, provisions for product warranties, and inventory obsolescence as well as overhead allocated to each of these activities.

Operating Expense

Operating expense consists of selling, general and administrative expenses, as well as expenses related to research, development and engineering, depreciation of fixed assets and amortization of intangible assets. These expenses also include compensation for employees in executive and operational functions including certain non-cash charges related to expenses from option grants, facilities costs, professional fees, salaries, commissions, travel expense and related benefits of personnel engaged in sales, product management and marketing activities, costs of marketing programs and promotional materials, salaries, bonuses and related benefits of personnel engaged in Luna's research and development beyond the scope and activities of Luna's Technology Development segment, product development activities not provided under contracts with third parties, and overhead costs related to these activities.

Interest Expense

Interest expense is composed of interest paid under Luna's bank loans as well as interest accrued on Luna's capital lease obligations.

Critical Accounting Policies and Estimates

Luna's discussion and analysis of Luna's financial condition and results of operations are based on Luna's consolidated financial statements, which have been prepared in accordance with U.S. GAAP. The preparation of these financial statements requires Luna to make estimates, assumptions and judgments that affect the amounts reported in Luna's financial statements and the accompanying notes. Luna bases estimates on historical experience and on various other assumptions that Luna believes to be reasonable under the circumstances. Actual results may differ from these

estimates under different assumptions or judgments.

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Technology Development Revenues

Luna performs research and development for U.S. Federal government agencies, educational institutions and commercial organizations. Luna recognizes revenue under research contracts when a contract has been executed, the contract price is fixed and determinable, delivery of services or products has occurred, and collectability of the contract price is considered reasonably assured and can be reasonably estimated. Revenue is earned under cost reimbursable, time and materials and fixed price contracts. Direct contract costs are expensed as incurred.

Under cost reimbursable contracts, Luna is reimbursed for costs that are determined to be reasonable, allowable and allocable to the contract and paid a fixed fee representing the profit negotiated between Luna and the contracting agency. Revenue from cost reimbursable contracts is recognized as costs are incurred plus an estimate of applicable fees earned. Luna considers fixed fees under cost reimbursable contracts to be earned in proportion to the allowable costs incurred in performance of the contract.

Revenue from time and materials contracts is recognized based on direct labor hours expended at contract billing rates plus other billable direct costs.

Fixed price contracts may include either a product delivery or specific service performance throughout a period. For fixed price contracts that are based on the proportional performance method and involve a specified number of deliverables, Luna recognizes revenue based on the proportion of the cost of the deliverables compared to the cost of all deliverables included in the contract as this method more accurately measures performance under these arrangements. For fixed price contracts that provide for the development and delivery of a specific prototype or product, revenue is recognized based upon the percentage of completion method.

Luna's contracts with agencies of the U.S. government are subject to periodic funding by the respective contracting agency. Funding for a contract may be provided in full at inception of the contract or ratably throughout the contract as the services are provided. In evaluating the probability of funding for purposes of assessing collectability of the contract price, Luna considers previous experience with Luna's customers, communication with customers regarding funding status and Luna's knowledge of available funding for the contract or program. If funding is not assessed as probable, revenue recognition is deferred until realization is reasonably assured.

Contract revenue recognition inherently involves estimation, including the contemplated level of effort to accomplish the tasks under the contract, the cost of the effort and an ongoing assessment of progress toward completing the contract. From time to time, as part of normal management processes, facts may change, causing revisions to estimated total costs or revenues expected. The cumulative impact of any revisions to estimates and the full impact of anticipated losses on any type of contract are recognized in the period in which they become known.

The underlying bases for estimating Luna's contract research revenues are measurable expenses, such as labor, subcontractor costs and materials, and data that are updated on a regular basis for purposes of preparing Luna's cost estimates. Luna's research contracts generally have a period of performance of six to 18 months, and Luna's estimates of contract costs have historically been consistent with actual results. Revisions in these estimates between accounting periods to reflect changing facts and circumstances have not had a material impact on Luna's operating results, and Luna does not expect future changes in these estimates to be material.

Whether certain costs under government contracts are allowable is subject to audit by the government. Certain indirect costs are charged to contracts using provisional or estimated indirect rates, which are subject to later revision based on government audits of those costs. Management is of the opinion that costs subsequently disallowed, if any, would not likely have a significant impact on revenues recognized for those contracts.

Products and Licensing Revenues

Luna recognizes revenue relating to product sales when persuasive evidence of an arrangement exists, delivery has occurred, the selling price is fixed or determinable and collectability of the resulting receivable is reasonably

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assured. For tangible products that contain software that is essential to the tangible product's functionality, Luna considers the product and software to be a single unit of accounting and recognize revenue accordingly. Luna evaluates product sales that are a part of multiple-element revenue arrangements to determine whether separate units of accounting exist, and Luna follows appropriate revenue recognition policies for each separate unit. For multi-element arrangements Luna allocates revenue to all significant deliverables based on their relative selling prices. In such circumstances, Luna uses a hierarchy to determine the selling price to be used for allocating revenue to deliverables: (i) vendor-specific objective evidence of fair value (VSOE), (ii) third-party evidence of selling price (TPE) and (iii) best estimate of the selling price (ESP). VSOE generally exists only when Luna sells the deliverable separately and is the price actually charged by Luna for that deliverable. Luna's product sales often include bundled products, options and services and therefore VSOE is not readily determinable. In addition, Luna believes that because of unique features of Luna's products, TPE also is not available. ESPs reflect Luna's best estimates of what the selling prices of elements would be if they were sold regularly on a stand-alone basis.

Luna's process for determining ESP for deliverables without VSOE or TPE considers multiple factors that may vary depending upon the unique facts and circumstances related to each deliverable. Key factors considered in developing the ESPs include prices charged by Luna for similar offerings, Luna's historical pricing practices, the nature of the deliverables, and the relative ESP of all of the deliverables as compared to the total selling price of the product. Luna may also consider, when appropriate, the impact of other products and services, on selling price assumptions when developing and reviewing Luna's ESPs.

Income Taxes

Luna estimates tax liability through calculating current tax liability, together with assessing temporary differences resulting from the different treatment of items for tax and accounting purposes. These differences result in deferred tax assets and liabilities, which Luna records on its balance sheet. Management then assesses the likelihood that deferred tax assets will be recovered in future periods. In assessing the need for a valuation allowance against the net deferred tax asset, management considers factors such as future reversals of existing taxable temporary differences, taxable income in prior carry back years, whether carry back is permitted under the tax law, tax planning strategies and estimated future taxable income exclusive of reversing temporary differences and carry forwards. To the extent that Luna cannot conclude that it is more likely than not that the benefit of such assets will be realized, Luna establishes a valuation allowance to reduce their net carrying value.

As Luna assesses its projections of future taxable income or other factors that may impact Luna's ability to generate taxable income in future periods, Luna's estimate of the required valuation allowance may change, which could have a material impact on future earnings or losses.

Luna recognizes tax benefits from an uncertain tax position only if it is more likely than not that the tax position will be sustained on examination by taxing authorities. While it is often difficult to predict the final outcome of timing of the resolution of any particular tax matter, Luna establishes a liability at the time Luna determines it is probable Luna will be required to pay additional taxes related to certain matters. These liabilities are recorded in accrued liabilities in Luna's consolidated balance sheets. Luna adjusts this provision, including any impact on the related interest and penalties, in light of changing facts and circumstances, such as the progress of a tax audit. A number of years may elapse before a particular matter for which Luna has established a liability is audited and finally resolved. The number of years with open tax audits varies depending on the tax jurisdiction. Settlement of any particular issue would usually require the use of cash. Luna recognizes favorable resolutions of tax matters for which Luna has previously established liabilities as a reduction to Luna's income tax expense when the amounts involved become known.

Due to differences between federal and state tax law, and U.S. GAAP, certain items are included in the tax return at different times than when those items are reflected in the consolidated financial statements. Therefore, the annual tax rate reflected in Luna's consolidated financial statements is different than that reported in Luna's tax

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return. Some of these differences are permanent, such as expenses that are not deductible in Luna's tax return. Some differences, such as depreciation expense, reverse over time and create deferred tax assets and liabilities. The tax rates used to determine deferred tax assets or liabilities are the enacted tax rates in effect for the year in which the differences are expected to reverse. Based on the evaluation of all available information, Luna recognizes future tax benefits, such as net operating loss (NOL) carry forwards, to the extent that realizing these benefits is considered more likely than not.

Stock-Based Compensation

Luna recognizes stock-based compensation expense based upon the fair value of the underlying equity award on the date of the grant. Luna has elected to use the Black-Scholes option pricing model to value any awards granted. Luna amortizes stock-based compensation for such awards on a straight-line basis over the related service period of the awards taking into account the effects of the employees' expected exercise and post-vesting employment termination behavior. To compute the volatility used in this model, Luna uses the lifetime volatility of common stock.

Long-lived and Intangible Assets

Long-lived assets and certain identifiable intangibles are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset might not be recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to future un-discounted net cash flows expected to be generated by the asset. If such assets are considered to be impaired, the impairment to be recognized is measured by the amount by which the carrying amount of the asset exceeds the fair value of the asset. Assets to be disposed of are reported at the lower of the carrying amount or fair value, less cost to sell.

Results of Operations*Three Months Ended September 30, 2014 Compared to Three Months Ended September 30, 2013**Revenues*

	Three Months Ended September 30,		Change	
	2014	2013		
Revenues:				
Technology development revenues	\$ 3,067,022	\$ 3,130,206	\$ (63,184)	(2)%
Products and licensing revenues	2,303,508	1,568,646	\$ 734,862	47%
Total revenues	\$ 5,370,530	\$ 4,698,852	\$ 671,678	14%

Revenues from Luna's Technology Development segment for the three months ended September 30, 2014 were substantially unchanged from the same period of 2013 at \$3.1 million.

Revenues from Luna's Products and Licensing segment increased \$0.7 million for the three months ended September 30, 2014 compared to the same period of 2013. This increase resulted primarily from growth in sales of Luna's ODiSI products for fiber optic sensing.

Cost of Revenues and Gross Profit

	Three Months Ended September 30,			
	2014	2013	Change	
Cost of revenues:				
Technology development costs	\$ 2,379,105	\$ 2,282,061	\$ 97,044	4%
Products and licensing costs	908,175	739,646	\$ 168,529	23%
Total cost of revenues	\$ 3,287,280	\$ 3,021,707	\$ 265,573	9%
Gross Profit	\$ 2,083,250	\$ 1,677,145	\$ 406,105	24%

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The cost of Luna's Technology Development segment revenues for the three months ended September 30, 2014 did not change significantly compared to the third quarter of 2013.

The costs from Luna's Products and Licensing segment increased \$0.2 million from \$0.7 million during the third quarter of 2013 to \$0.9 million during the third quarter of 2014, due to increased materials costs associated with the growth in sales of Luna's ODISI products.

Because of the overall increase in revenues of 14% in the three months ended September 30, 2014 compared to the three months ended September 30, 2013, and an associated increase of 9% in cost of revenues, Luna's gross profit increased to \$2.1 million for the three months ended September 30, 2014 compared to \$1.7 million for the three months ended September 30, 2013.

As the growth in revenues was driven by product sales, which typically have higher margins than revenues earned in Luna's Technology Development segment, Luna's overall gross margins increased to 39% during the third quarter of 2014 compared to 36% for the same period of 2013.

Operating Expense

	Three Months Ended September 30,			
	2014	2013	Change	
Operating expense:				
Selling, general and administrative	\$ 2,329,713	\$ 2,447,972	\$ (118,259)	(5)%
Research, development and engineering	473,527	531,185	\$ (57,658)	(11)%
Total operating expense	\$ 2,803,240	\$ 2,979,157	\$ (175,917)	(6)%

Luna's selling, general and administrative expense decreased 5% during the three months ended September 30, 2014, as compared to the same period in 2013. The decrease in expense was primarily driven by reductions in administrative headcount in the first half of 2014 and by reduction in investment banking fees related to Luna's efforts to sell the medical shape sensing business.

Research, development and engineering expense decreased 11% primarily due to lower amortization costs of patents and lower costs of third party consultants.

Other Income

During the three months ended September 30, 2013, Luna recognized approximately \$70,000 of rent from Mac-B for the partial sublease of Luna's Roanoke facility. This sublease expired on April 30, 2014. Therefore, Luna had no similar rent revenues for the three months ended September 30, 2014.

Interest Expense

Interest expense for the three months ended September 30, 2014 was approximately \$21,000 compared to interest expense of approximately \$43,000 during the same period in 2013. The monthly average loan balance during the three months ended September 30, 2014 was \$1.2 million compared to \$2.7 million for the same period in 2013. The lower average loan balance accounted for the decrease in interest expense.

Net Loss from Continuing Operations

As a result of Luna's revenues of \$5.4 million offset by cost of revenues of \$3.3 million and operating expenses of \$2.8 million during the three months ended September 30, 2014, Luna incurred a loss from continuing operations before income taxes of approximately \$0.7 million, compared to a loss from continuing operations

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before income taxes of approximately \$1.3 million for the three months ended September 30, 2013. Luna recorded an income tax benefit related to Luna's NOLs of \$0.3 million and \$0.5 million for the three months ended September 30, 2014 and 2013, respectively. After recognition of the tax benefit, Luna's net loss from continuing operations was \$0.5 million for the three months ended September 30, 2014 compared to a net loss from continuing operations of \$0.8 million for the three months ended September 30, 2013.

Net (Loss)/Income from Discontinued Operations

For the three months ended September 30, 2014, Luna recognized net loss from discontinued operations of \$0.3 million, compared to net income from discontinued operations of \$0.2 million for the same period in 2013. For the three months ended September 30, 2014, this loss resulted from the intraperiod allocation of income taxes in the third quarter of 2014 in connection with the sale of Luna's medical shape sensing business that occurred during the first quarter of 2014.

For the three months ended September 30, 2013, net income from discontinued operations consisted of \$0.7 million of operating income from Luna's medical shape sensing business, which was partially offset by a \$0.3 million intraperiod allocation of income taxes for the third quarter of 2013.

*Nine Months Ended September 30, 2014 Compared to Nine Months Ended September 30, 2013**Revenues*

	Nine Months Ended September 30,			
	2014	2013	Change	
Revenues:				
Technology development revenues	\$ 8,961,909	\$ 8,564,743	\$ 397,166	5%
Products and licensing revenues	6,108,799	5,070,441	\$ 1,038,358	20%
Total revenues	\$ 15,070,708	\$ 13,635,184	\$ 1,435,524	11%

Revenues from Luna's Technology Development segment increased \$0.4 million for the nine months ended September 30, 2014, compared to the same period in 2013, due primarily to growth in Luna's biomedical and nanomaterials groups, which largely resulted from higher costs of subcontractors, whose costs were passed through to the customer and resulted in revenues to Luna during the second quarter of 2014. These higher subcontractor costs may not recur at such levels in future quarters.

Revenues from Luna's Products and Licensing segment increased by \$1.0 million for the nine months ended September 30, 2014, compared to the same period in 2013. This increase in Luna's Products and Licensing revenues was primarily attributable to higher sales of telecom test and measurement equipment.

Cost of Revenues and Gross Profit

	Nine Months Ended September 30,		
	2014	2013	Change
Cost of revenues:			

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Technology development costs	\$ 6,793,061	\$ 6,676,133	\$ 116,928	2%
Products and licensing costs	2,654,305	2,322,776	\$ 331,529	14%
Total cost of revenues	\$ 9,447,366	\$ 8,998,909	\$ 448,457	5%
Gross Profit	\$ 5,623,342	\$ 4,636,275	\$ 987,067	21%

The cost of Luna's Technology Development segment remained relatively unchanged for the nine months ended September 30, 2014, compared to the same period in 2013.

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The cost of revenues in Luna's Products and Licensing segment increased 14% commensurate with the growth in product sales for the for the nine months ended September 30, 2014.

Because of the overall increase in revenues of 11% in the nine months ended September 30, 2014 compared to the nine months ended September 30, 2013, and an associated increase of 5% in cost of revenues, Luna's gross profit increased to \$5.6 million for the nine months ended September 30, 2014, compared to \$4.6 million for the nine months ended September 30, 2013.

Operating Expense

	Nine Months Ended September 30,			
	2014	2013	Change	
Operating expense:				
Selling, general and administrative	\$ 7,551,512	\$ 7,986,541	\$ (435,029)	(5)%
Research, development and engineering	1,707,190	1,932,966	\$ (225,776)	(12)%
Total operating expense	\$ 9,258,702	\$ 9,919,507	\$ (660,805)	(7)%

Luna's selling, general and administrative expense decreased 5% during the nine months ended September 30, 2014, as compared to the same period in 2013. The decrease was primarily due to cost reduction initiatives in the second quarter of 2014 following the sale of Luna's medical shape sensing business. These savings resulted from headcount reductions in administrative roles and reduced professional fees for legal and investor relations services.

Research, development and engineering expense decreased 12% due to lower headcount following the transfer of certain engineering employees to Intuitive as part of the sale of Luna's medical shape sensing business in January 2014.

Other Income

Luna recognized approximately \$102,000 and \$185,000 of rent for the nine months ended September 30, 2014 and 2013, respectively, from Mac-B for the partial sublease of Luna's Roanoke facility. As noted above, this sublease expired on April 30, 2014. Also, for the nine months ended September 30, 2013, Luna recognized approximately \$48,000 in other income in connection with the receipt of an insurance policy profit share.

Interest Expense

Interest expense for the nine months ended September 30, 2014 was approximately \$81,000 compared to interest expense of approximately \$151,000 during the same period in 2013. The monthly average loan balance during the nine months ended September 30, 2014 was \$1.5 million compared to \$3.0 million for the same period in 2013. The lower average loan balance during the nine months ended September 30, 2014 accounted for the decrease in interest expense.

Net Loss from Continuing Operations

As a result Luna's revenues of \$15.1 million offset by Luna's cost of revenues of \$9.4 million and operating expenses of \$9.3 million, during the nine months ended September 30, 2014, Luna incurred a loss from continuing operations before income taxes of approximately \$3.6 million, compared to a loss from continuing operations before income

taxes of approximately \$5.2 million for the nine months ended September 30, 2013. Luna recorded an income tax benefit related to Luna's NOLs of \$1.4 million and \$2.0 million for the nine months ended September 30, 2014 and 2013, respectively. After recognition of the tax benefit, Luna's net loss from continuing operations was \$2.2 million for the nine months ended September 30, 2014 compared to a net loss from continuing operations of \$3.1 million for the nine months ended September 30, 2013.

Table of Contents*Net Income from Discontinued Operations*

For the nine months ended September 30, 2014, Luna recognized net income from discontinued operations of \$9.1 million, compared to net income from discontinued operations of \$4.3 million for the same period in 2013. For the nine months ended September 30, 2014, this income resulted from net gain related to the sale of Luna's medical shape sensing business that occurred during the first quarter of 2014.

For the nine months ended September 30, 2013, net income from discontinued operations consisted of a \$3.4 million net of tax, gain on the sale of Luna's SCC business in addition to \$0.9 million of net operating income from Luna's medical shape sensing business and Luna's SCC business for the two months prior to its sale on March 1, 2013.

Year Ended December 31, 2013 Compared to Year Ended December 31, 2012

The following table shows information derived from Luna's consolidated statements of operations expressed as a percentage of total revenues for the periods presented.

	Year ended December 31,	
	2013	2012
Revenues:		
Technology development revenues	62.3%	64.5%
Product and licensing revenues	37.7	35.5
Total revenues	100.0	100.0
Cost of Revenues:		
Technology development costs	48.4	45.8
Product and licensing costs	18.6	16.3
Total cost of revenues	67.0	62.1
Gross Profit	33.0	37.9
Operati		