
**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549**

**SCHEDULE 14A
(Rule 14a-101)**

**INFORMATION REQUIRED IN PROXY STATEMENT
SCHEDULE 14A INFORMATION**

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

Filed by the Registrant

Filed by a Party other than the Registrant

Check the appropriate box:

- Preliminary Proxy Statement
- Confidential, For Use of the Commission Only (as permitted by Rule 14a-6(e)(2))**
- Definitive Proxy Statement
- Definitive Additional Materials
- Soliciting Material Pursuant to § 240.14a-12

LUNA INNOVATIONS INCORPORATED

(Name of Registrant as Specified in its Charter)

(Name of Person(s) Filing Proxy Statement, if Other Than the Registrant)

Payment of Filing Fee (Check the appropriate box):

- No fee required.
- Fee computed on table below per Exchange Act Rules 14a-6(i)(1) and 0-11.

(1) Title of each class of securities to which transaction applies:

(2) Aggregate number of securities to which transaction applies:

(3) Per unit price or other underlying value of transaction computed pursuant to Exchange Act Rule 0-11 (set forth the amount on which the filing fee is calculated and state how it was determined):

(4) Proposed maximum aggregate value of transaction:

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Fee paid previously with preliminary materials.

Check box if any part of the fee is offset as provided by Exchange Act Rule 0-11(a)(2) and identify the filing for which the offsetting fee was paid previously. Identify the previous filing by registration statement number, or the form or schedule and the date of its filing.

(1) Amount Previously Paid:

(2) Form, Schedule or Registration Statement No.:

(3) Filing Party:

(4) Date Filed:



301 1st Street SW, Suite 200
Roanoke, Virginia 24011

**NOTICE OF ANNUAL MEETING OF STOCKHOLDERS
TO BE HELD ON MAY 14, 2019**

To the Stockholders of Luna Innovations Incorporated:

Notice is hereby given that the Annual Meeting of Stockholders of Luna Innovations Incorporated (the "Company") will be held at **The Hotel Roanoke & Conference Center, 110 Shenandoah Avenue, Roanoke, Virginia 24016 on Tuesday, May 14, 2019, at 9:00 a.m. EDT** for the following purposes:

1. To elect the board's two nominees named herein to serve as Class I members of the Company's board of directors to hold office until the 2022 annual meeting of stockholders.
2. To approve, on an advisory basis, the compensation of the Company's named executive officers, as disclosed in this proxy statement.
3. To indicate, on an advisory basis, the preferred frequency of stockholder advisory votes on the compensation of the Company's named executive officers.
4. To ratify the appointment, by the Audit Committee of the Company's board of directors, of Grant Thornton LLP as the Company's independent registered public accounting firm for the fiscal year ending December 31, 2019.
5. To transact any other business that is properly brought before the meeting or any adjournment or postponement thereof.

Please refer to the attached proxy statement, which forms a part of this Notice and is incorporated herein by reference, for further information with respect to the business to be transacted at the annual meeting.

Stockholders of record at the close of business on April 1, 2019 (the "Record Date") are entitled to notice of, and to vote at, the annual meeting or any adjournment or postponement thereof. The presence, in person or by proxy, of shares of the Company's common stock representing a majority of shares of the Company's common stock issued and outstanding on the Record Date will be required to establish a quorum at the annual meeting.

Your vote is important. Please sign, date and return the enclosed proxy card as soon as possible, or vote by telephone or on the Internet as instructed in these materials, to make sure that your shares are represented at the annual meeting. If you are a stockholder of record of the Company's common stock, you may cast your vote by proxy or in person at the annual meeting. If your shares are held of record by a brokerage firm, bank or other nominee, you must obtain a proxy issued in your name from that record holder and should instruct the record holder as to how to vote your shares.

By Order of the Board of Directors,

/s/ Scott A. Graeff

Scott A. Graeff

President, Chief Executive Officer, Treasurer and Secretary

Roanoke, Virginia
April 9, 2019

You are cordially invited to attend the annual meeting. Whether or not you plan to attend in person, please complete, sign, date and return the accompanying proxy card in the enclosed envelope, or vote by telephone or on the Internet as instructed in these materials, as promptly as possible in order to ensure your representation at the meeting. Even if you have voted by proxy, you may still vote in person if you attend the meeting.

Important Notice Regarding the Availability of Proxy Materials for the Meeting of Stockholders to be held on May 14, 2019: The Proxy Statement and Annual Report to Stockholders are available at <https://materials.proxyvote.com/550351>.

LUNA INNOVATIONS INCORPORATED

PROXY STATEMENT
FOR
ANNUAL MEETING OF STOCKHOLDERS
MAY 14, 2019

INFORMATION CONCERNING SOLICITATION AND VOTING

General

This proxy statement is furnished to the stockholders of Luna Innovations Incorporated (the “Company,” “we,” “us,” or “our”) in connection with the solicitation of proxies for use at our annual meeting of stockholders to be held on May 14, 2019 at 9:00 a.m. EDT at The Hotel Roanoke & Conference Center, 110 Shenandoah Avenue, Roanoke, Virginia 24016 for the purposes set forth in the accompanying “Notice of Annual Meeting of Stockholders.” Directions to the annual meeting may be found at http://www.hotelroanoke.com/southwest_va_hotel/directions/. Information on how to vote in person at the annual meeting is discussed below.

A copy of our Annual Report to Stockholders, which includes our annual report on Form 10-K for the year ended December 31, 2018 filed with the Securities and Exchange Commission, together with this proxy statement and accompanying proxy card, is expected to be mailed on or about April 9, 2019 to our stockholders of record as of the close of business on the Record Date. Those materials are also available at <https://materials.proxyvote.com/550351>.

This solicitation is made on behalf of our board of directors, and we will pay the costs of solicitation. We will reimburse banks, brokerage firms and other custodians, nominees and fiduciaries for reasonable expenses incurred by them in sending our proxy material to our stockholders. Our principal executive offices are located at 301 1st Street SW, Suite 200, Roanoke, Virginia 24011, and our telephone number is (540) 769-8400.

Shares Entitled to Vote and Quorum Requirement

Our outstanding common stock constitutes the only class of securities entitled to vote at the annual meeting. Stockholders of record of our common stock at the close of business on the Record Date are entitled to notice of, and to vote at, our 2019 annual meeting of stockholders. A list of our stockholders will be available for review at our principal executive offices during regular business hours for a period of ten days prior to the annual meeting. As of the close of business on April 1, 2019, 29,378,703 shares of our common stock were issued and 28,125,593 shares of our common stock were outstanding; therefore, the presence at the meeting, in person or by proxy, of at least 14,062,768 shares of common stock will constitute a quorum. Each share of common stock owned as of the Record Date is entitled to one vote. If there is no quorum, holders of a majority of shares present at the meeting in person or represented by proxy may adjourn the meeting to another date.

Voting Procedures

The procedures for voting differ depending on whether you are a stockholder of record (that is, if your shares are registered directly in your own name with the Company’s transfer agent) or you hold your shares in “street name” (that is, your shares are held in an account at a brokerage, bank, dealer or other similar organization rather than in your own name, in which case you are considered to be the “beneficial owner” of those shares).

Stockholders of Record

Stockholders of record may vote by (i) completing and returning the enclosed proxy card prior to the meeting, (ii) voting over the telephone, (iii) voting on the Internet, (iv) voting in person by ballot at the meeting, or (v) submitting a signed proxy card at the meeting.

A proxy card is enclosed for your use. We ask that you carefully review, complete, sign, date and return the proxy card in the accompanying envelope, which is postage prepaid if mailed in the United States.

Instead of submitting your vote in person or by mail, you may vote by telephone or over the Internet. In order to vote 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 11:59 p.m., EDT on Monday, May 13, 2019 to 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.

If you are a stockholder of record and do not vote by completing your proxy card, by telephone, by mail, over the Internet or in person at the annual meeting, your shares will not be voted.

Beneficial Owners

If your shares are held in street name, the organization holding your account is considered to be the stockholder of record for purposes of voting at the annual meeting. If you are a beneficial owner of shares registered in the name of your broker, bank, or other agent, you should have received a voting instruction form with these proxy materials from that organization rather than from the Company. As a beneficial owner, you still have the right to direct your broker or other agent regarding how to vote the shares in your account. Simply complete and mail the voting instruction form to ensure that your vote is counted. Alternatively, you may vote by telephone or over the Internet as instructed by your broker or bank.

You are also invited to attend the annual meeting. However, since you are not the stockholder of record, you may not vote your shares in person at the meeting unless you request and obtain a valid proxy from your broker or other agent. Follow the instructions from your broker or bank included with these proxy materials, or contact your broker or bank to request a proxy form.

If you are a beneficial owner and do not instruct your broker, bank, or other agent how to vote your shares, the question of whether your broker or nominee will still be able to vote your shares depends on whether the New York Stock Exchange ("NYSE"), deems the particular proposal to be a "routine" matter. Even though our common stock is listed on the Nasdaq Capital Market, the NYSE rules apply to brokers who are NYSE members voting on matters being submitted to stockholders at our annual meeting. Brokers and nominees can use their discretion to vote "uninstructed" shares with respect to matters that are considered to be "routine," but not with respect to "non-routine" matters. Under the rules and interpretations of the NYSE, "non-routine" matters are matters that may substantially affect the rights or privileges of stockholders, such as mergers, stockholder proposals, elections of directors (even if not contested), executive compensation and certain corporate governance proposals, even if supported by management. Accordingly, your broker or nominee may not vote your shares on Proposals No. 1, No. 2 or No. 3 without your instructions, but may vote your shares on Proposal No. 4.

We provide Internet proxy voting to allow you to vote your shares online, with procedures designed to ensure the authenticity and correctness of your proxy vote instructions. There is no cost associated with casting your vote online. However, please be aware that you must bear any costs associated with your Internet access, such as usage charges from Internet access providers and telephone companies.

The persons named as attorneys-in-fact to vote the proxies, Scott A. Graeff and Dale E. Messick, were selected by the board of directors and are executive officers of the Company. All properly executed proxies returned in time to be counted at the annual meeting will be voted.

If you return a signed and dated proxy card without marking voting selections, then unless there are different instructions on the proxy card, your shares will be voted at the meeting **FOR** the election of the two director nominees listed in Proposal No. 1, **FOR** the advisory approval of executive compensation in Proposal No. 2, for **One Year** as the preferred frequency of advisory votes to approve executive compensation in Proposal No. 3 and **FOR** the ratification of the appointment of our independent registered public accounting firm in Proposal No. 4. With respect to any other business that may properly come before the annual meeting and be submitted to a vote of stockholders, proxies will be voted in accordance with the best judgment of the designated proxy holders.

All votes cast at the annual meeting will be tabulated by the person or persons appointed by our board of directors to act as inspectors of election for the meeting. The inspectors of election will separately count, for Proposal No. 1, the election of directors, votes "For," "Withhold" and "broker non-votes," with respect to the proposal regarding frequency of stockholder advisory votes to approve executive compensation, votes for frequencies of one year, two years or three years, abstentions and broker non-votes, and with respect to other proposals, votes "For" and "Against," abstentions and "broker non-votes." Broker non-votes occur when a beneficial owner of shares held in "street name" does not give instructions to the broker or nominee holding the shares as to how to vote on matters deemed "non-routine," in which case the broker or nominee cannot vote the shares, as described above.

Abstentions and broker non-votes will be counted as shares that are present and entitled to vote for purposes of determining the presence of a quorum. Abstentions will be counted towards the vote total for each of Proposals No. 2 and 4 and will have the same effect as "Against" votes. For Proposal No. 3, abstentions will have no effect and will not be counted

towards the vote total. Broker non-votes have no effect and are not included in the tabulation of voting results on any proposals.

The director nominees listed in Proposal No. 1 will be elected by a plurality of the votes of the shares present or represented by proxy at the meeting and entitled to vote on the election of directors. The two nominees receiving the most "For" votes will be elected.

Proposal No. 2, advisory approval of the compensation of the Company's named executive officers, will be considered to be approved if it receives "For" votes from the holders of a majority of shares either present in person or represented by proxy and entitled to vote.

For Proposal No. 3, the advisory vote on the frequency of stockholder advisory votes on executive compensation, the frequency receiving the highest number of votes from the holders of shares present in person or represented by proxy and entitled to vote at the annual meeting will be considered the frequency preferred by the stockholders.

The appointment of our independent registered public accounting firm listed in Proposal No. 4 will be ratified if a majority of shares present or represented by proxy at the meeting and entitled to vote thereon vote "For" such proposal.

Your vote is important. Accordingly, please carefully review, complete, sign, date and return the enclosed proxy card, or vote over the telephone or Internet, whether or not you plan to attend the annual meeting in person.

If you receive more than one set of proxy materials, your shares may be registered in more than one name or in different accounts. Please follow the voting instructions on the proxy cards in the proxy materials to ensure that all of your shares are voted.

Changing Your Vote

If you are a stockholder of record, you may revoke your proxy at any time before it is actually voted at the meeting either by signing and submitting a new proxy card with a later date or by attending the annual meeting and voting in person. You may also grant a subsequent proxy by telephone or over the Internet. Your most recently submitted proxy card or telephone or Internet proxy is the one that will be counted. Merely attending the meeting, however, will not revoke your submitted proxy unless you vote at the meeting, which will have the effect of revoking your proxy. You may also send a timely written notice that you are revoking your proxy to our Corporate Secretary at 301 1st Street SW, Suite 200, Roanoke, Virginia 24011.

If you hold shares through a bank or brokerage firm, you should have received a proxy card and voting instructions with these proxy materials, and you must contact the bank or brokerage firm directly to revoke any prior voting instructions.

Results of Voting

Preliminary voting results will be announced at the annual meeting. In addition, final voting results will be published in a current report on Form 8-K that we expect to file within four business days after the annual meeting. If final voting results are not available to us in time to file a Form 8-K within four business days after the annual meeting, we intend to file a Form 8-K to publish preliminary results and, within four business days after the final results are known to us, file an additional Form 8-K to publish the final results.

**PROPOSAL NO. 1
ELECTION OF DIRECTORS**

General Information

Our board of directors is divided into three classes (Class I, Class II and Class III) with staggered three-year terms. Each class consists, as nearly as possible, of one-third of the total number of directors. Vacancies on the board of directors may be filled only by persons elected by a majority of the remaining directors. A director elected by the board of directors to fill a vacancy in a class, including vacancies created by an increase in the number of directors, shall serve for the remainder of the full term of that class and until the director's successor is duly elected and qualified.

The board of directors currently has eight members, including two Class I directors, Richard W. Roedel and Gary Spiegel, whose terms expire at the 2019 annual meeting. Mr. Roedel and Mr. Spiegel were both previously elected by our stockholders. The terms of the Class II and Class III directors will expire at the 2020 and 2021 annual meetings of the stockholders, respectively.

Our board of directors has nominated Mr. Roedel and Mr. Spiegel to serve as Class I directors for a three-year term expiring at the 2022 annual meeting of stockholders and until their successors have been duly elected and qualified, or, if sooner, until the director's death, resignation or removal. Mr. Roedel is currently a Class I director, Chairman of the board of directors and chairman of the Nominating and Governance Committee. Mr. Spiegel is currently a Class I director, a member of the Compensation Committee and a member of the Audit Committee. In February 2019, Mr. Spiegel resigned as a Class II director and was immediately reappointed as a Class I director whose term was scheduled to expire at the 2019 annual meeting, in order to switch board classes with John B. Williamson, III, whose term was scheduled to expire at the 2019 annual meeting but had expressed to the board an inability to commit to serving another full three-year term if reelected.

Directors are elected by a plurality of the votes of shares present in person or represented by proxy and entitled to vote on the election of directors. Proxies cannot be voted for more than two nominees. The two nominees receiving the highest number of "For" votes will be elected. Only votes "For" and "Withheld" will affect the outcome. Broker non-votes will have no effect on this proposal. Shares represented by executed proxies will be voted "For" the election of the two nominees recommended by the board of directors unless the proxy is marked in such a manner so as to withhold authority to vote. If any of the nominees is unable or unexpectedly declines to serve as director, the board of directors may designate another nominee to fill the vacancy, and the proxy will be voted for that nominee. Each person nominated for election has agreed to serve if elected, and we have no reason to believe that either nominee will be unable to serve.

The names of the two nominees for director and of our other directors whose terms will continue after the annual meeting, their ages as of April 1, 2019, and certain other information about them are set forth below. There are no family relationships among our directors or executive officers.

Names of Nominees	Age	Position(s)	Director Since
Richard W. Roedel	69	Chairman of the Board of Directors	2005
Gary Spiegel	68	Director	2015
Names of the Incumbent Directors with Terms Continuing After 2019 Annual Meeting	Age	Position(s)	Director Since
John B. Williamson, III	64	Director	2010
Michael W. Wise	68	Director	2011
Warren B. Phelps, III	72	Director	2017
N. Leigh Anderson	69	Director	2017
Donald Pastor	65	Director	2015
Scott A. Graeff	52	Director	2017

Our Nominating and Governance Committee seeks to assemble a board of directors that, as a whole, possesses the appropriate balance of professional and industry knowledge, financial expertise and high-level management experience necessary to oversee and direct our business. To that end, the committee has identified and evaluated nominees in the broader context of the board's overall composition, with the goal of recruiting members who complement and strengthen the skills of other members and who also exhibit integrity, collegiality, sound business judgment and other qualities that the committee views as critical to effective functioning of the board. The biographies below include information, as of the date of this proxy statement, relating to the specific and particular experience, qualifications, attributes or skills of each director or nominee that led the committee to believe that the nominee or director should serve or continue to serve, as applicable, on the board.

However, each of the members of the committee may have a variety of reasons why he believes a particular person would be an appropriate nominee for the board, and these views may differ from the views of other members.

Class I Director Nominees for Election for a Three Year Term Expiring at the 2022 Annual Meeting of Stockholders

Richard W. Roedel has served as a member of our board of directors since 2005 and as Chairman of our board of directors since January 2010. Mr. Roedel also serves as a director of publicly held companies IHS Markit Inc., Six Flags Entertainment Corporation, BrightView Holdings, Inc. and LSB Industries, Inc. Mr. Roedel serves as a Chairman of LSB and Chairman of its audit committee. Mr. Roedel is a member of the audit committee of Six Flags and IHS Markit and Chairman of the Risk Committee of IHS Markit. Mr. Roedel served as a director of Broadview Network Holdings, Inc., a private company with publicly traded debt until 2012. Mr. Roedel was a director of Lorillard, Inc. from 2008 to 2015, when it was acquired by Reynolds American Inc. Mr. Roedel was a director of Sealy Corporation from 2006 to 2013, when Sealy was acquired by Tempur-Pedic International Inc. Mr. Roedel was a director of BrightPoint, Inc. from 2002 until 2012, when BrightPoint was acquired by Ingram Micro. Mr. Roedel served on the Board of Directors of Dade Behring Holdings, Inc. from 2002 until 2007 when Dade was acquired by Siemens AG. Mr. Roedel served in various capacities at Take-Two Interactive Software, Inc. from 2002 until 2005, including chairman and chief executive officer. Mr. Roedel is a member of the National Association of Corporate Directors (NACD) Risk Oversight Advisory Council. Mr. Roedel served a three year term, ending in 2017, on the Standing Advisory Group of the Public Company Accounting Oversight Board (PCAOB). From 1971 through 2000, he was employed by BDO Seidman LLP, becoming an audit partner in 1980, later being promoted in 1990 to managing partner in Chicago and then managing partner in New York in 1994, and finally, in 1999, to chairman and chief executive officer. Mr. Roedel holds a B.S. degree in accounting from The Ohio State University and is a Certified Public Accountant. The Nominating and Governance Committee believes that Mr. Roedel's public accounting experience and his status as an authority on issues facing audit committees, his extensive service on public company boards and committees and his deep familiarity with our company make him a valuable member of the board of directors.

Gary Spiegel has served as a member of our board of directors since May 2015. He has more than 40 years of experience in the photonics industry. He held various positions, including vice president, sales and marketing, senior vice president, sales and business development, and senior vice president, business development at Newport Corporation from 2002 to 2013. Mr. Spiegel retired from Newport Corporation in 2014 and is currently a business development consultant. He has a Bachelor's Degree in Industrial Marketing from Baruch College of the City University of New York. He also sits on the board of directors of Telescent Inc., an early stage technology company focused on software defined network cross connect technology and Alio Industries, a small technology company serving a variety of high technology markets. He served as Secretary and Treasurer of the SPIE from 2015 through 2018, where he chaired the Financial Advisory Committee, as well as the Compensation Committee. The Nominating and Governance Committee believes that Mr. Spiegel's extensive experience in the photonics industry enables him to continue to make valuable contributions to the board of directors.

THE BOARD OF DIRECTORS RECOMMENDS YOU VOTE "FOR" EACH NAMED NOMINEE.

Class II Directors Continuing in Office Until the 2020 Annual Meeting of Stockholders

Michael W. Wise has served as a member of our board of directors since May 2011. In May 2015, Mr. Wise retired from his role as the Chief Financial Officer of Corvesta, Inc., an insurance and technology holding company, and Chief Financial Officer of its subsidiary Delta Dental of Virginia. Mr. Wise also served on the boards of directors and as treasurer of additional Corvesta portfolio companies, including Corvesta Life Insurance Company, a life and health insurance company. Prior to joining Delta Dental of Virginia as its Chief Financial Officer in 1996, Mr. Wise owned and managed several small businesses. He currently serves and has in the past served on numerous boards of directors of local non-profit organizations. He received a B.S. degree in Business Administration - Accounting from West Virginia University and was previously a Certified Public Accountant. The Nominating and Governance Committee believes that Mr. Wise's accounting and financial background, his experience in funding and managing technology companies through growth periods, his experience as an entrepreneur and his local and community leadership make him a valuable member of our board of directors. Mr. Wise is also one of our largest stockholders, which the Nominating and Corporate Governance Committee believes evidences his commitment to the long-term interest of our stockholders.

John B. Williamson, III has served as a member of our board of directors since January 2010. He served as Chief Executive Officer of RGC Resources, Inc., a publicly held energy distribution and services holding company from 1999 to

2014. He continues to serve as Chairman of the Board of RGC Resources, Inc. Mr. Williamson is a member of the boards of directors of Bank of Botetourt, Inc., a publicly held local bank, where he serves as chairman of the nominating and corporate governance committee, Optical Cable Corporation, a publicly held optical fiber manufacturer, where he serves as the chairman of the audit committee and a member of the compensation committee, and Corning Natural Gas Corporation, a publicly held natural gas company, where he serves as chairman of the audit committee and serves on the compensation committee. He was formerly a board member of NTELOS, Inc., a publicly held telecommunications company, where he also served as chairman of the audit committee. Mr. Williamson also formerly served in government executive capacities, including as County Administrator for Botetourt and Nelson Counties in Virginia. He earned a bachelor's degree in business administration and management from Virginia Commonwealth University and an M.B.A. degree from the College of William and Mary. The Nominating and Governance Committee believes that Mr. Williamson's public company chief executive officer experience, his experience as audit committee chairman of other public companies and his local and community leadership will enable him to continue to make valuable contributions to the board of directors.

Warren B. Phelps, III has served as a member of our board of directors since May 2017. He has served as Executive Chairman of Empower RF Systems, a developer and manufacturer of high power RF amplifiers for the defense and commercial markets, since January 2013. From 2009 until December 2012, Mr. Phelps served as the Chairman and Chief Executive Officer of Empower. Mr. Phelps serves as Chairman of the Board of Directors and Chairman of the audit committee of U.S. Auto Parts Network, Inc., a public company. From 2000 until his retirement in 2006, Mr. Phelps served in several executive positions for Spirent plc, a leading communications technology company, most recently as President of the Performance Analysis Broadband division. From 1996 to 2000, Mr. Phelps was at Netcom Systems, a provider of network test and measurement equipment, most recently as President and Chief Executive Officer. Prior to that, Mr. Phelps held executive positions, including Chairman and Chief Executive Officer, at MICOM Communications and in various financial management roles at Burroughs/Unisys Corporation. Mr. Phelps current serves on the board of directors of a privately held company and on the Board of Trustees of St. Lawrence University. Mr. Phelps holds a B.S. degree in mathematics from St. Lawrence University in Canton, New York and an M.B.A. from The University of Rochester in Rochester, New York. The Nominating and Governance Committee believes that Mr. Phelps's prior experience as a Chief Executive officer and with the defense and commercial industries enables him to make valuable contributions to the board of directors.

Class III Directors Continuing in Office Until the 2021 Annual Meeting of Stockholders

Scott A. Graeff was appointed as our President, Chief Executive Officer and a member of the Board of Directors in October 2017. Mr. Graeff has served as our Treasurer since 2005, and our Secretary since May 2015. Mr. Graeff previously served as our Chief Strategy Officer from July 2012 to October 2017 and as our Chief Commercialization Officer from 2010 to July 2012. He also served as our interim Chief Financial Officer during the period from 2010 to 2011. He previously served as our Chief Operating Officer from 2009 to 2010, as our Chief Commercialization Officer from 2006 to 2009, and as our Chief Financial Officer and Executive Vice President, Corporate Development, from 2005 to 2006. Mr. Graeff was also a member of our board of directors from 2005 until 2006. From 1999 to 2001, Mr. Graeff served as Chief Financial Officer of Liquidity Link, a software development company. From 2001 to 2002, Mr. Graeff served as President and Chief Financial Officer of Autumn Investments. From 2002 until 2005, Mr. Graeff served as a Managing Director for Gryphon Capital Partners, a venture capital investment group. From 2003 until July 2005, Mr. Graeff also served as the Acting Chief Financial Officer of Luna Technologies, Inc., which we acquired in September 2005. Mr. Graeff holds a B.S. degree in commerce from the University of Virginia. The Nominating and Governance Committee believes that Mr. Graeff's position as our President and Chief Executive Officer and his prior management experience will enable him to continue to make valuable contributions to our board of directors.

Donald Pastor has served as a member of our board of directors since May 2015. Prior to our merger with Advanced Photonix, Inc. ("API"), he served as a director of API from July 2005 to May 2015 and served as the non-executive chairman of the board of directors beginning in October 2012. Mr. Pastor is also the President of DP Business Services, a consulting firm which he founded in January 2012. From 1986 through June 2012, he was employed at Telephonics Corporation. From 2006 through 2012, he served as the president - electronics systems division of Telephonics Corporation. In addition, Mr. Pastor previously served as the chief executive officer of TLSI, a wholly owned subsidiary of Telephonics Corporation, and as the chief financial officer of Telephonics Corporation. For the past thirty years, Mr. Pastor has held a variety of financial, administrative and operational positions in high technology and defense related industries. Mr. Pastor holds a B.S. degree in marine engineering from the U.S. Merchant Marine Academy and an M.B.A. from Loyola University Maryland. The Nominating and Governance Committee believes that Mr. Pastor's extensive experience in financial, administrative and operational positions in high technology and defense related industries enables him to continue to make valuable contributions to the board of directors.

N. Leigh Anderson has served as a member of our board of directors since May 2017. Dr. Anderson has served as Chief Executive Officer of SISCAPA Assay Technologies, a developer of diagnostic testing technology, of which he was a co-founder, since 2011, and has served as the Chief Executive Officer of the Plasma Proteome Institute, a non-profit biomedical scientific research institute in Washington, D.C., of which he is also a founder, since 2002. From 2001 to 2002, Dr. Anderson served as the Chief Scientific Officer and a member of the board of directors of Large Scale Biology Corporation, a public biotechnology company. Dr. Anderson also served as a member of the board of directors and a member of the audit committee of Dade Behring Holdings, Inc., a publicly held medical diagnostics equipment manufacturer, from 2002 until its acquisition by Siemens AG in 2007. Dr. Anderson earned a B.A. degree in physics from Yale University and a Ph.D. in molecular biology from Cambridge University. The Nominating and Governance Committee believes that Dr. Anderson's scientific background in critical areas and pertinent executive and director experience in the biotechnology and biomedical industries enable him to bring significant value to the board of directors.

Independence of the Board of Directors

As required under the Nasdaq Stock Market ("Nasdaq") listing standards, a majority of the members of a listed company's board of directors must qualify as "independent," as affirmatively determined by the board of directors. Our board of directors consults with legal counsel to ensure that the board's determinations are consistent with relevant securities and other laws and regulations regarding the definition of "independent," including those set forth in pertinent Nasdaq listing standards, as in effect from time to time.

Consistent with these considerations, after review of all relevant identified transactions or relationships between each director or director nominee, or any of his family members, and the Company, its senior management and its independent auditors, our board of directors has affirmatively determined that the following seven current directors and director nominee are independent within the meaning of the applicable Nasdaq listing standards: Mr. Wise, Mr. Pastor, Mr. Williamson, Mr. Spiegel, Mr. Roedel, Mr. Phelps, and Dr. Anderson. In making these determinations, the board found that none of these current or former directors had a material or disqualifying relationship with the Company. Mr. Graeff is not independent, as he is currently employed as our President and Chief Executive Officer.

Board Leadership Structure

In January 2010, our board of directors designated an independent non-executive Chairman, Mr. Roedel, who has authority, among other things, to call and preside over board meetings, including meetings of the independent directors, to set meeting agendas and to determine materials to be distributed to the board. Accordingly, the non-executive Chairman has substantial ability to shape the work of the board. We believe that separation of the positions of Chairman and Chief Executive Officer reinforces the independence of the board in its oversight of our business and affairs. In addition, we believe that having an independent non-executive Chairman creates an environment that is more conducive to objective evaluation and oversight of management's performance, increasing management accountability and improving the ability of the board to monitor whether management's actions are in the best interests of the Company and our stockholders. As a result, we believe that having an independent non-executive Chairman can enhance the effectiveness of the board as a whole.

Role of the Board in Risk Oversight

One of the board's key functions is informed oversight of our risk management process. The board does not have a standing risk management committee, but rather administers this oversight function directly through the board as a whole, as well as through its standing committees that address risks inherent in their respective areas of oversight. Our Audit Committee has the responsibility to consider and discuss our major financial risk exposures and the steps our management has taken to monitor and control these exposures, including guidelines and policies to govern the process by which risk assessment and management is undertaken. The Audit Committee also monitors compliance with legal and regulatory requirements. Our Nominating and Governance Committee monitors the effectiveness of our corporate governance policies, including whether they are successful in preventing illegal or improper liability-creating conduct. Our Compensation Committee assesses and monitors whether any of our compensation policies and programs have the potential to encourage excessive risk-taking.

Information Regarding Certain Committees of the Board of Directors

Our board of directors has established an Audit Committee, a Compensation Committee and a Nominating and Governance Committee. Our board of directors and its committees meet regularly throughout the year and also hold special

meetings and act by written consent from time to time as appropriate. Our board of directors has delegated various responsibilities and authority to these committees as generally described below. The committees regularly report on their activities and actions to the full board of directors. Each of these committees of our board of directors has a written charter approved by our board of directors.

The following table provides the membership information for 2018 for each of the Audit, Compensation and Nominating and Governance committees:

Name	Audit	Compensation	Nominating and Governance
Richard W. Roedel		X	X *
Donald Pastor		X *	X
John B. Williamson, III	X *		X
Warren B. Phelps, III	X	X	
Gary Spiegel	X (1)	X	
Michael W. Wise	X		X
N. Leigh Anderson	X		X (2)

* Committee Chairman

(1) Mr. Spiegel was appointed to our Audit Committee in May 2018.

(2) Dr. Anderson was appointed to our Nominating and Governance Committee in May 2018.

Audit Committee

The Audit Committee of our board of directors recommends the appointment of our independent auditors, reviews our internal accounting procedures and financial statements, and consults with and reviews the services provided by our independent auditors, including the results and scope of their audit.

The Audit Committee is currently composed of Messrs. Williamson, Wise, Spiegel and Phelps, and Dr. Anderson. Mr. Williamson is the chairman of the committee. The Audit Committee met four times, including telephonic meetings, during 2018.

The board of directors reviews the Nasdaq listing standards definition of independence for audit committee members on an annual basis and has determined that each member of the Audit Committee is independent within the meaning of the requirements of the Sarbanes-Oxley Act of 2002 and applicable SEC and Nasdaq rules, including Rule 5605(c)(2)(A)(i) and (ii) of the Nasdaq listing rules. The board of directors has also determined that each of Messrs. Williamson, Phelps and Wise qualifies as an audit committee financial expert, as currently defined under applicable SEC rules. In reaching this determination, the board of directors made a qualitative assessment of their level of knowledge and experience based on a number of factors, including their formal education and extensive experience at an executive and audit committee level and, in the case of Mr. Wise, his professional experience as a certified public accountant.

The Audit Committee operates under a written charter adopted by the board of directors, which is available in the “Investor Relations” section of our website at www.lunainc.com.

Compensation Committee

The Compensation Committee of our board of directors reviews and implements changes to the compensation and benefits for our executive officers, administers our stock plans, and establishes and reviews general policies relating to compensation and benefits for certain of our officers.

The Compensation Committee is currently composed of Messrs. Pastor, Phelps, Spiegel and Roedel. Mr. Pastor serves as the chairman of the committee. The Compensation Committee met four times, including telephonic meetings, in 2018.

Each member of the Compensation Committee is independent within the meaning of applicable Nasdaq listing rules.

The Compensation Committee operates under a written charter adopted by the board of directors, which is available in the “Investor Relations” section of our website at www.lunainc.com.

Typically, the Compensation Committee meets at least quarterly and with greater frequency if necessary. The agenda for each meeting is usually developed by the chairman of the Compensation Committee, in consultation with the Chief Executive Officer and Chief Financial Officer. The Compensation Committee meets regularly in executive session. However, from time to time, various members of management and other employees as well as outside advisors or consultants may be invited by the Compensation Committee to make presentations, to provide financial or other background information or advice or to otherwise participate in Compensation Committee meetings. The charter of the Compensation Committee grants the Compensation Committee authority to obtain, at the expense of the Company, advice and assistance from internal and external legal, accounting or other advisors. In particular, the Compensation Committee has the sole authority to retain compensation consultants to assist in its evaluation of executive and director compensation, including the authority to approve the consultant's reasonable fees and other retention terms. As described below in "Compensation Discussion and Analysis," in 2018, the Compensation Committee engaged an independent third-party compensation consultant, Radford, to conduct a competitive peer group analysis regarding our executive compensation program, the results of which were taken into account in our executive compensation program for 2018. Late in 2018, the compensation committee engaged a new independent third-party compensation consultant, Compensation Strategies, Inc., to conduct a competitive peer group analysis and advise on the structure of our 2019 executive compensation program.

Historically, the Compensation Committee has made most of the significant adjustments to annual compensation and determined bonus and equity awards, if any, at one or more meetings held during the first or second quarter of the year. However, the Compensation Committee also considers adoption of annual senior management incentive plans, including new performance objectives, matters related to individual compensation, such as compensation for new executive hires, as well as high-level strategic issues, such as the efficacy of the Company's compensation strategy, potential modifications to that strategy and new trends, plans or approaches to compensation, at various meetings throughout the year. Generally, the Compensation Committee obtains the recommendations and advice of the Chief Executive Officer and Chief Financial Officer regarding the form and amount of compensation for executive officers other than themselves.

The specific determinations of the Compensation Committee with respect to Executive Compensation for the year ended December 31, 2018 are described in greater detail in the "Compensation Discussion and Analysis" section of this proxy statement.

Nominating and Governance Committee

The Nominating and Governance Committee of our board of directors is responsible for reviewing the appropriate size, function and needs of the board of directors, establishing criteria for evaluating and selecting new members of the board, identifying and recommending qualified director nominees to the board for approval and monitoring and making recommendations to the board of directors on matters relating to corporate governance. The Nominating and Governance Committee met four times during 2018.

The Nominating and Governance Committee currently consists of Messrs. Roedel, Pastor, Wise and Williamson, and Dr. Anderson. Mr. Roedel serves as chairman of the committee. All members of the Nominating and Governance Committee are independent within the meaning of applicable Nasdaq listing rules.

The Nominating and Governance Committee operates under a written charter adopted by the board of directors, which is available in the "Investor Relations" section of our website at www.lunainc.com.

Board of Directors and Committee Meeting Attendance

Our board of directors met nine times, including telephonic meetings, during 2018. Each of our directors who served in 2018 attended at least 75% of the aggregate number of meetings held during his tenure by the board of directors and by the committees of the board of directors on which he served.

Independent members of the board of directors regularly meet in executive session without management present.

Annual Meeting Attendance

Our policy is to invite and encourage all directors to attend the annual meeting of stockholders, if possible. All of the members of our board of directors who were serving at the time of our 2018 annual meeting of stockholders attended that meeting.

Director Nomination Process

Candidates for director nominees are reviewed in the context of the current composition of the board of directors, the operating requirements of the Company and the long-term interests of stockholders. Our Nominating and Governance Committee identifies director nominees by first evaluating the current members of the board of directors willing to continue in service. In the case of incumbent directors whose terms of office are set to expire, the Nominating and Governance Committee reviews these directors' overall service to the Company during their terms, including the number of meetings attended, level of participation, quality of performance and any other relationships and transactions that might impair the directors' independence. Current members with skills and experience that are relevant to our business and who are willing to continue in service are considered for nomination.

If any member of the board of directors does not wish to continue in service, or the committee or board of directors decides not to nominate a member for re-election, the committee identifies the desired skills and experience of a new nominee. In the case of new director candidates, the Nominating and Governance Committee also determines whether the nominee is independent for Nasdaq purposes, which determination is based upon applicable Nasdaq listing standards, applicable SEC rules and regulations and the advice of counsel, if necessary. The Nominating and Governance Committee then uses its network of contacts to compile a list of potential candidates. The Nominating and Governance Committee conducts any appropriate and necessary inquiries into the backgrounds and qualifications of possible candidates after considering the function and needs of the board of directors. Current members of the board of directors and senior management are then polled for their recommendations. To date, the Nominating and Governance Committee has not engaged professional search firms or other third parties to identify or evaluate potential nominees, but the committee may do so in the future.

The Nominating and Governance Committee will also consider nominees recommended by stockholders, and any such recommendations should be forwarded to our Corporate Secretary in writing at our executive offices as identified in this proxy statement. Such recommendations should include the following information:

- the name, age, business address and residence address of the proposed candidate;
- the principal occupation or employment of the proposed candidate and the candidate's business experience for at least the previous five years;
- the class and number of shares of our stock which the proposed candidate beneficially owns;
- a description of all arrangements or understandings between the stockholder making the recommendation and each proposed candidate;
- any information reasonably necessary to determine whether the proposed candidate meets SEC and Nasdaq independence standards; and
- any other information relating to such proposed candidate that is required to be disclosed in solicitations of proxies for elections of directors or is otherwise required pursuant to Regulation 14A under the Exchange Act (including without limitation such proposed candidate's written consent to being named in any proxy statement as a nominee and to serve as a director if elected).

Such recommendations should be provided at least 120 days prior to the anniversary date of the mailing of our proxy statement for the previous annual meeting of stockholders. The committee does not intend to alter the manner in which it evaluates candidates, including the criteria set forth below, based on whether or not the candidate was recommended by a stockholder.

The Nominating and Governance Committee evaluates individual director candidates based upon a number of criteria, including:

- a high degree of personal and professional integrity;
- commitment to promoting the long-term interests of our stockholders;
- broad general business experience and acumen, which may include experience in management, finance, marketing and accounting, with particular emphasis on technology companies or policy-making experience in governmental or non-profit institutions;
- adequate time to devote attention to the affairs of the Company;
- an ability to bring balance to our board of directors in light of the Company's current and anticipated needs and in light of the skills and attributes of the other board members; and
- other attributes relevant to satisfying the requirements imposed by the SEC and Nasdaq.

The Nominating and Governance Committee retains the right to modify these qualifications from time to time.

Our Nominating and Governance Committee does not have a formal policy regarding board diversity. Diversity is one of a number of factors, however, that the committee takes into account in identifying nominees, and the Nominating and Governance Committee believes that it is essential that the board members represent diverse viewpoints.

The Board values diversity, in its broadest sense and, in the director identification and nomination process, the Board seeks a breadth of experience from a variety of industries and from professional disciplines, such as finance, professional services and technology, along with a diversity of gender, ethnicity and geographic location. To accomplish the Board's diversity objectives, the Nominating and Governance Committee may retain an executive search firm to help identify potential directors that meet these objectives. At their February 2019 meetings, our Nominating and Governance Committee and Board confirmed, as a priority, that we are committed to pursuing gender and ethnic diversity on the Board. In furtherance of this commitment, the Board amended our corporate governance guidelines to provide that, in future searches for director candidates, the Nominating and Governance Committee will seek to include female and minority candidates in the initial list of candidates from which the committee selects prospective director candidates, and will require that any search firm that it may engage to assist with a director search do the same.

The Nominating and Governance Committee has identified as one of its top priorities the need to recruit a new director who not only provides a valuable skillset to the Board, but also will contribute to its gender diversity. The Nominating and Governance Committee is committed to nominating a qualified female candidate to the Board and has been pursuing a methodical approach to identify the right director candidate to recommend to the full Board. In recent months, the committee has been engaged in discussions with three female candidates and, based on the status of these discussions, the committee intends to have the process completed, with a recommendation to the full Board for the appointment of a female director, in the second half of 2019. In addition to recruiting this new director, the Nominating and Governance Committee will continue to evaluate the size and composition of our Board on an ongoing basis.

Director Compensation

The following table sets forth certain information concerning cash and non-cash compensation earned by the non-employee members of our board of directors in 2018. The compensation paid to My Graeff, our President and Chief Executive Officer is described below under "Executive Compensation." Mr. Graeff does not receive any additional compensation for his service as a director.

Name	Fees Earned or Paid in Cash (1)(2)(\$)	Stock Awards (3)(\$)	Total (\$)
John B. Williamson, III	38,000	25,000	63,000
Richard W. Roedel	53,000	50,000	103,000
Michael W. Wise	31,000	25,000	56,000
Donald Pastor	38,000	25,000	63,000
Gary Spiegel	29,500	25,000	54,500
Warren B. Phelps, III	31,000	25,000	56,000
N. Leigh Anderson	29,500	25,000	54,500

- (1) Represents the annual cash retainer for board and, as applicable, committee service for 2018. During 2018, the annual cash retainer for board service was \$25,000, the annual cash retainer for chairman of the board was \$50,000, the annual cash retainer for service as a member of a committee was \$3,000, and the annual cash retainer for service as the chairman of a committee was \$10,000 (except for the Nominating and Governance Committee, which was \$5,000). These retainers are paid prospectively in quarterly installments in advance. Mr. Roedel, who served as chairman of the Nominating and Governance Committee during 2018, elected to forego any compensation for serving in such role.
- (2) During 2018, our non-employee directors had the option to receive some or all of their cash retainers for board and committee service in stock units pursuant to our non-employee directors' deferred compensation plan. These stock units are convertible into shares of our common stock on a one-for-one basis upon specified events. Mr. Williamson received an aggregate of 8,317 stock units in lieu of his cash payments for his service on the board of directors with an aggregate grant date fair value of \$25,000, as well as an aggregate of 4,325 stock units in lieu of his cash payments for his service as the Chairman of our Audit Committee and as a member of the Nominating and Governance Committee with an aggregate grant date fair value of \$13,000. Mr. Phelps received an aggregate of 8,317 stock units in lieu of his cash payments for his service on the board of directors with an aggregate grant date fair value of \$25,000, as well as an aggregate of 1,996 stock units in lieu of his cash payments for his service as a member of our Audit Committee and Compensation Committee with an aggregate grant date fair value of \$6,000. Mr. Roedel received an aggregate of 16,634 stock units in lieu of his cash payments for his service as chairman of the board of directors with an aggregate

grant date fair value of \$50,000, as well as an aggregate of 998 stock units in lieu of his cash payments for his service as a member of our Compensation Committee with an aggregate grant date fair value of \$3,000. As of December 31, 2018, our non-employee directors held the following equity compensation awards:

Name	Deferred Stock Units	RSUs	Shares Underlying Stock Options
N. Leigh Anderson	—	8,143	—
John B. Williamson, III	175,817	8,143	294,356
Michael W. Wise	—	8,143	240,000
Donald Pastor	—	8,143	5,341
Richard W. Roedel	224,012	16,287	544,164
Gary Spiegel	—	8,143	—
Warren B. Phelps, III	23,308	8,143	—

- (3) Messrs. Pastor, Spiegel, Wise, Phelps and Williamson, and Dr. Anderson received 8,143 restricted stock units, or RSUs, in each case with a grant date fair value of \$25,000, for annual director retainer. Mr. Roedel received 16,287 RSUs with a grant date fair value of \$50,000 for service as chairman of the board of directors. The grant date fair value was computed in accordance with ASC Topic 718, *Compensation-Stock Compensation*. For a discussion of valuation assumptions, see Note 10 to our audited consolidated financial statements included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2018.

We also reimburse our non-employee directors for all reasonable out-of-pocket expenses incurred in the performance of their duties as directors, which expense reimbursements are not included in the foregoing table.

Compensation

Retainers. Board members receive an annual retainer pursuant to our amended and restated non-employee director compensation policy. In 2018, under this policy, the annual retainer for service as chairman of the board was \$50,000, the annual retainer for board service was \$25,000, the annual retainer for service as a member of a committee was \$3,000, and the annual retainer for service as a chairman of a committee was \$10,000 (except for the Nominating and Governance Committee, which was \$5,000). In February 2019, our board of directors adopted an amendment to the amended and restated non-employee director compensation policy, effective July 1, 2019, pursuant to which the annual retainer for service as chairman of the board will be \$62,500, the annual retainer for board service will be \$37,500, the annual retainer for service as a member of a committee will be \$4,000, and the annual retainer for service as a chairman of a committee will be \$11,000 (except for the Nominating and Governance Committee, which will be \$6,000). These board and committee retainers are paid quarterly in advance. These retainers for board and committee service are paid, at the election of the director, in either shares of common stock or stock units issued pursuant to our non-employee directors' deferred compensation plan, as described above.

Equity-Based Compensation. Pursuant to the amended and restated non-employee director compensation policy, non-employee directors are also entitled to receive an annual equity grant in the form of RSUs at the time of annual meeting of stockholders. In 2018, the chairman of our board of directors was entitled to RSUs with a value of \$50,000 and other non-employee directors were entitled to RSUs with a value of \$25,000. Pursuant to the amendment to our amended and restated non-employee director compensation policy, effective July 1, 2019, the chairman of our board of directors will be entitled to RSUs with a value of \$62,500 and other non-employee directors will be entitled to RSUs with a value of \$37,500. RSUs granted under the policy will vest on the earlier of the one year anniversary of the grant date or the date of the next annual meeting of stockholders. Our non-employee directors may elect to receive these RSUs in the form of stock units pursuant to our non-employee directors' deferred compensation plan.

Compensation Committee Interlocks and Insider Participation

Our Compensation Committee consists of Mr. Pastor, Mr. Phelps, Mr. Roedel, and Mr. Spiegel. None of the members of our Compensation Committee during 2018 is or was a present or former officer or employee of the Company, nor did such members engage in any transaction or relationship requiring disclosure in this proxy statement under the section titled "Certain Relationships and Related Person Transactions."

No executive officer of the Company served as a director or member of the Compensation Committee (or other board committee performing equivalent functions) of any other entity during the last fiscal year, one of whose executive officers served on our board of directors or Compensation Committee.

Code of Business Conduct and Ethics

We have adopted a Code of Business Conduct and Ethics that applies to all our directors and employees, including our principal executive officer, principal financial officer and principal accounting officer or controller. The full text of our Code of Business Conduct and Ethics is posted on our website at www.lunainc.com in the “Investor Relations” section. If we make any substantive amendments to the Code of Business Conduct and Ethics or grant any waiver from a provision of the Code to any executive officer or director, we will promptly disclose the nature of the amendment or waiver on our website.

Hedging and Pledging Policy

Our insider trading policy prohibits directors, executive officers and other employees from engaging in speculative trading activities, including hedging transactions or other inherently speculative transactions with respect to our securities. The policy also prohibits directors, executive officers and other employees from holding company securities in a margin account or otherwise pledging the company’s securities as collateral for a loan.

EXECUTIVE OFFICERS

The following table sets forth certain summary information concerning our executive officers as of April 1, 2019.

Name	Age	Position
Scott A. Graeff	52	President, Chief Executive Officer, Treasurer and Secretary
Dale E. Messick	55	Chief Financial Officer

Information about Mr. Graeff is set forth above under “Class III Directors Continuing in Office Until the 2021 Annual Meeting of Stockholders.”

Dale E. Messick has served as our Chief Financial Officer since August 2006, except during the period from August 2010 to April 2011 when he served as our interim President and Chief Operating Officer. Prior to joining us, Mr. Messick served in various capacities at Worldspan, L.P., a provider of transaction processing and information technology services to the global travel industry, including as Chief Financial Officer from 1997 to 2004 and Senior Vice President - Finance from 2004 to 2005. At Worldspan, Mr. Messick managed a staff of 160 people in the United States, Mexico, and Europe and was responsible for accounting, financial reporting, budgeting, financial planning and analysis, and internal audit operations. Previously, Mr. Messick worked in the audit practice of PricewaterhouseCoopers. Mr. Messick received a B.B.A. degree in accounting from the College of William and Mary and is a Certified Public Accountant.

CERTAIN RELATIONSHIPS AND RELATED PERSON TRANSACTIONS

Policies and Procedures for Transactions with Related Persons

Related person transactions, which we define as all transactions involving an executive officer, director, nominee for director or a holder of more than five percent of our common stock, including any of their immediate family members and any entity owned or controlled by such persons, are reviewed and approved by the Audit Committee of our board of directors and a majority of disinterested directors on our board.

In any transaction involving a related person, our Audit Committee and board of directors consider all of the available material facts and circumstances of the transaction, including:

- the direct and indirect interests of the related persons;
- in the event the related person is a director or director nominee (or immediate family member of a director or director nominee or an entity with which a director or director nominee is affiliated), the impact that the transaction will have on a director’s or director nominee’s independence;
- the risks, costs and benefits of the transaction to us; and
- whether any alternative transactions or sources for comparable services or products are available.

After considering all such facts and circumstances, our Audit Committee and board determine whether approval or ratification of the related person transaction is in our best interests. For example, if our Audit Committee determines that the proposed terms of a related person transaction are reasonable and at least as favorable as could have been obtained from unrelated third parties, it will recommend to our board of directors that such transaction be approved or ratified. Alternatively, if a related person transaction will compromise the independence of one of our directors or director nominees, our Audit Committee may recommend that our board of directors reject the transaction if it could affect our ability to comply with securities laws and regulations or Nasdaq listing requirements.

Each transaction described below was approved or ratified by our Audit Committee or the disinterested members of our board of directors after making a determination that the transaction was on terms no less favorable than those we could have obtained from unrelated third parties.

The policies and procedures described above for reviewing and approving related person transactions are not set forth in writing. The charter for our Audit Committee, however, provides that one of the committee’s responsibilities is to review and approve in advance any proposed related person transactions.

Transactions and Relationships with Directors, Nominees for Director, Executive Officers and Five Percent Stockholders

Other than compensation described in “Executive Compensation” and “Director Compensation” elsewhere in this proxy statement and as described below, we believe that there has not been any other transaction or series of transactions since January 1, 2017 to which we were or are to be a participant in which the amount involved exceeds \$120,000 and in which any director, nominee for director, executive officer or holder of more than five percent of our common stock, or members of any such person’s immediate family, had or are expected to have a direct or indirect material interest.

Indemnification Agreements with Officers and Directors

We have entered into indemnity agreements with certain of our officers and directors that provide, among other things, that we will indemnify such officer or director, under the circumstances and to the extent provided for therein, for expenses, damages, judgments, fines and settlements he may be required to pay in actions or proceedings that he is or may be made a party by reason of his position as a director, officer or other agent of the Company, and otherwise to the fullest extent permitted under Delaware law and our bylaws.

PROPOSAL NO. 2
ADVISORY VOTE ON EXECUTIVE COMPENSATION

Under the Dodd-Frank Wall Street Reform and Consumer Protection Act (the "Dodd-Frank Act"), and Section 14A of the Exchange Act, the Company's stockholders are entitled to vote to approve, on an advisory basis, the compensation of the Company's named executive officers as disclosed in this proxy statement in accordance with SEC rules.

This vote is not intended to address any specific item of compensation, but rather the overall compensation of the Company's named executive officers and the philosophy, policies and practices described in this proxy statement. The compensation of the Company's named executive officers subject to the vote is disclosed in the Compensation Discussion and Analysis, the compensation tables, and the related narrative disclosure contained in this proxy statement. As discussed in those disclosures, the Company believes that its compensation policies and decisions are consistent with current market practices. Compensation of the Company's named executive officers is designed to enable the Company to attract and retain talented and experienced executives to lead the Company successfully in a competitive environment.

Accordingly, the board of directors is asking the stockholders to indicate their support for the compensation of the Company's named executive officers as described in this proxy statement by casting a non-binding advisory vote "FOR" the following resolution:

"RESOLVED, that the compensation paid to the Company's named executive officers, as disclosed pursuant to compensation disclosure rules of the Securities and Exchange Commission, including the Compensation Discussion and Analysis, compensation tables and any related information disclosed in this proxy statement is hereby APPROVED."

Because the vote is advisory, it is not binding on the board of directors or the Company. Nevertheless, the views expressed by the stockholders, whether through this vote or otherwise, are important to management and the board of directors and, accordingly, the board of directors and the Compensation Committee intend to consider the results of this vote in making determinations in the future regarding executive compensation arrangements.

Advisory approval of this proposal requires the vote of the holders of a majority of the shares present in person or represented by proxy and entitled to vote at the annual meeting.

THE BOARD OF DIRECTORS RECOMMENDS
YOU VOTE "FOR" PROPOSAL NUMBER 2.

PROPOSAL NO. 3
ADVISORY VOTE ON THE FREQUENCY OF SOLICITATION OF
ADVISORY STOCKHOLDER APPROVAL OF EXECUTIVE COMPENSATION

The Dodd-Frank Wall Street Reform and Consumer Protection Act, and Section 14A of the Exchange Act enable the Company's stockholders, at least once every six years, to indicate their preference regarding how frequently the Company should solicit a non-binding advisory vote on the compensation of the Company's named executive officers as disclosed in the Company's proxy statement. Accordingly, the Company is asking stockholders to indicate whether they would prefer an advisory vote every year, every other year or every three years. Alternatively, stockholders may abstain from casting a vote. For the reasons described below, the board of directors recommends that the stockholders select a frequency of one year.

After considering the benefits and consequences of each alternative, the board of directors recommends that the advisory vote on the compensation of the Company's named executive officers be submitted to the stockholders once every year.

The Board has determined that an advisory vote on executive compensation every year is the best approach for the Company. In formulating its recommendation, the Board considered that an annual advisory vote on executive compensation will allow stockholders to provide direct input on the Company's compensation philosophy, policies and practices every year. Additionally, an annual advisory vote on executive compensation is consistent with the Company's policy of seeking input from, and engaging in discussions with, its stockholders on executive compensation and corporate governance matters.

Accordingly, the board of directors is asking stockholders to indicate their preferred voting frequency of soliciting advisory stockholder approval of compensation of the Company's named executive officers once every one, two or three calendar years.

While the board of directors believes that its recommendation is appropriate at this time, the stockholders are not voting to approve or disapprove that recommendation, but are instead asked to indicate their preferences, on an advisory basis, as to whether the non-binding advisory vote on the approval of the Company's executive officer compensation practices should be held every year, every other year or every three years. The option among those choices that receives the highest number of votes from the holders of shares present in person or represented by proxy and entitled to vote at the annual meeting will be deemed to be the frequency preferred by the stockholders.

The board of directors and the Compensation Committee value the opinions of the stockholders in this matter, and the board intends to hold advisory stockholder votes on the compensation of the Company's named executive officers in the future in accordance with the alternative that receives the most stockholder support, even if that alternative does not receive the support of a majority of the shares present and entitled to vote. However, because this vote is advisory and therefore not binding on the board of directors or the Company, the Board may decide that it is in the best interests of the stockholders that the Company hold an advisory vote on executive compensation more or less frequently than the option preferred by the stockholders. The vote will not be construed to create or imply any change or addition to the fiduciary duties of the Company or the board of directors.

THE BOARD OF DIRECTORS RECOMMENDS
A VOTE IN FAVOR OF "ONE YEAR" ON PROPOSAL 3.

PROPOSAL NO. 4
RATIFICATION OF APPOINTMENT OF INDEPENDENT REGISTERED PUBLIC
ACCOUNTING FIRM

Our Audit Committee has appointed Grant Thornton LLP as our independent registered public accounting firm for the year ending December 31, 2019 and has further directed that management submit the selection of our independent registered public accounting firm for ratification by the stockholders at the annual meeting. Grant Thornton LLP has served as our independent audit firm since 2005. A representative of Grant Thornton LLP is expected to be present at our 2019 annual meeting of stockholders and will have an opportunity to make a statement and respond to appropriate questions from stockholders.

Ratification of the appointment of Grant Thornton LLP as our independent registered public accounting firm is not required by our bylaws or other applicable legal requirements. However, our board of directors is submitting the appointment of Grant Thornton LLP to the stockholders for ratification as a matter of good corporate practice. If our stockholders fail to ratify the appointment, the Audit Committee will reconsider whether or not to retain that firm. Even if the appointment is ratified, the Audit Committee at its discretion may direct the appointment of a different independent registered public accounting firm at any time during the year if it determines that such a change would be in our best interests and the best interests of our stockholders.

The affirmative vote of a majority of shares of our common stock present at the 2019 annual meeting of stockholders in person or by proxy and entitled to vote is required to ratify the appointment of Grant Thornton LLP as our independent registered public accounting firm for the year ending December 31, 2019. Abstentions will have the same effect as a vote against this proposal. Broker non-votes are counted towards a quorum but are not counted for any purpose in determining whether this matter has been approved.

Audit and Related Fees for Fiscal Years 2017 and 2018

The following table sets forth a summary of the aggregate fees billed to us by Grant Thornton LLP for professional services for the fiscal years ended December 31, 2017 and 2018, respectively. All of the services described in the following fee table were approved by the Audit Committee.

Name	2017	2018
Audit Fees	\$ 361,725	\$ 332,000
Audit -Related Fees	—	145,500
Total Fees	\$ 361,725	\$ 477,500

The Audit Committee meets regularly with Grant Thornton LLP throughout the year and reviews both audit and, if applicable, other services performed by Grant Thornton LLP as well as fees charged for such services. For 2017, audit fees included \$45,725 related to services provided in connection with the disposition of our company's high speed optical receivers business and in connection with preparation for the adoption of new revenue recognition guidelines. For 2018, audit fees included \$57,000 related to the sale of our optoelectronics business and the acquisition of Micron Optics, Inc ("MOI"). Audit-related fees in 2018 consisted of the cost of auditing the financial statements of MOI as of and for the year ended December 31, 2017, for inclusion in our Form 8-K/A associated with the closing of the acquisition.

Pre-Approval Policies and Procedures

The Audit Committee has adopted, and the board of directors has approved, a policy that sets forth the procedures and the conditions pursuant to which services proposed to be performed by the independent auditors may be pre-approved. The policy generally pre-approves all audit services and non-audit services by our independent auditors, except in the case of non-audit services where subsequent approval is necessary and permissible. Pursuant to its pre-approval policy, the Audit Committee may delegate pre-approval authority for non-audit services to one or more of its members. The member to whom such authority is delegated must report, for informational purposes only, any pre-approval decisions to the Audit Committee at its next scheduled meeting. During 2017 and 2018, all services provided by Grant Thornton LLP were pre-approved by the Audit Committee in accordance with this policy.

THE BOARD OF DIRECTORS RECOMMENDS YOU VOTE "FOR" PROPOSAL NUMBER 4.

AUDIT COMMITTEE REPORT

As described more fully in its charter, the purpose of the Audit Committee is to assist the board of directors with its oversight responsibilities regarding the integrity of our financial statements, our compliance with legal and regulatory requirements, assessing our independent registered public accounting firm's qualifications and independence and, if applicable, the performance of the persons performing internal audit duties for the Company.

Company management is responsible for preparation, presentation and integrity of our financial statements as well as our financial reporting processes, accounting policies, internal audit function, internal accounting controls and disclosure controls and procedures. Our independent registered public accounting firm is responsible for performing an independent audit of our consolidated financial statements in accordance with generally accepted auditing standards and to issue a report thereon. The Audit Committee's responsibility is to monitor and oversee these processes. The following is the Audit Committee's report submitted to the board of directors for 2018.

The Audit Committee has:

- reviewed and discussed our audited financial statements for the fiscal year ended December 31, 2018 with management and Grant Thornton LLP, our independent registered public accounting firm;
- discussed with Grant Thornton LLP the matters required to be discussed by Auditing Standard No. 1301, Communications with Audit Committees, as adopted by the Public Company Accounting Oversight Board; and
- received from Grant Thornton LLP the disclosures and a letter regarding their independence as required by the applicable requirements of the Public Company Accounting Oversight Board requesting Grant Thornton LLP's communication with the Audit Committee concerning independence and discussed the auditors' independence with them.

In addition, the Audit Committee has met separately with Company management and with Grant Thornton LLP.

Based on the review and discussions referred to above, the Audit Committee recommended to the board of directors that the audited 2018 financial statements be included in our Annual Report on Form 10-K for the year ended December 31, 2018 for filing with the Securities and Exchange Commission.

AUDIT COMMITTEE

John B. Williamson, III, Chairman

Michael W. Wise

N. Leigh Anderson

Warren B. Phelps, III

Gary Spiegel

The foregoing audit committee report is not "soliciting material," shall not be deemed incorporated by reference into any filing of the Company under the Securities Act of 1933 or the Securities Exchange Act of 1934, whether made before or after the date hereof, and shall not otherwise be deemed filed under these acts, except to the extent we specifically incorporate by reference into such filings.

EXECUTIVE COMPENSATION

Compensation Discussion and Analysis

The following discussion and analysis of our compensation arrangements with our named executive officers should be read together with the compensation tables and related disclosures set forth elsewhere in this proxy statement.

For 2018, our named executive officers were:

- Scott A. Graeff, our President and Chief Executive Officer; and
- Dale E. Messick, our Chief Financial Officer.

Executive Summary

We seek to closely align the interests of our named executive officers with the interests of our stockholders. Our compensation programs are designed to reward our named executive officers for the achievement of short-term and long-term strategic and operational goals and financial performance, without encouraging unnecessary or excessive risk-taking. Our performance-oriented compensation program consists of base salary, annual cash bonuses, long-term equity incentives, such as restricted stock awards and stock option grants, benefits and, for certain senior executive officers, severance and termination protection.

For 2018, our primary corporate goals related to our operating income for the year and our revenue growth compared to 2017. Our executive compensation policies for the year were, therefore, designed to incentivize our executive officers to execute against the most significant financial performance objectives and to focus on creation of value for our stockholders. We sought to incentivize this performance primarily through cash incentives that were based on our financial performance and also through grants of restricted stock.

The highlights of our 2018 executive compensation program were as follows:

- Our named executive officers did not receive salary increases during 2018.
- We established a 2018 senior management incentive plan, which rewarded our named executive officers for our corporate financial performance, specifically whether the Company achieved specified financial performance metrics. The amount of the bonus was based on the amount of consolidated revenue earned in 2018 and consolidated operating income for the twelve months ended December 31, 2018, each adjusted to include the results of discontinued operations, and individual qualitative objectives. We paid bonuses based on our performance as measured against each of the target financial metrics and the accomplishment of the qualitative objectives.
- In May 2018, we granted a total of 190,000 shares of restricted stock to our named executive officers as a part of periodic equity grants to these executives.

Overview of Compensation Philosophy

Our overall compensation philosophy is to provide executive compensation packages that enable us to attract, retain and motivate highly qualified executive officers to achieve our short-term and long-term business goals. Consistent with this philosophy, the following compensation elements provide a framework for our executive compensation program: base salary; a cash bonus program designed to reinforce desired performance goals; and non-cash compensation intended to align the interests of our executives with those of our stockholders.

In January 2019, our Compensation Committee undertook a thorough review of the Company's executive compensation programs, including salary, cash bonus, and equity-based incentive compensation. Beginning with grants made in 2019, the Compensation Committee intends to provide for annual grants of equity compensation comprising a combination of service-based restricted stock units, which will vest over time, and performance-based restricted stock units that will vest based on our achievement of long-term performance goals.

Role of Compensation Committee and Compensation Consultant

Our executive compensation program is approved and monitored by the Compensation Committee of our board of directors. The Compensation Committee members were Richard W. Roedel, Warren B. Phelps, III and Gary Spiegel with Donald Pastor serving as chairman of the Compensation Committee. All of the members of our Compensation Committee are independent, non-employee directors. Under the terms of its charter, the Compensation Committee is responsible for reviewing and approving compensation granted to our executive officers, including our Chief Executive Officer ("CEO"), and those executive officers who report directly to the CEO and any other officers as determined under Section 16 of the Securities

Exchange Act of 1934, as amended. In particular, the Compensation Committee reviews and approves for the CEO and the other executive officers the following components of compensation:

- annual base salary;
- cash and equity bonuses, including the specific goals and amount;
- other equity compensation, if any;
- employment agreements, severance arrangements, and change in control provisions, as applicable;
- signing bonus or payment of relocation costs, above normal Company policy, if applicable; and
- any other material benefits, other than those provided to all employees.

The Compensation Committee also serves as the administrator for our equity incentive plans. All stock-based awards, including new grants to existing employees and executive officers, as well as grants to new employees, are approved by the Compensation Committee. The Compensation Committee is also responsible for annually evaluating the performance of our executive officers.

We generally attempt to align our overall executive compensation with other publicly-traded peer companies who share similar characteristics. Because of our diversified product and service offerings, we believe our peer group includes a broad range of technology and growth companies with whom we compete for executive talent. Data on compensation practices at such companies has historically been gathered for us by our compensation consultant, Radford (an AON plc subsidiary), through searches of publicly available information, including subscription databases and SEC filings. We use such information primarily to help guide decisions on base salary, target bonuses and equity-based awards.

The Compensation Committee has the authority to retain its own compensation consultant and to obtain advice and assistance from internal or external legal, accounting or other advisors as it sees fit. The Compensation Committee engaged an independent third-party compensation consultant, Radford, in 2018 to conduct a competitive peer group analysis of our current executive compensation program to provide us with insights and market data on executive and director compensation matters, both generally and within our industry. In 2018, Radford compared the salary, target cash incentives, and equity compensation of our executive officers against an identified peer group of publicly traded companies. As a result of its analysis, Radford made recommendations to the Compensation Committee that were intended to bring the compensation elements paid to our executive officers towards the median of the identified peer companies, which are specified in the table below. These peer group companies were selected by the Compensation Committee because they are in the scientific and technical instruments industry and are comparable to our size based on their market and revenue value. As of April 20, 2018, these peer group companies had a median market capitalization of approximately \$53.8 million, as compared to our market capitalization of approximately \$92.2million and median revenues of approximately \$48.3 million, as compared to our revenues of approximately \$62.2 million.

Peer Group

Company	Industry	Location
Bioanalytical Systems	Life Sciences Tool & Services	West Lafayette, IN
Clearfield	Communications Equipment	Brooklyn Park, MN
CVD Equipment	Semiconductor Equipment	Central Islip, NY
Cyber Optics	Semiconductor Equipment	Minneapolis, MN
Dynasil	Electronic Equipment & Instruments	Newton, MA
Echelon	Electronic Manufacturing Services	San Jose, CA
EMCORE	Communications Equipment	Alhambra, CA
GSI Technology	Semiconductors	Sunnyvale, CA
inTest	Semiconductor Equipment	Mount Laurel, NJ
Intricon	Electronic Components	Arden Hills, MN
LightPath Technologies, Inc.	Other Industrial Goods	Orlando, FL
Optical Cable	Communications Equipment	Roanoke, VA
Perceptron	Electronic Equipment & Instruments	Plymouth, MI
RF Industries	Electronic Manufacturing Services	San Diego, CA
Trio-Tech	Semiconductor	Van Nuys, CA
Wireless Telecom Group	Electronic Equipment & Instruments	Parsippany, NJ

Executive Compensation Program

As described above, our performance-oriented compensation program consists of base salary, annual cash bonuses, long-term equity incentives, such as restricted stock awards and stock option grants, benefits and, for certain senior executive officers, severance and termination protection. We believe that appropriately balancing the total compensation package and ensuring the viability of each component of the package is necessary in order to provide compensation that is competitive and to attract and retain talent. As a small company, we also try to optimize the mix of components to make such compensation programs cost effective for us.

The Compensation Committee intends for our compensation program to provide basic elements that ensure that management is fairly remunerated and has reasonable security so that the management team can perform at its best and take prudent risks. The committee believes that it does not use highly leveraged short-term incentives that drive high risk investments at the expense of our long-term value.

Our Compensation Committee typically evaluates the performance of each executive officer annually, based on the achievement of both corporate goals and individual qualitative performance objectives and makes its compensation decisions accordingly. Total compensation for our executive officers may vary significantly from year to year based on Company, divisional and individual performance. Further, the value of equity-based awards to our executives will vary based on fluctuation in our stock price from time to time.

The following is a more detailed explanation of the primary components of our executive compensation program.

Base Salary

Base salary is generally determined by considering competitive salary data and individual job performance. In determining base salary, we primarily rely on factors such as job performance, skill set, prior experience, past levels of compensation, seniority, pay levels of similarly situated positions internally, alternative opportunities that may be available to executives, retention, and market conditions generally. Base salaries for executive officers are reviewed at least annually. In each case, we take into account the results achieved by the executive, his future potential, the scope of the officer's responsibilities and the depth of his experience. We do not apply specific formulas to determine annual pay increases, if any, and our Compensation

Committee attempts to make decisions regarding changes in base salary in the context of other short-term and long-term compensation components.

The Compensation Committee approved annual increases in base salaries effective as of October 1, 2017, for the named executive officers. The named executive officers did not receive additional increases during 2018. The following table presents the annual base salaries for each of our named executive officers for the years indicated.

Name	2017 Base Salary*	2018 Base Salary*	% Increase
Scott A. Graeff, President and Chief Executive Officer	\$ 260,234	\$ 325,000 (1)	— %
Dale E. Messick, Chief Financial Officer	\$ 255,040	\$ 255,040	— %

* These base salaries represent the salaries in effect following the Compensation Committee's annual salary determinations for the respective year. Because the increase in base salary for 2017 was effective mid-year, the named executive officers' actual salaries for 2017, as reflected in the Summary Compensation Table, are less than the 2017 base salaries reflected above.

(1) Following his appointment to President and Chief Executive Officer in October 2017, Mr. Graeff's annual base salary was increased to \$325,000.

Cash Incentive Bonuses

In May 2018, our Compensation Committee adopted a senior management incentive plan for fiscal year 2018. Under the terms of the incentive plan, certain of our employees, including all of our named executive officers were eligible to receive bonus payments based upon a target percentage of their respective salaries for 2018. For our named executive officers, if the threshold operating income target was achieved, the amount of the bonus was to be based upon whether we achieved consolidated revenue exceeding specified amounts, whether we achieved consolidated operating income exceeding specified amounts, and the achievement of specified qualitative objectives. For Mr. Graeff, the target bonus percentage was equal to 50% of his salary for 2018. For Mr. Messick, the target bonus was 40% of his salary for 2018. The Compensation Committee selected these metrics because the committee believed them to be the appropriate indicators of success in the execution of our strategic and operating plans and achievement of key corporate goals and because these factors are critical to increasing the value of our common stock.

If the threshold operating income target was achieved, for both the operating income objective and the revenue objective, minimum, target and maximum levels of achievement were possible. At the minimum level of achievement, the officer would receive a payout of 50% of the target percentage. At the target level of achievement, the officer would receive a payout of 100% of the target percentage. At the maximum level of achievement, the officer would receive a payout of 200% of the target percentage. For financial performance values falling between the minimum and target levels, or between the target and maximum levels, award amounts would be interpolated on a linear basis.

For 2018, our minimum, target, maximum and actual levels of achievement and resulting payout percentages for our named executive officers are reflected in the table below.

Mr. Graeff

Metric	Weighting	Minimum Achievement Level (25% of salary)	Target Achievement Level (50% of salary)	Exceeds Achievement Level (75% of salary)	Maximum Achievement Level (100% of salary)	Actual Performance Level
Consolidated operating income/(loss)	40%	\$ (0.9million)	\$ (0.4million)	\$ 0.6 million	\$ 2.0 million	\$ 2.2 million
Consolidated revenue	40%	\$ 42.5 million	\$ 48.4 million	\$ 54.4 million	\$ 59.9 million	\$ 51.3 million
Individual qualitative objectives	20%					75% achieved

Mr. Messick

<u>Metric</u>	<u>Weighting</u>	<u>Minimum Achievement Level (20% of salary)</u>	<u>Target Achievement Level (40% of salary)</u>	<u>Maximum Achievement Level (60% of salary)</u>	<u>Maximum Achievement Level (80% of salary)</u>	<u>Actual Performance Level</u>
Consolidated operating income/(loss)	40%	\$ (0.9million)	\$ (0.4million)	\$ 0.6 million	\$ 2.0 million	\$ 2.2 million
Consolidated revenue	40%	\$ 42.5 million	\$ 48.4 million	\$ 54.4 million	\$ 59.9 million	\$ 51.3 million
Individual qualitative objectives	20%					50% achieved

The financial performance targets established for the 2018 cash incentive bonus plan in February 2018 included the operations of the optoelectronic components business, which was sold to an unrelated third party in July 2018. Accordingly, the Company's actual financial performance for 2018 for purposes of the incentive plan includes the revenue and income of the discontinued operation from January 2018 to July 2018 period. In addition, in October 2018 the Company acquired MOI. Following the acquisition of MOI, the Compensation Committee revised the 2018 plan targets to include the expected impact of MOI on the Company's financial results for the year.

<u>Named Executive Officer</u>	<u>2018 Awarded Bonus</u>	<u>Percentage of 2018 Target Bonus Awarded</u>
Scott A. Graeff, President and Chief Executive Officer	\$234,978	145%
Dale E. Messick, Chief Financial Officer	\$142,416	140%

Equity Incentives

Consistent with our compensation philosophy, our Compensation Committee believes that equity awards can be a significant motivator in attracting, retaining and rewarding the success of management employees by providing compensation with long-term vesting requirements and linking the ultimate value of those awards to stockholder returns. This component may include both grants of restricted common stock and stock options. Similar to base salary increases, equity instruments may also be granted in connection with promotions or significant changes in responsibility. Although grants of stock-based awards can impact our operating results, we believe that long-term equity-based compensation can be an important element of our overall compensation program because it helps focus our executives on our long-term financial and operational performance and also aligns the interests of our executives with those of our stockholders. The potential financial value offered through such stock awards is also an important retention tool.

As part of its advice to the Compensation Committee in 2018, Radford recommended that we continue making periodic equity grants to our executives as part of moving total compensation toward the median for our peer group provide additional incentives for our executives to increase stockholder value, and that we make the grants in the form of restricted stock in order to help minimize the dilutive impact to our stockholders. In May 2018, the Compensation Committee granted a total of 190,000 shares of restricted stock, which will vest annually over a three-year period, to our named executive officers, as follows:

<u>Name</u>	<u>Shares of Restricted Stock</u>
Scott A. Graeff, President and Chief Executive Officer	140,000
Dale E. Messick, Chief Financial Officer	50,000

In connection with its reevaluation of our executive compensation program for 2019 and future years, our Compensation Committee engaged a new independent third party compensation consulting firm, Compensation Strategies, Inc. In January 2019, our Compensation Committee undertook, with the assistance of Compensation Strategies, a thorough review of our executive compensation programs, including salary, cash bonus, and equity-based incentive compensation. After completing this review, the Compensation Committee approved equity awards for our executive officers reflecting a revised approach for annual grants of equity compensation (the "2019 Grants"). Beginning with the 2019 Grants, the Compensation Committee intends to provide for annual grants of equity compensation comprising a combination of service-based restricted stock units, which will

vest over time, and performance-based restricted stock units that will vest based on our achievement of long-term performance goals. With respect to the 2019 Grants, the service-based restricted stock units are scheduled to vest in three equal annual installments and the performance-based restricted stock units are scheduled to vest, if at all, based on our levels of 2021 revenue and operating income, in each case subject to the executive officer's continuous service through vesting. The performance-based awards establish threshold, target and maximum vesting amounts based on pre-defined levels of each of 2021 revenue and operating income, subject to the overall achievement of a minimum level of operating income for the year ending December 31, 2021.

Set forth below is a table summarizing the 2019 Grants for each named executive officer:

	Time-Based Restricted Stock Units	Performance-Based Restricted Stock Units		
		Threshold	Target	Maximum
Scott A. Graeff, President and Chief Executive Officer	92,000	11,500	23,000	34,500
Dale E. Messick, Chief Financial Officer	20,000	2,500	5,000	7,500

The Compensation Committee intends to continue to grant a combination of time-based and performance-based equity incentive awards to the named executive officers on an annual basis. It is the Compensation Committee's current expectation that, in future years, performance-based grants will represent an increasing portion of the named executive officers' total annual equity incentive awards.

Timing of Equity Grants

We do not time the granting of our equity awards relative to any favorable or unfavorable news that we release. Restricted stock or stock options for new employees, including executive officers, are generally awarded at the first regular meeting of the Compensation Committee following the employee's hire date, or, in certain limited cases, at the first regular meeting of the Compensation Committee following the prospective employee's written acceptance of an employment offer. The Compensation Committee's regular meeting schedule is established several months in advance of each meeting. Thus, proximity of any equity grant to an earnings announcement or other market events is coincidental.

Change in Control Benefits and Severance

The Compensation Committee believes that change in control and severance benefits play an important role in attracting and retaining valuable executives. The payment of such benefits also ensures a smooth transition in management following a change in control by giving the named executive officer the incentive to remain with the Company through the transition period, and, in the event the officer's employment is terminated as part of the transition, by compensating the officer with a degree of financial and personal security during a period in which he is likely to be unemployed. As a result, we have historically maintained employment agreements with our named executive officers that provide for severance payments and continuation of group benefits if our named executive officers' employment is terminated by us without "cause" or by the named executive officers for "good reason," including in circumstances involving a change in control of the Company. In the event of the termination of employment of a named executive without "cause" or for "good reason" in connection with a change in control, all outstanding stock options and other stock awards are subject to accelerated vesting. Additionally, upon the completion of a change in control, the vesting of the performance-based restricted stock units described above will vest in full as to 100% of the target number of shares.

In connection with a change in control the named executive officers may become subject to certain excise taxes under Section 4999 of the Code with respect to payments that are treated as excess parachute payments under Section 280G. Under the terms of the amended and restated employment agreements we will reimburse each named executive officer for all excise taxes that are imposed under Section 4999 and any income and excise taxes that are payable by such named executive officer as a result of any reimbursements for such excise taxes. In the event, however, it is determined that the named executive officer is entitled to a reimbursement payment for such excise taxes, but that the change in control payments would not be subject to the excise tax if such payments were reduced by an amount that is less than 10% of the portion of the payments that would be

treated as excess parachute payments under Section 280G, then the amounts payable to the named executive officer will be reduced to the maximum amount that could be paid to the named executive officer without giving rise to the excise tax.

Other Benefits

In general, our practice is to provide commensurate benefits to employees at all levels of our organization. Consistent with this practice, the following are the primary benefits provided to our full-time employees, including our named executive officers:

- health, vision and dental insurance including, at the employee's option, Flexible Spending Accounts and/or a Health Savings Account;
- term life insurance and optional supplemental life insurance;
- optional supplemental health coverage;
- short- and long-term disability benefits;
- 401(k) plan, under which we match 25% of an employee's contributions up to 10% of the employee's total cash compensation, which match vests over a period of three years; and
- paid time off and holidays.

We believe that these benefits are consistent with those offered by other companies and specifically with those companies with which we compete for employees.

Compensation Recovery Policy

In February 2019, the Compensation Committee adopted a policy for recoupment of incentive compensation. Under the terms of this policy, if the Company is required to prepare an accounting restatement for any fiscal quarter or year due to the material noncompliance of the Company with any financial reporting requirement, the Company may seek to recover from certain employees, including the named executive officers, during the three fiscal years preceding the date on which the Company was required to prepare such accounting restatement, incentive bonus and equity awards in excess of amounts that would have been awarded based upon the restated financial statements. The Company may seek recoupment from prior incentive compensation payments through the reduction of future incentive compensation payments, the reduction or cancellation of outstanding incentive compensation payments, and direct repayment by the executive.

Future Compensation Strategy

We intend to continue our strategy of paying competitive short-term cash compensation and offering long-term incentives through equity-based compensation programs that align individual compensation with corporate financial performance. We believe that our total compensation package is reasonable in the aggregate. We also believe that, in light of our compensation philosophy, total compensation for our executives should continue to consist of base salary, annual bonus awards (consisting of cash, stock or a combination of both), long-term equity based compensation, and certain other benefits.

We anticipate that the competitive posture of our total direct compensation will vary year to year as a result of our performance, as well as the performance of peer group companies and the market as a whole. Accordingly, the magnitude and weighting of different compensation components will likely evolve over time.

Risk Analysis

The Compensation Committee has reviewed our compensation policies as generally applicable to our employees and believes that our policies do not encourage excessive and unnecessary risk-taking, and that the level of risk that they do encourage is not reasonably likely to have a material adverse effect on us. The design of our compensation policies and programs encourages our employees to remain focused on both our short- and long-term goals.

Tax Considerations

Section 162(m). Section 162(m) of the Internal Revenue Code of 1986, as amended (the "Code"), disallows a deduction to any publicly held corporation and its affiliates for certain compensation paid to "covered employees" in a taxable year to the extent that compensation to a covered employee exceeds \$1 million. Prior to the recent enactment of the Tax Cuts and Jobs Act (TCJA), compensation that qualified as "performance-based compensation" under Section 162(m) of the Code was not subject to this deduction limitation. Pursuant to the TCJA, this exception for "performance-based compensation" under Section 162(m) of the Code was repealed, with respect to taxable years beginning after December 31, 2017, except that certain transition relief is provided by TCJA for remuneration provided pursuant to a written binding contract which was in effect on November 2, 2017

and which was not modified in any material respect on or after such date. As a result, compensation paid to any of our “covered employees” in excess of \$1 million per taxable year generally will not be deductible unless among other requirements, it is intended to qualify, and is eligible to qualify, as “performance-based compensation” under Section 162(m) of the Code pursuant to the transition relief provided by the TCJA. Because of certain ambiguities and uncertainties as to the application and interpretation of Section 162(m) of the Code and the regulations issued thereunder, including the uncertain scope of the transition relief provided by the TCJA, no assurance can be given that any compensation paid by the Company will be eligible for such transition relief and, therefore, eligible for the “performance-based compensation” exception under Section 162(m) of the Code. We are in the process of gathering information on our existing compensation arrangements for covered employees as well as assessing the impact of transitional guidance. Prior to the TCJA, the Compensation Committee had not adopted a policy requiring all compensation to be deductible, in order to maintain flexibility in compensating our executive officers in a manner designed to promote our objectives. Going forward, while the Compensation Committee intends to evaluate the effects of the revised compensation limits of Section 162(m) on any compensation it proposes to grant, the Compensation Committee intends to continue to provide future compensation in a manner consistent with our best interests and those of our stockholders, including compensation that is potentially not deductible.

Section 409A. Under Section 409A of the Code, if a named executive officer is entitled to non-qualified deferred compensation benefits that are subject to Section 409A, and such benefits do not comply with Section 409A, the officer would be subject to adverse tax treatment, including accelerated income recognition (in the first year that benefits are no longer subject to a substantial risk of forfeiture) and a 20% penalty tax pursuant to Section 409A. With respect to equity and cash compensation, we generally seek to structure such awards so that they do not constitute “deferred compensation” under Section 409A, thereby avoiding penalties and taxes on such compensation applicable to deferred compensation.

COMPENSATION COMMITTEE REPORT

The Compensation Committee has reviewed and discussed the Compensation Discussion and Analysis contained in this proxy statement with Company management. Based on the Compensation Committee’s review of, and the discussions with management with respect to, the Compensation Discussion and Analysis, the Compensation Committee recommended to the board of directors that the Compensation Discussion and Analysis be included in this proxy statement and incorporated by reference in our Annual Report on Form 10-K for the fiscal year ended December 31, 2018 filed with the Securities and Exchange Commission.

COMPENSATION COMMITTEE

Donald Pastor, Chairman
Richard W. Roedel
Gary Spiegel
Warren B. Phelps, III

The foregoing compensation committee report is not “soliciting material,” shall not be deemed incorporated by reference into any filing by us under the Securities Act of 1933 or the Securities Exchange Act of 1934, whether made before or after the date hereof, and shall not otherwise be deemed filed under these acts, except to the extent we specifically incorporate by reference into such filings.

Summary Compensation Table

The following table sets forth the summary information concerning compensation earned during the last three completed fiscal years by our president and chief executive officer and our chief financial officer, who were our only two executive officers during 2018. We refer to these persons as our “named executive officers” elsewhere in this proxy statement. The following table includes all compensation earned by the named executive officers for the respective periods, regardless of whether such amounts were actually paid during the period.

<u>Name and Principal Position</u>	<u>Year</u>	<u>Salary (\$)</u>	<u>Bonus (\$)</u>	<u>Stock Awards (\$)</u>	<u>Non-Equity Incentive Plan Compensation (\$)</u>	<u>All Other Compensation (\$)</u>	<u>Total (\$)</u>
Scott A. Graeff,	2018	325,000	—	429,800 (1)	234,975 (2)	7,470.47 (3)	997,245.47
<i>President and Chief Executive Officer</i>	2017	270,740	—	172,630 (4)	135,371 (5)	7,249 (3)	585,990
	2016	248,975	—	39,675 (6)	152,666 (7)	6,802 (3)	448,118
Dale E. Messick,	2018	255,040	—	153,500 (1)	142,290 (2)	7,373.94 (3)	558,203.94
<i>Chief Financial Officer</i>	2017	249,469	—	53,130 (4)	109,787 (5)	7,240 (3)	419,626
	2016	244,006	—	39,675 (6)	149,620 (7)	7,224 (3)	440,525

- (1) In May 2018, the Company granted a total of 190,000 shares of restricted stock to our named executive officers as a part of periodic equity grants to these executives. Mr. Graeff was awarded 140,000 shares, which is equal to \$429,800 divided by \$3.07, the closing price of our common stock as reported on the Nasdaq Capital Market on May 15, 2018. Mr. Messick was awarded 50,000 shares of restricted stock, which is \$153,500 divided by \$3.07. The restricted stock awards are subject to a three year vesting schedule. In accordance with SEC rules, this amount is reported in the "Stock Awards" column for 2018 in the table above.
- (2) Represents amounts paid to the named executive officer under our 2018 senior management incentive plan upon the deemed achievement of specified financial and qualitative performance objectives.
- (3) Represents or includes Company 401(k) plan matching contributions and policy premiums paid for life insurance for the benefit of the named executive officer.
- (4) In May 2017, the Company granted a total of 69,000 shares of restricted stock to our named executive officers as a part of periodic equity grants to these executives. Each of Mr. Messick and Mr. Graeff received 34,500 shares, which is equal to \$53,130 divided by \$1.54 per share, the closing price of our common stock as reported on the Nasdaq Capital Market on May 24, 2017, the date of grant. In December 2017, in connection with his appointment as President and Chief Executive Officer, the Company granted Mr. Graeff an additional 50,000 shares of restricted stock. In accordance with SEC rules, this amount is reported in the "Stock Awards" column for 2017 in the table above.
- (5) Represents amounts paid to the named executive officer under our 2017 senior management incentive plan upon the deemed achievement of specified financial and qualitative performance objectives.
- (6) In June 2016, the Company granted a total of 69,000 shares of restricted stock to our named executive officers as a part of periodic equity grants to these executives. Each of Mr. Messick, and Mr. Graeff received 34,500 shares, which is equal to \$39,675 divided by \$1.15 per share, the closing price of our common stock as reported on the Nasdaq Capital Market on June 3, 2016, the date of grant. In accordance with SEC rules, this amount is reported in the "Stock Awards" column for 2016 in the table above.
- (7) Represents amounts paid to the named executive officer under our 2016 senior management incentive plan upon achievement of specified financial and qualitative performance objectives.

Grants of Plan-Based Awards for 2018

The following table provides information with regard to potential cash bonuses for 2018 payable under our senior management incentive plan and equity awards made in 2018.

Name	Grant Date	Estimated Possible Payouts Under Non-Equity Incentive Plan Awards (3)			All Other Stock Awards: Number of Securities Underlying (#)	Grant Date Fair Value of Stock and Option Awards \$(3)
		Threshold (\$)	Target (\$)	Maximum (\$)		
Scott A. Graeff (1)	5/15/2018	10,833	162,500	292,500	140,000	\$429,800
Dale E. Messick (2)	5/15/2018	10,201	102,016	183,629	50,000	\$153,500

- (1) For Mr. Graeff, the “Threshold” column represents the smallest total bonus that would have been paid for 2018 if we had achieved the threshold operating income and Mr. Graeff achieved one of his individual qualitative goals and we did not achieve any of the other financial or qualitative objectives, which would have resulted in a bonus equal to 3.3% of his 2018 salary. The “Target” column represents the amount that would have been paid to Mr. Graeff if, for 2018, a consolidated operating loss of \$0.4 million had been attained, we achieved the target level of consolidated revenue of \$48.4 million and Mr. Graeff achieved his qualitative objectives. The “Maximum” column represents the largest total bonus that could have been paid to Mr. Graeff if, for 2018, a consolidated operating income of at least \$2.0 million had been attained, we achieved the maximum level of consolidated revenue of \$59.9 million, and Mr. Graeff achieved his qualitative objectives. For purposes of the incentive compensation plan, the revenue and operating income values include the operating results of the optoelectronic components business prior to its sale in July 2018.
- (2) For Mr. Messick, the “Threshold” column represents the smallest total bonus that would have been paid for 2018 if we had achieved the threshold operating income and Mr. Messick achieved one of his individual qualitative goals and we did not achieve any of the other financial or qualitative objectives, which would have resulted in a bonus equal to 4.0% of his 2018 salary. The “Target” column represents the amount that would have been paid to Mr. Messick if, for 2018, a consolidated operating loss of \$0.4 million had been attained and we achieved the target level of consolidated revenue of \$48.4 million and he achieved each of his individual qualitative objectives. The “Maximum” column represents the largest total bonus that could have been paid to Mr. Messick if, for 2018, a consolidated operating income of at least \$2.0 million was achieved and we recognized consolidated revenues equal to or greater than \$59.9 million and he achieved each of his qualitative objectives. For purposes of the incentive compensation plan, the revenue and operating income values include the operating results of the optoelectronic components business prior to its sale in July 2018.
- (3) The actual bonuses paid under our senior management incentive plan in respect of 2018 performance were \$234,975 for Mr. Graeff and \$142,290 for Mr. Messick, respectively. Such amounts are included in "Non-Equity Incentive Plan Compensation" in the Summary Compensation Table above.
- (4) Amounts represent the aggregate grant date fair value of stock awards, as calculated in accordance with ASC Topic 718. For a discussion of valuation assumptions, see Note 10 to our audited consolidated financial statements included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2018.

Outstanding Equity Awards at December 31, 2018

The following table shows all outstanding unexercised stock options and unvested stock awards held by our named executive officers as of December 31, 2018.

Name	Option Awards				Stock Awards	
	Number of Securities Underlying Unexercised Options (#)		Option Exercise Price (\$)	Option Expiration Date	Number of Shares that have not vested (#)	Market Value of Shares that have not vested (\$ (5))
	Exercisable	Unexercisable				
Scott A. Graeff	50,000	—	0.82	5/12/2019		
	34,531	—	1.68	2/28/2022		
					11,500 (1)	38,525
					23,000 (2)	77,050
					33,334 (3)	111,668
					140,000 (4)	469,000
Dale E. Messick	100,000	—	1.70	2/24/2019		
	34,531	—	1.68	2/28/2022		
					11,500 (1)	38,525
					23,000 (2)	77,050
					50,000 (4)	167,500

- (1) Represents unvested shares underlying a restricted stock award issued on June 3, 2016, which will vest annually over a three year period.
- (2) Represents unvested shares underlying a restricted stock award issued on May 24, 2017, which will vest annually over a three year period.
- (3) Represents unvested shares underlying a restricted stock award issued on December 5, 2017, which will vest annually over a three year period.
- (4) Represents unvested shares underlying a restricted stock award issued on May 15, 2018, which will vest annually over a three year period.
- (5) Based on the closing price of our common stock of \$3.35 per share as of December 31, 2018, the last trading day of 2018.

Option Exercises and Stock Vested During 2018

The table below sets forth information concerning the vesting of restricted stock for each named executive officer during 2018.

Name	Stock Awards	
	Number of Shares Acquired on Vesting (#)	Value Realized on Vesting (\$)
Scott A. Graeff	59,791	200,549
Dale E. Messick	43,125	143,635

Employment Agreements

Employment Agreement with Scott A. Graeff

On December 5, 2017, we entered into an amended and restated employment agreement with Scott A. Graeff as our President and Chief Executive Officer. Under the terms of the amended and restated employment agreement, Mr. Graeff is eligible to participate in an annual cash incentive plan for a discretionary cash bonus plan with a payout at target performance of 50% of his actual salary during such year and a maximum value of 75% of his actual salary during such year, subject to the achievement of individual and corporate performance criteria to be determined by our board of directors or our Compensation Committee and set forth in the incentive plan.

The employment agreement provides that, in the event that his employment is terminated by us “without cause” or by him for “good reason” (each as defined in the employment agreement), subject to his entering into and not revoking a release in a form acceptable to the Company, he will be entitled to receive:

- a severance payment equal to 12 months of his then current annual salary payable in installments on the Company's regular payroll dates plus a lump sum payment equal to his annual cash incentive compensation assuming that the performance objectives were achieved at the target level;
- if he timely elects and remains eligible for continued coverage under COBRA, an amount equal to the health insurance premiums that we were paying on his behalf and on behalf of his covered dependents prior to the date of termination for a period of nine months, or 12 months if the termination occurs within 12 months following a change in control transaction;
- a lump sum payment of any annual cash incentive earned but unpaid with respect to the year preceding the year of termination; and
- a cash payment for any unvested company matching contributions in his account under the Company's 401(k) plan and for any accrued but unpaid vacation.

In addition to the severance and retention payments described above, in the event a change in control occurs due to a sale of the Company's assets or a merger of the Company or an acquisition of the Company via tender offer, the employment agreement also provides that Mr. Graeff will receive the payments described above provided that all such payments will be accelerated and not deferred. In addition, all outstanding equity awards received prior to the change in control shall immediately vest.

In addition, in the event that payments made upon termination constitute parachute payments within the meaning of Section 280G of the Code and are subject to excise tax imposed under Section 4999 of the Code, then the payments may be reduced if such reduction results in Mr. Graeff receiving on an after-tax basis a greater severance amount.

Employment Agreement with Dale E. Messick

In July 2018, we entered into an amended and restated employment agreement with Mr. Messick. Pursuant to the employment agreement, Mr. Messick will be employed by us on an "at-will" basis, meaning either party may terminate the agreement at any time, with or without cause or advanced notice.

Under the terms of the employment agreement, Mr. Messick is eligible to participate in our senior management incentive plan for an annual discretionary cash bonus with a target value of at least 40% of his then current base salary, subject to the achievement of individual and corporate performance criteria to be determined by our board of directors or our Compensation Committee and set forth in the incentive plan.

In the event that Mr. Messick's employment is terminated by us "without cause" or by Mr. Messick for "good reason" (each as defined in his employment agreement), subject to Mr. Messick's entering into and not revoking a separation agreement that includes, among other terms, a general release of claims in our favor, in a form acceptable to us, Mr. Messick will be entitled to receive:

- severance payments equal to his then applicable base salary for a period of 9 months paid in installments on our regular payroll dates;
- a discretionary lump sum bonus payment equal to the target bonus that he would have been eligible to receive for the year in which the termination occurs, which will be paid when we otherwise pay annual bonuses, so long as that date is no later than March 15th the following year in which the termination occurs; provided, however, if the termination occurs within three months prior to or 12 months following a "change in control" transaction (as defined in the employment agreement), then Mr. Messick will be entitled to receive a discretionary lump sum bonus payment equal to the maximum target bonus that he would have been eligible to receive for the year in which the termination occurs;
- if he timely elects and remains eligible for continued coverage under COBRA, the health insurance premiums that we were paying on behalf of Mr. Messick and his covered dependents prior to the date of termination, until the earliest of (i) 12 months following termination, (ii) the date Mr. Messick becomes eligible for substantially equivalent insurance in connection with new employment or self-employment, or (iii) the date Mr. Messick ceases to be eligible for COBRA continuation coverage; and
- a cash payment for any unvested company matching contributions in Mr. Messick's account under our 401(k) plan.

In addition, if Mr. Messick's employment is terminated by us "without cause" or by Mr. Messick for "good reason" within three months prior to or 12 months following a "change of control" transaction, all unvested stock options and other stock awards for our common stock held by Mr. Messick as of immediately prior to the termination date will accelerate in full.

Terms of Performance Based Restricted Stock Units under our 2016 Equity Incentive Plan

In addition to the benefits payable to our named executive officers under their employment agreements described above, each of our named executive officers holds performance-based restricted stock units, which provide for full acceleration as to 100% of the target amount of the award upon the effective time of a change in control. The terms of these performance-based restricted stock units are described in greater detail in “Executive Compensation-Executive Compensation Program-Equity Incentives.”

STOCK OWNERSHIP GUIDELINES

In 2018, our board of directors established stock ownership guidelines applicable to our officers and directors, which are intended to ensure that our officers and directors acquire and maintain an equity stake in the company that aligns their interests with those of our stockholders.

Our officer stock ownership guidelines provide that the chief executive officer and each other officer at the level of vice president or above who report directly to the chief executive officer must acquire and maintain stock ownership at a multiple of their respective base salaries. Ownership varies by officer level, with the chief executive officer’s target at three times salary, chief financial officer’s target at two times base salary and all other officers at targets at one times salary.

Our director stock ownership guidelines provide that each director should acquire and maintain stock ownership in the company equal to one times his or her annual board retainer.

Compliance is assessed at September 30 of each year, and as of the most recent evaluation date, all officers and directors were in compliance with the stock ownership guidelines.

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table sets forth certain information with respect to beneficial ownership of our common stock, as of March 31, 2019, by:

- each person known by us to be a beneficial owner of 5% or more of the outstanding shares of our common stock;
- each of our directors and the board of directors' nominees for director;
- each of the executive officers named in the Summary Compensation Table, to whom we refer as our named executive officers; and
- all of our currently serving executive officers and directors as a group.

Beneficial ownership is determined in accordance with the rules of the SEC. Except as indicated by the footnotes below, we believe, based on the information furnished to us and Schedules 13D and 13G, if any, filed with the SEC, that the persons and entities named in the table below have sole voting and investment power with respect to all shares of the common stock that they beneficially own, subject to applicable community property laws. In computing the number of shares beneficially owned by a person and the percentage ownership of that person, shares of common stock subject to options, RSUs, warrants, stock units under our non-employee directors' deferred compensation plan or other exercisable or convertible securities held by that person that are currently exercisable or convertible or exercisable or convertible within 60 days of March 31, 2019 are deemed outstanding, but are not deemed outstanding for purposes of computing the percentage ownership of any other person. Unless otherwise indicated, these shares do not include any stock, options or RSUs or stock units awarded after March 31, 2019. A total of 28,125,593 shares of our common stock were outstanding as of March 31, 2019.

Unless otherwise indicated, the address of each beneficial owner listed in the table below is c/o Luna Innovations Incorporated, 301 1st Street SW, Roanoke, Virginia 24011.

Name and Address of Beneficial Owner	Number of Shares Beneficially Owned	Percent of Class
Carilion Clinic (1) c/o Carilion Roanoke Memorial Hospital First Floor Roanoke, Virginia 24033	4,127,360	13.7%
Leviticus Partners, L.P. (2) 370 Lexington Avenue, Suite 201 New York, NY 10017	2,153,824	7.7%
Scott A. Graeff (3)	571,021	1.7%
Dale E. Messick (4)	304,832	1.1%
John B. Williamson, III (5)	497,241	1.7%
Donald Pastor (6)	143,809	*
Richard W. Roedel (7)	1,006,460	3.5%
Michael W. Wise (8)	668,028	2.3%
Gary Spiegel (9)	70,386	*
Warren B. Phelps, III (10)	58,140	*
N. Leigh Anderson (11)	24,376	*
All current directors and executive officers as a group (9 persons) (12)	3,334,293	11.2%

- * Represents less than 1% of the outstanding shares of common stock.
- (1) This information has been obtained from a Schedule 13G/A filed on February 11, 2019 by Carilion Clinic. Includes 1,321,514 shares of Series A Convertible Preferred Stock, which are currently convertible into an equivalent number of shares of common stock, as well as 651,516 shares of common stock payable as accrued dividends on the Series A Convertible Preferred Stock that will be issued upon the holder's request.
 - (2) This information has been obtained from a Schedule 13G filed on August 1, 2018 by Leviticus Partners, L.P., AMH Equity LLC and Adam Hutt. AMH Equity LLC is the general partner of Leviticus Partners, L.P. and Adam Hutt is the President of AMH Equity LLC.
 - (3) Includes (i) 84,531 shares subject to options that are immediately exercisable or exercisable within 60 days of March 31, 2019 and (ii) 149,668 of restricted stock that are not vested, and will not vest, within 60 days of March 31, 2019 (Mr. Graeff is deemed to have voting, but not dispositive, power over such shares).
 - (4) Includes 56,334 shares of restricted stock that are not vested, and will not vest, within 60 days of March 31, 2019 (Mr. Messick is deemed to have voting, but not dispositive, power over such shares).
 - (5) Includes 174,356 shares subject to options that are immediately exercisable or exercisable within 60 days of March 31, 2019 and 178,652 shares of common stock issuable pursuant to stock units held under our non-employee directors' deferred compensation plan that are payable under circumstances within the control of the holder.
 - (6) Includes 5,340 shares subject to options that are immediately exercisable or exercisable within 60 days of March 31, 2019, and 8,143 shares of common stock issuable pursuant to stock units held under our non-employee directors' deferred compensation plan that are payable under circumstances within the control of the holder.
 - (7) Includes 544,164 shares subject to options that are immediately exercisable or exercisable within 60 days of March 31, 2019, and 244,254 shares of common stock issuable pursuant to stock units held under our non-employee directors' deferred compensation plan that are payable under circumstances within the control of the holder.
 - (8) Includes 240,000 shares subject to options that are immediately exercisable or exercisable within 60 days of March 31, 2019, and 92,295 shares of common stock issuable pursuant to stock units held under our non-employee directors' deferred compensation plan that are payable under circumstances within the control of the holder. Also includes 12,840 shares held by Mr. Wise's family members over which Mr. Wise shares voting and investment power.
 - (9) Includes 8,143 shares of common stock issuable pursuant to stock units held under our non-employee directors' deferred compensation plan that are payable under circumstances within the control of the holder.
 - (10) Includes 41,907 shares of common stock issuable pursuant to stock units held under our non-employee directors' deferred compensation plan that are payable under circumstances within the control of the holder.
 - (11) Includes 8,143 shares of common stock issuable pursuant to stock units held under our non-employee directors' deferred compensation plan that are payable under circumstances within the control of the holder.
 - (12) Includes an aggregate of: (i) 581,537 shares of common stock issuable pursuant to stock units issued under our non-employee directors' deferred compensation plan that are payable under circumstances within the control of the holders; (ii) an aggregate of 1,048,391 shares of common stock issuable under stock options that are immediately exercisable or exercisable within 60 days of March 31, 2019; and (iii) 206,002 shares of restricted stock that are not vested, and will not vest, within 60 days of March 31, 2019.

Section 16(a) Beneficial Ownership Reporting Compliance

Section 16(a) of the Securities Exchange Act of 1934, as amended, requires that certain of our executive officers and directors, and persons who own more than 10% of a registered class of our equity securities, file reports of ownership and changes in ownership (Forms 3, 4 and 5) with the SEC. Such executive officers, directors and greater than 10% holders are required to furnish us with copies of all of these forms that they file. Certain of our executives hold a power of attorney to enable such individuals to file ownership and change in ownership forms on behalf of the reporting persons.

Other than those reports and as previously disclosed, to our knowledge, based solely on our review of these reports or written representations from certain reporting persons that no other reports were required, we believe that during 2018, all Section 16(a) filing requirements applicable to our officers, directors, greater than 10% stockholders and other persons subject to Section 16(a) of the Exchange Act were complied with.

OTHER INFORMATION

Other Matters to be Presented at the Annual Meeting

We do not know of any matters to be presented at our 2019 annual meeting of stockholders other than those described in this proxy statement. If any other matters are properly brought before the annual meeting, proxies will be voted in accordance with the best judgment of the person or persons voting the proxies.

Security Holder Communication with Board Members

Any holder of our common stock may contact the board of directors or a specified individual director by writing to the attention of the board of directors (or a specified individual director) and sending such communication to the attention of our corporate Secretary at our executive offices as identified in this proxy statement. Each communication from a stockholder should include the following information in order to permit us to confirm your status as a security holder and enable us to send a response if deemed appropriate:

- the name, mailing address and telephone number of the security holder sending the communication;
- the number and type of our securities owned by such security holder; and
- if the security holder is not a record owner of our securities, the name of the record owner of our securities beneficially owned by the security holder.

Our corporate Secretary will forward all appropriate communications to the board of directors or individual members of the board of directors as specified in the communication. Our corporate Secretary may, but is not required to, review all correspondence addressed to the board of directors or any individual member of the board of directors. The purpose of this review is to allow the board to avoid having to consider irrelevant or inappropriate communications, such as advertisements, solicitations and hostile communications, or any correspondence more suitably directed to management.

Stockholder Proposals for 2020 Annual Meeting

Our bylaws provide for advance notice procedures to recommend a person for nomination as a director or to propose business to be considered by stockholders at a meeting but not to be included in our proxy materials. For the 2020 annual meeting of stockholders, such nominations or proposals, other than those made by or at the direction of the board of directors, must be submitted in writing and received by our corporate Secretary at our offices no later than January 10, 2020, which is 90 days prior to the anniversary of the expected mailing date of this proxy statement. If our 2020 annual meeting of stockholders is moved more than 30 days before or after the anniversary date of our 2019 annual meeting of stockholders, then the deadline is the close of business on the tenth day following the day notice of the date of the meeting was mailed or made public, whichever occurs first. Such proposals also need to comply with all applicable requirements of the rules and regulations of the SEC. The chairperson of a stockholder meeting may refuse to acknowledge the introduction of your proposal if it is not made in compliance with the foregoing procedures or the applicable provisions of our bylaws.

In addition, for a stockholder proposal to be considered for inclusion in our proxy statement for the 2020 annual meeting of stockholders, the proposal must be submitted in writing and received by our corporate Secretary at our offices at 301 1st Street SW, Suite 200, Roanoke, Virginia 24011 no later than December 11, 2019, which is 120 days prior to the anniversary of the expected mailing date of this proxy statement. You are also advised to review our bylaws, which contain additional requirements about advance notice of stockholder proposals and director nominations.

Householding of Annual Meeting Materials

Some banks, brokers and other nominee record holders may participate in the practice of "householding" proxy statements and their accompanying documents. This means that only one set of our annual meeting materials is sent to multiple stockholders in your household unless you instruct otherwise. We will promptly deliver a separate copy of these documents without charge to you upon written request to Luna Innovations Incorporated, 301 1st Street SW, Suite 200, Roanoke, Virginia 24011, Attn: Investor Relations. If you want to receive separate copies of our annual meeting materials in the future, or if you are receiving multiple copies and would like to receive only one copy per household, you should contact your bank, broker or other nominee record holder, or you may contact us at the above address and phone number.

By Order of the Board of Directors

/s/ Scott A. Graeff

Scott A. Graeff

President, Chief Executive Officer, Treasurer and Secretary

April 9, 2019

A copy of our Annual Report to the Securities and Exchange Commission on Form 10-K for the fiscal year ended December 31, 2018 is available without charge on our website, www.lunainc.com, or upon written request to: Corporate Secretary, Luna Innovations Incorporated, 301 1st Street SW, Suite 200, Roanoke, Virginia 24011.

LUNA INNOVATIONS INCORPORATED
 ATTN: Allison Woody
 301 FIRST STREET SW, SUITE 200
 ROANOKE, VA 24011

Investor Address Line 1
 Investor Address Line 2
 Investor Address Line 3
 Investor Address Line 4
 Investor Address Line 5
 John Sample
 1234 ANYWHERE STREET
 ANY CITY, ON A1A 1A1

1 OF 2



VOTE BY INTERNET - www.proxyvote.com
 Use the Internet to transmit your voting instructions and for electronic delivery of information. Vote by 11:59 P.M. ET on May 13, 2019. Have your proxy card in hand when you access the web site and follow the instructions to obtain your records and to create an electronic voting instruction form.

ELECTRONIC DELIVERY OF FUTURE PROXY MATERIALS
 If you would like to reduce the costs incurred by our company in mailing proxy materials, you can consent to receiving all future proxy statements, proxy cards and annual reports electronically via e-mail or the Internet. To sign up for electronic delivery, please follow the instructions above to vote using the Internet and, when prompted, indicate that you agree to receive or access proxy materials electronically in future years.

VOTE BY PHONE - 1-800-690-6903
 Use any touch-tone telephone to transmit your voting instructions. Vote by 11:59 P.M. ET on May 13, 2019 for shares held directly. Have your proxy card in hand when you call and then follow the instructions.

VOTE BY MAIL
 Mark, sign and date your proxy card and return it in the postage-paid envelope we have provided or return it to Vote Processing, c/o Broadridge, 51 Mercedes Way, Edgewood, NY 11717.



NAME
 THE COMPANY NAME INC. - COMMON
 THE COMPANY NAME INC. - CLASS A
 THE COMPANY NAME INC. - CLASS B
 THE COMPANY NAME INC. - CLASS C
 THE COMPANY NAME INC. - CLASS D
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 THE COMPANY NAME INC. - CLASS F
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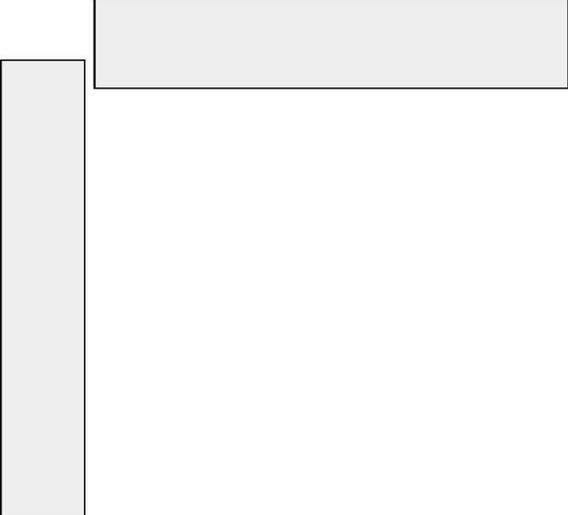
TO VOTE, MARK BLOCKS BELOW IN BLUE OR BLACK INK AS FOLLOWS:

KEEP THIS PORTION FOR YOUR RECORDS
 DETACH AND RETURN THIS PORTION ONLY

THIS PROXY CARD IS VALID ONLY WHEN SIGNED AND DATED.

<p>The Board of Directors recommends a vote "FOR ALL" the following:</p> <p>1. Election of Directors</p> <p>Nominees</p> <p>01 Richard W. Roedel 02 Gary Spiege1</p> <p>The Board of Directors recommends you vote FOR the following proposal:</p> <p>2. Approval, on an advisory basis, of the compensation of Luna's named executive officers.</p> <p>The Board of Directors recommends you vote 1 YEAR on the following proposal:</p> <p>3. Selection, on an advisory basis, of the preferred frequency of stockholder advisory votes on the compensation of Luna's named executive officers.</p> <p>The Board of Directors recommends you vote FOR the following proposal:</p> <p>4. Proposal to ratify the appointment of Grant Thornton LLP as Luna's independent registered public accounting firm for the fiscal year ending December 31, 2019.</p>	<table border="0"> <tr> <td style="text-align: center;">For All</td> <td style="text-align: center;">Withhold All</td> <td style="text-align: center;">For All Except</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </table> <table border="0"> <tr> <td style="text-align: center;">For</td> <td style="text-align: center;">Against</td> <td style="text-align: center;">Abstain</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </table> <table border="0"> <tr> <td style="text-align: center;">1 year</td> <td style="text-align: center;">2 years</td> <td style="text-align: center;">3 years</td> <td style="text-align: center;">Abstain</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </table> <table border="0"> <tr> <td style="text-align: center;">For</td> <td style="text-align: center;">Against</td> <td style="text-align: center;">Abstain</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </table>	For All	Withhold All	For All Except	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	For	Against	Abstain	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1 year	2 years	3 years	Abstain	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	For	Against	Abstain	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>To withhold authority to vote for any individual nominee(s), mark "For All Except" and write the number(s) of the nominee(s) on the line below.</p> <p>02 0000000000</p> <p>NOTE: Please sign exactly as your name(s) appear(s) hereon. When signing as attorney, executor, administrator, or other fiduciary, please give full title as such. Joint owners should each sign personally. If the signer is a corporation, please sign the full corporate name by a duly authorized officer, giving full title as such. If the signer is a partnership, please sign the partnership name by an authorized person.</p>
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Signature [PLEASE SIGN WITHIN 80X]	Date	Signature (Joint Owners)	Date	SHARES CUSIP # SEQUENCE #



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**PROXY SOLICITED BY THE BOARD OF DIRECTORS OF
LUNA INNOVATIONS INCORPORATED
FOR THE ANNUAL MEETING OF STOCKHOLDERS ON MAY 14, 2019**

The undersigned hereby appoints Scott A. Graeff and Dale E. Messick, and each of them, as attorneys and proxies of the undersigned, with full power of substitution, to vote all of the shares of Luna Innovations Incorporated common stock which the undersigned may be entitled to vote at the Annual Meeting of stockholders of Luna Innovations Incorporated to be held at The Hotel Roanoke & Conference Center, 110 Shenandoah Avenue, Roanoke Virginia 24016, at 9:00 A.M. local time, on May 14, 2019, and at any and all continuations, adjournments or postponements thereof, with all powers that the undersigned would possess if personally present, upon and in respect of the matters on the reverse side and in accordance with the accompanying instructions, with discretionary authority as to any and all other matters that may properly come before the meeting.

The undersigned hereby revokes all proxies previously given by the undersigned to vote at the annual meeting of stockholders or any continuation, adjournment or postponement thereof.

(CONTINUED AND TO BE SIGNED ON THE REVERSE SIDE)

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