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

**FORM 6-K**

**REPORT OF FOREIGN PRIVATE ISSUER  
PURSUANT TO RULE 13a-16 OR 15d-16 OF  
THE SECURITIES EXCHANGE ACT OF 1934**

For the month of May 2017

Commission File No.: 000-30668

**NOVA MEASURING INSTRUMENTS LTD.**

(Translation of registrant's name into English)

**Building 22 Weizmann Science Park, Rehovot  
P.O.B 266  
Israel**

(Address of principal executive offices)

Indicate by check mark whether the registrant files or will file annual reports under cover Form 20-F or Form 40-F.

Form 20-F  Form 40-F

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1):

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(7):

Attached hereto and incorporated by way of reference herein are the following documents:

1. The Registrant's Notice of Annual General Meeting of Shareholders and Proxy Statement for its 2017 Annual General Meeting of Shareholders.
2. Proxy card for use in connection with the Registrant's 2017 Annual General Meeting of Shareholders.

This report on Form 6-K is hereby incorporated by reference into the Registrant's registration statements on Form S-8, filed with the Securities and Exchange Commission on the following dates: November 5, 2007 (File No. 333-147140), October 25, 2012 (File No. 333-184585) and March 6, 2015 (File No. 333-202550).

**SIGNATURES**

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

NOVA MEASURING INSTRUMENTS LTD.  
(Registrant)

By: */s/ Dror David*

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Dror David  
Chief Financial Officer

Date: May 18, 2017

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Exhibit Index

99.1 Notice of Annual General Meeting of Shareholders and Proxy Statement

99.2 Proxy Card

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NOVA MEASURING INSTRUMENTS LTD.

NOTICE OF ANNUAL GENERAL MEETING OF SHAREHOLDERS

Notice is hereby given that the annual general meeting of shareholders (the "Meeting") of Nova Measuring Instruments Ltd. (the "Company") will be held on June 22, 2017, at 5:00 p.m. Israel time (10:00 a.m. Eastern time), at the Company's offices, located at Weizmann Science Park, Building 22, Einstein St., Ness Ziona, Israel.

**The agenda of the Meeting shall be as follows:**

1. Re-election of each of Messrs. Michael Brunstein, Alon Dumanis, Avi Cohen, Raanan Cohen and Eli Fruchter as a director of the Company to hold office until the close of the next annual general meeting;
2. Re-election of Ms. Zehava Simon as an external director of the Company for a three-year term, commencing as of June 24, 2017;
3. Approval of amendments to the employment terms of Mr. Eitan Oppenheim, the President and Chief Executive Officer of the Company;
4. Ratification and approval of a framework of terms and conditions for the extension, renewal and entering an insurance policy for directors' and officers' liability, subject to, and in accordance with, the provisions of the Companies Law; and
5. Approval and ratification of the re-appointment of Kost Forer Gabbay & Kasierer, a member of Ernest & Young, as the independent auditors of the Company for the period ending at the close of the next annual general meeting.

In addition, the shareholders will be requested to consider at the Meeting the Company's audited consolidated financial statements for the year ended December 31, 2016.

We know of no other matters to be submitted at the Meeting other than as specified herein. If any other business is properly brought before the Meeting, the persons named as proxies may vote in respect thereof in accordance with their best judgment.

In accordance with the Israeli Companies Law 5759-1999, and regulations promulgated thereunder (the "Companies Law"), any shareholder of the Company holding at least one percent of the outstanding voting rights of the Company for the Meeting may submit to the Company a proposed additional agenda item for the Meeting, to the Company's offices, c/o Ms. Orly Dean, at Weizmann Science Park, Building 22, Einstein St., Ness Ziona, Israel, no later than Wednesday, May 17, 2017. To the extent that there are any additional agenda items that the Board determines to add as a result of any such submission, the Company will publish an updated agenda and proxy card with respect to the Meeting, no later than Wednesday, May 24, 2017, which will be furnished to the U.S. Securities and Exchange Commission (the "Commission") on Form 6-K, and will be made available to the public on the Commission's website at <http://www.sec.gov> and in addition at <http://www.magna.isa.gov.il> or <http://mava.tase.co.il>.

The approval of each of the Proposals requires the affirmative vote of the Company's shareholders holding at least a majority of the Company's ordinary shares ("Shares") present, in person or by proxy, and voting on the matter.

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The approval of Proposal No. 2 is also subject to the fulfillment of one of the following additional voting requirements: (i) the majority of the Shares that are voted at the Meeting in favor of the Proposal, excluding abstentions, includes a majority of the votes of shareholders who are not controlling shareholders or do not have a personal interest in the Proposal other than personal interest that is not resulting from relationship with the controlling shareholders; or (ii) the total number of shares of the shareholders mentioned in clause (i) above that are voted against Proposal No. 2 does not exceed two percent (2%) of the total voting rights in the Company.

The approval of Proposal Nos. 3 and 4 is also subject to the fulfillment of one of the following additional voting requirements (such majority, determined in accordance with clause (i) or (ii) below, shall be referred to hereinafter as a "**Special Majority**"):

- (i) the majority of the Shares that are voted at the Meeting in favor of the Proposal, excluding abstentions, includes a majority of the votes of shareholders who are not controlling shareholders or do not have a personal interest in the Proposal; or
- (ii) the total number of Shares of the shareholders mentioned in clause (i) above that are voted against the Proposal does not exceed two percent (2%) of the total voting rights in the Company.

For this purpose, a "**controlling shareholder**" is any shareholder that has the ability to direct the Company's activities (other than by means of being a director or office holder of the Company), including a person who holds 25% or more of the voting rights in the general meeting of the Company if there is no other person who holds more than 50% of the voting rights in the company; for the purpose of a holding, two or more persons holding voting rights in the Company each of which has a personal interest in the approval of the transaction being brought for approval of the company shall be considered to be joint holders. A person is presumed to be a controlling shareholder if it holds or controls, by himself or together with others, one half or more of any one of the "means of control" of a company. "**Means of control**" is defined as any one of the following: (i) the right to vote at a general meeting of a company, or (ii) the right to appoint directors of a company or its chief executive officer. A "**personal interest**" of a shareholder in an action or transaction of a company includes a personal interest of any of the shareholder's relatives (i.e. spouse, brother or sister, parent, grandparent, child as well as child, brother, sister or parent of such shareholder's spouse or the spouse of any of the above) or an interest of a company with respect to which the shareholder or the shareholder's relative (as defined above) holds 5% or more of such company's issued shares or voting rights, in which any such person has the right to appoint a director or the chief executive officer or in which any such person serves as director or the chief executive officer, including the personal interest of a person voting pursuant to a proxy which the proxy grantor has a personal interest, whether or not the person voting pursuant to such proxy has discretion with regards to the vote; and excludes an interest arising solely from the ownership of ordinary shares of a company.

**If you do not state whether you are a controlling shareholder or have personal interest your shares will not be voted for Proposal Nos. 2, 3 and 4.**

Only shareholders of record at the close of business on May 15, 2017, (the "**Record Date**") will be entitled to receive notice of, and to vote at the Meeting. All shareholders are cordially invited to attend the Meeting in person.

Shareholders who will not attend the Meeting in person may vote with respect to Proposal Nos. 1 through 5 by means of a proxy card and are obliged to complete, sign, date and return the proxy card no later than four hours before the time of the Meeting (i.e., 1:00 p.m. (Israel time) on June 22, 2017). A form of proxy card will be enclosed with the proxy statement. The form of proxy card will be furnished to the Commission on Form 6-K, and will be available to the public on the Commission's website at <http://www.sec.gov> and in addition at <http://www.magna.isa.gov.il> or <http://maya.tase.co.il>.

All Shares represented by properly executed proxies received prior to or at the Meeting and not revoked prior to, or at, the Meeting in accordance with the procedures described in the proxy statement, will be voted as specified in the instructions indicated in such proxies. Subject to applicable law and the rules of The NASDAQ Stock Market, in the absence of such instructions, the Shares represented by properly executed and received proxies will be voted "FOR" all of the proposed resolutions to be presented at the Meeting for which the Company's board of directors recommends a "FOR", other than Proposal Nos. 2, 3 and 4.

Shareholders wishing to express their position on an agenda item for this Meeting may do so by submitting a written statement ("Position Statement") to the Company's offices, c/o Ms. Orly Dean, at Weizmann Science Park, Building 22, Einstein St., Ness Ziona, Israel. Any Position Statement received will be furnished to the Commission on Form 6-K, and will be made available to the public on the Commission's website at <http://www.sec.gov> and in addition at <http://www.magna.isa.gov.il> or <http://maya.tase.co.il>. Position Statements should be submitted to the Company no later than June 12, 2017.

A shareholder is entitled to contact the Company directly and receive the text of the proxy card and any Position Statement.

A shareholder, whose Shares are registered with a TASE member and are not registered on the Company's shareholder's register, is entitled to receive from the TASE member who holds the Shares on the shareholder's behalf, by e-mail, for no charge, a link to the text of proxy card and to the position statements posted on the Israel Securities Authority website, unless the shareholder notified that he or she is not so interested; provided, that the notice was provided with respect to a particular securities account, prior to the Record Date.

A shareholder, whose shares are registered with a member of the TASE, is required to prove his or her share ownership to vote at the Meeting. Such shareholder shall provide the Company with an ownership certificate (as of the Record Date) from that TASE member and is entitled to receive the ownership certificate in the branch of the TASE member or by mail to his address (in consideration of mailing fees only), if the shareholder so requested. Such a request will be made in advance for a particular securities account. Alternatively, shareholders who hold shares through members of the TASE may vote electronically via the electronic voting system of the Israel Securities Authority up to six hours before the time fixed for the Meeting. You should receive instructions about electronic voting from the TASE member through which you hold your shares.

Discussion at the Meeting will be commenced if a quorum is present. A quorum is constituted by two or more shareholders who are present in person or by proxy, or who have delivered to the Company a proxy card indicating their manner of voting, and who hold or represent Shares conferring in the aggregate at least one-third (33.33%) of the voting power in the Company. If a quorum is not present within half an hour of the time designated for the Meeting, the Meeting will be adjourned to Tuesday, June 27, 2017, at the same time and place. At the adjourned Meeting, any number of shareholders who are present in person or proxy, or who have delivered a proxy card, will constitute a quorum.

The wording of the resolutions to be voted at the Meeting and relevant documents thereto may be inspected at the Company's offices, which are located at the Company's offices at the Weizmann Science Park, Building 22, Einstein St., Ness Ziona, Israel during normal business hours and by prior coordination with Ms. Orly Dean (tel: +972-73-2295621).

By Order of the Board of Directors,



Dr. Michael Brunstein,  
Chairman of the Board of Directors  
of the Company

Dated: May 10, 2017

NOVA MEASURING INSTRUMENTS LTD.

Weizmann Science Park  
Building 22, Einstein St., Ness Ziona  
Israel

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PROXY STATEMENT

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ANNUAL GENERAL MEETING OF SHAREHOLDERS

TO BE HELD ON JUNE 22, 2017

This proxy statement is furnished to the holders of ordinary shares, par value NIS 0.01 per share (the "Shares"), of Nova Measuring Instrument Ltd. in connection with the annual general meeting of shareholders of the Company to be held at the Company's offices at the Weizmann Science Park, Building 22, Einstein St., Ness Ziona, Israel on June 22, 2017, at 5:00 p.m. Israel time (10:00 a.m. Eastern time), and thereafter as it may be adjourned from time to time (the "Meeting"). Unless the context otherwise requires, references in this Proxy Statement to "Nova," the "Company," "we" or "our" refer to Nova Measuring Instruments Ltd.

At the Meeting, the following resolutions will be proposed for adoption by the shareholders:

1. Re-election of each of Messrs. Michael Brunstein, Alon Dumanis, Avi Cohen, Raanan Cohen and Eli Fruchter as a director of the Company to hold office until the close of the next annual general meeting;
2. Re-election of Ms. Zehava Simon as an external director of the Company for a three-year term, commencing as of June 24, 2017;
3. Approval of amendments to the employment terms of Mr. Eitan Oppenheim, the President and Chief Executive Officer of the Company;
4. Ratification and approval of a framework of terms and conditions for the extension, renewal and entering into an insurance policy for directors' and officers' liability, subject to, and in accordance with, the provisions of the Companies Law; and
5. Approval and ratification of the re-appointment of Kost Forer Gabbay & Kasierer, a member of Ernest & Young, as the independent auditors of the Company for the period ending at the close of the next annual general meeting.

In addition, the shareholders will be requested to consider at the Meeting the Company's audited consolidated financial statements for the year ended December 31, 2016.

**Shareholders Entitled to Vote**

Only holders of record of Shares at the close of business on May 15, 2017, (the "Record Date") are entitled to receive notice of, and to vote at, the Meeting.

As of May 15, 2017, the Company had 27,631,565 issued and outstanding Shares. Each Share is entitled to one vote on each matter to be voted on at the Meeting. The votes of all shareholders voting on a matter are counted and abstentions are not taken into account (other than for quorum purposes).

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## Proxies

All shareholders who are unable to attend the Meeting in person are requested to complete, date and sign the enclosed form of proxy and return it promptly in the pre-addressed envelope provided.

If you hold ordinary shares in "street name," that is, you are an underlying beneficial holder who holds ordinary shares through a bank, broker or other nominee, the voting process will be based on your directing the bank, broker or other nominee to vote the ordinary shares in accordance with the voting instructions on your voting instruction card. Because a beneficial owner is not a shareholder of record, you may not vote those shares directly at the Meeting unless you obtain a "legal proxy" from the bank, broker or nominee that holds your shares, giving you the right to vote the shares at the Meeting.

Please follow the instructions on the proxy card or voting instruction card received from your bank, broker or nominee. You may also be able to submit voting instructions to a bank, broker or nominee by phone or via the Internet if your voting instruction card describes such voting methods. Please be certain to have your control number from your voting instruction card ready for use in providing your voting instructions.

It is important for a shareholder that holds ordinary shares through a bank or broker to instruct its bank or broker how to vote its shares if the shareholder wants its shares to count for the proposal.

A shareholder, whose shares are registered with a TASE member and are not registered on the Company's shareholder's register, is entitled to receive from the TASE member who holds the shares on the shareholder's behalf, by e-mail, for no charge, a link to the text of proxy card and to the position statements posted on the Israel Securities Authority website, unless the shareholder notified that he or she is not so interested; provided, that the notice was provided with respect to a particular securities account, prior to the Record Date. A shareholder, whose shares are registered with a member of the TASE, is required to prove his or her share ownership to vote at the Meeting. Such shareholder shall provide the Company with an ownership certificate (as of the Record Date) from that TASE member and is entitled to receive the ownership certificate in the branch of the TASE member or by mail to his address (in consideration of mailing fees only), if the shareholder so requested. Such a request will be made in advance for a particular securities account. Alternatively, shareholders who hold shares through members of the TASE may vote electronically via the electronic voting system of the Israel Securities Authority up to six hours before the time fixed for the Meeting. You should receive instructions about electronic voting from the TASE member through which you hold your shares.

Upon the receipt of a properly executed proxy in the form enclosed herewith, the persons named as proxies therein will vote the Shares covered thereby in accordance with the directions of the shareholder executing such proxy. Subject to applicable law and the rules of The NASDAQ Stock Market, in the absence of such instructions, the Shares represented by properly executed and received proxies will be voted "FOR" all of the proposed resolutions to be presented at the Meeting for which the Company's board of directors (the "Board") recommends a "FOR", other than Proposal Nos. 2, 3 and 4.

## Position Statements

Shareholders wishing to express their position on an agenda item for this Meeting may do so by submitting a written statement ("Position Statement") to the Company's offices, c/o Ms. Orly Dean, at Weizmann Science Park, Building 22, Einstein St., Ness Ziona, Israel. Any Position Statement received will be furnished to the Securities and Exchange Commission (the "Commission") on Form 6-K, and will be made available to the public on the Commission's website at <http://www.sec.gov> and in addition at <http://www.magna.isa.gov.il> or <http://mava.tase.co.il>. Position Statements should be submitted to the Company no later than June 12, 2017.

## Meeting Agenda

In accordance with the Israeli Companies Law 5759-1999, and regulations promulgated thereunder (the "Companies Law"), any shareholder of the Company holding at least one percent of the outstanding voting rights of the Company for the Meeting may submit to the Company a proposed additional agenda item for the Meeting, to the Company's offices, c/o Ms. Orly Dean, at Weizmann Science Park, Building 22, Einstein St., Ness Ziona, Israel, no later than Wednesday, May 17, 2017. To the extent that there are any additional agenda items that the Board determines to add as a result of any such submission, the Company will publish an updated agenda and proxy card with respect to the Meeting, no later than Wednesday, May 24, 2017, which will be furnished to the Commission on Form 6-K, and will be made available to the public on the Commission's website at <http://www.sec.gov> and in addition at <http://www.magna.isa.gov.il> or <http://maya.tase.co.il>.

## Expenses and Solicitation

The Company expects to solicit proxies by mail and to mail this proxy statement and the accompanying proxy card to shareholders on or about May 23, 2017. This proxy statement and the accompanying proxy card are also available to the public through one of the following websites <http://www.magna.isa.gov.il>, <http://maya.tase.co.il> or <http://www.sec.gov>.

All costs of solicitation of proxies will be borne by the Company. In addition to solicitations by mail, certain of the Company's directors, officers and regular employees, without additional remuneration, may solicit proxies by telephone, telegraph and personal interviews. Brokers, custodians and fiduciaries will be requested to forward proxy soliciting material to the beneficial owners of Shares held in their names, and the Company will reimburse them for their reasonable out-of-pocket costs.

## Quorum and Voting Requirements

The quorum required consists of two or more shareholders who are present in person or proxy (or who have delivered a proxy card indicating their manner of voting) and who together hold or represent Shares conferring in the aggregate at least one third (33.33%) of the voting power in the Company. If a quorum is not present within one half hour of the time designated for the Meeting, the Meeting shall be adjourned to Tuesday, June 27, 2017, at the same time and place. At the adjourned Meeting, any number of shareholders who are present in person or by proxy, or who have delivered a proxy card, shall constitute a quorum.

The approval of each of the Proposals requires the affirmative vote of the Company's shareholders holding at least a majority of the Shares present, in person or by proxy, and voting on the matter.

The approval of Proposal No. 2 is also subject to the fulfillment of one of the following additional voting requirements: (i) the majority of the Shares that are voted at the Meeting in favor of the Proposal, excluding abstentions, includes a majority of the votes of shareholders who are not controlling shareholders or do not have a personal interest in the Proposal other than personal interest that is not resulting from relationship with the controlling shareholders; or (ii) the total number of shares of the shareholders mentioned in clause (i) above that are voted against Proposal No. 2 does not exceed two percent (2%) of the total voting rights in the Company.

The approval of Proposal Nos. 3 and 4 is also subject to the fulfillment of one of the following additional voting requirements (such majority, determined in accordance with clause (i) or (ii) below, shall be referred to hereinafter as a “Special Majority”):

- (i) the majority of the Shares that are voted at the Meeting in favor of the Proposal, excluding abstentions, includes a majority of the votes of shareholders who are not controlling shareholders or do not have a personal interest in the Proposal; or
- (ii) the total number of Shares of the shareholders mentioned in clause (i) above that are voted against the Proposal does not exceed two percent (2%) of the total voting rights in the Company.

For this purpose, a “**controlling shareholder**” is any shareholder that has the ability to direct the Company’s activities (other than by means of being a director or office holder of the Company), including a person who holds 25% or more of the voting rights in the general meeting of the Company if there is no other person who holds more than 50% of the voting rights in the company; for the purpose of a holding, two or more persons holding voting rights in the Company each of which has a personal interest in the approval of the transaction being brought for approval of the company shall be considered to be joint holders. A person is presumed to be a controlling shareholder if it holds or controls, by himself or together with others, one half or more of any one of the “means of control” of a company. “**Means of control**” is defined as any one of the following: (i) the right to vote at a general meeting of a company, or (ii) the right to appoint directors of a company or its chief executive officer. A “**personal interest**” of a shareholder in an action or transaction of a company includes a personal interest of any of the shareholder’s relatives (i.e. spouse, brother or sister, parent, grandparent, child as well as child, brother, sister or parent of such shareholder’s spouse or the spouse of any of the above) or an interest of a company with respect to which the shareholder or the shareholder’s relative (as defined above) holds 5% or more of such company’s issued shares or voting rights, in which any such person has the right to appoint a director or the chief executive officer or in which any such person serves as director or the chief executive officer, including the personal interest of a person voting pursuant to a proxy which the proxy grantor has a personal interest, whether or not the person voting pursuant to such proxy has discretion with regards to the vote; and excludes an interest arising solely from the ownership of ordinary shares of a company.

**If you do not state whether you are a controlling shareholder or have personal interest your shares will not be voted for Proposal Nos. 2, 3 and 4.**

#### **Reporting Requirements**

We are subject to the information reporting requirements of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), applicable to foreign private issuers. We fulfill these requirements by filing reports with the Commission. Our filings with the Commission may be inspected without charge at the Commission’s Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. Information on the operation of the Public Reference Room can be obtained by calling the Commission at 1-800-SEC-0330. Our filings are also available to the public on the Commission’s website at <http://www.sec.gov>.

As a foreign private issuer, we are exempt from the rules under the Exchange Act related to the furnishing and content of proxy statements. The circulation of this notice and proxy statement should not be taken as an admission that we are subject to the proxy rules under the Exchange Act.

**AFTER CAREFUL CONSIDERATION, OUR BOARD RECOMMENDS THAT SHAREHOLDERS VOTE “FOR” THE PROPOSALS DESCRIBED IN THIS PROXY STATEMENT.**

**COMPENSATION OF EXECUTIVE OFFICERS AND DIRECTORS**

The table below reflects the compensation granted to our five most highly compensated office holders (as defined in the Companies Law) during or with respect to the year ended December 31, 2016. We refer to the five individuals for whom disclosure is provided herein as our "Covered Executives." For purposes of the table below, "compensation" includes amounts accrued or paid in connection with salary, bonuses, equity-based compensation, retirement or termination payments, benefits and perquisites (such as car and phone) social benefits and any undertaking to provide such compensation. All amounts reported in the table are in terms of cost to the Company (in USD), as recognized in our financial statements for the year ended December 31, 2016, including compensation paid to such Covered Executives following the end of the year in respect of services provided during the year. Each of the Covered Executives was covered by our D&O liability insurance policy and was granted an indemnification letter as approved by our shareholders in accordance with applicable law and our articles of association.

Name and Principal Position <sup>(1)</sup>	Salary and benefits <sup>(2)</sup>	Bonus <sup>(3)</sup>	Equity-Based Compensation <sup>(4)</sup>	Total
	USD\$			
Eitan Oppenheim President and Chief Executive Officer	397,584	525,358	499,627	1,422,569
Dror David Chief Financial Officer	287,190	163,589	83,761	534,540
Shay Wolfing Chief Technology Officer	260,600	136,053	103,406	500,059
Gabriel Waisman <sup>(5)</sup> Chief Business Officer	270,034	115,694	22,750	408,478
Dov Farkash Senior Corporate Vice President Modeling Software Division	249,504	98,309	57,996	405,809

- (1) All Covered Executives are employed on a full time (100%) basis.
- (2) Includes the Covered Executive's gross salary and benefits and perquisites, including those mandated by applicable law. Such benefits and perquisites may include, to the extent applicable to the Covered Executives, payments, contributions and/or allocations for savings funds (e.g., Managers' Life Insurance Policy), education funds (referred to in Hebrew as "keren hishtalmut"), pension, severance, vacation, car or car allowance, medical insurances and benefits, risk insurance (e.g., life, disability, accident), telephone, convalescence pay, payments for social security, tax gross-up payments and other benefits and perquisites consistent with the Company's policies.
- (3) Amounts reported in this column refer to the annual cash bonus for 2016, which have been provided for in the Company's financial statements for the year ended December 31, 2016, but paid during 2017. Such amounts exclude bonuses paid during 2016 which were provided for in the Company's financial statements for previous years.
- (4) Represents the equity-based compensation expenses recorded in the Company's consolidated financial statements for the year ended December 31, 2016, based on the equity fair value on the grant date, calculated in accordance with accounting guidance for equity-based compensation. For a discussion on the assumptions used in reaching this valuation, see Note 9 to our consolidated financial statements included in our annual report on Form 20-F for the year ended December 31, 2016 as filed with the Commission on March 3, 2017.
- (5) Mr. Waisman was partially employed by the Company in 2016.

In addition, the compensation paid to our Chairman of the Board for the year ended December 31, 2016, as recognized in our financial statements for the year ended December 31, 2016, is detailed in the table below.

Name and Principal Position	Service Payments	Bonus	Equity-Based Compensation <sup>(1)</sup>	Total
			USD\$	
Michael Brunstein Chairman of the Board of Directors	110,000	-	129,928	239,928

(1) Represents the equity-based compensation expense recorded in the Company's consolidated financial statements for the year ended December 31, 2016, based on the equity fair value on the grant date, calculated in accordance with accounting guidance for equity-based compensation. For a discussion on the assumptions used in reaching this valuation, see Note 9 to our consolidated financial statements included in our annual report on Form 20-F for the year ended December 31, 2016 as filed with the Commission on March 3, 2017.

The annual target bonus of the Company's President and Chief Executive Officer for the year ended December 31, 2016 was divided into the following discrete components that were weighted as follows (the "2016 Bonus Plan"):

Component	Component Weight (as % of Total Target Bonus)
Company performance measures of profitability and revenues	55%
Expending the Company's organic growth engines, achieving certain strategic technology and customer related objectives and post-merger acquisition related objectives	30%
A discretionary evaluation of the overall performance in the fiscal year by the compensation committee and the Board	15%

Each component was measured against a target that was determined by the compensation committee and the Board. In addition, the 2016 Bonus Plan payout was subject to certain thresholds related to the Company's revenue and profitability. These thresholds have been met in 2016.

The annual target bonus of the Company's President and Chief Executive Officer for the year ended December 31, 2017, as set by our compensation committee and the Board is divided into the following discrete components that will be weighted as follows (the "2017 Bonus Plan"):

Component	Component Weight (as % of Total Target Bonus)
Company performance measures of profitability and revenues	55%
Expending the Company's organic growth engines, achieving certain strategic goals according to the Company's long term strategic planning and customers' related objectives	30%
A discretionary evaluation of the overall performance in the fiscal year by the compensation committee and the Board	15%

The 2017 Bonus Plan payout is subject to certain thresholds related to the Company's revenue and profitability.

PROPOSAL NO. 1

**APPROVAL OF THE RE-ELECTION OF EACH OF MESSRS. MICHAEL  
BRUNSTEIN, ALON DUMANIS, AVI COHEN, RAANAN COHEN AND ELI  
FRUCHTER AS A DIRECTOR OF THE COMPANY TO HOLD OFFICE UNTIL  
THE CLOSE OF THE NEXT ANNUAL GENERAL MEETING.**

At the Meeting, shareholders will be asked to approve the re-election of each of Messrs. Michael Brunstein, Alon Dumanis, Avi Cohen, Raanan Cohen and Eli Fruchter as a director of the Company to hold office until the close of the next annual general meeting. Messrs. Avi Cohen, Raanan Cohen and Eli Fruchter are standing for reelection as independent directors under the Companies Law. Our Board has determined that each of the director nominees qualifies as "independent director" under the rules of The NASDAQ Stock Market.

There are currently five directors serving on the Board who are not external directors, all of which are standing for re-election under this Proposal No. 1. All of our directors attended 90% or more of the meetings of the Board and its committees on which they served since the previous annual general meeting.

Herein below are details on those directors currently serving on the Board, and standing for reelection:

*Dr. Michael Brunstein (73)* was named chairman of our board of directors in June 2006, after serving as member of our board of directors from November 2003. During the years 1990 and 1999, Dr. Brunstein served as Managing Director of Applied Materials Israel Ltd. Prior to that, Dr. Brunstein served as President of Opal Inc., and as a Director of New Business Development in Optrotech Ltd. Dr. Brunstein is a member of the board of directors of IAI (Israel Aerospace Industries Ltd.). Dr. Brunstein holds a B.Sc. in Mathematics and Physics from The Hebrew University, Jerusalem, and a M.Sc. and a Ph.D. in Physics from Tel Aviv University, Israel.

*Dr. Alon Dumanis (66)* has served as a director of Nova since 2002. Until December 31, 2015, Dr. Dumanis acted as the Chief Executive Officer of Crecor B.V, Docor International B.V, Docor Levi Lassen I BV, Docor Levi Lassen II BV and Docor International Management Ltd., all Dutch investment companies, subsidiaries of The Van-Leer Group Foundation, and currently Dr. Dumanis is a member of the management teams of the foregoing companies. Dr. Dumanis is currently a chairman of Aposense and a member of the board of directors of Rada, both public companies traded on TASE. Dr. Dumanis is the chairman of Dumanis Investments Ltd., Dumanis Holdings Ltd., Dumanis Ventures Ltd. and the chief executive officer of ACS Cyber Solutions, all private companies. Dr. Dumanis is a former member of the board of directors of Tadiran Communications (a public company traded on TASE), of El Al Israel Airlines (a public company traded on TASE), of Protalix Biotherapeutics (a public company traded on the New York Stock Exchange), and a former member of the board of directors of Inventech Investments Co. Ltd. (a public company traded on TASE), Spectronix (a public company traded on TASE) and Ice Cure (a public company traded on TASE). Previously, Dr. Dumanis was the Head of the Material Command in the Israel Air Force at the rank of Brigadier General. Dr. Dumanis currently serves as chairman and member of several national steering committees and is the author of many papers published in a number of subject areas, including technology and management. Dr. Dumanis holds a Ph.D. in Aerospace Engineering from Purdue University, West Lafayette, Indiana, USA.

*Mr. Avi Cohen (63)* has served as a director of Nova since 2008. Mr. Cohen serves as the Chief Executive Officer of MX1, a global media service provider founded in July 2016 as a result of a merger between RR Media Ltd., and SES Platform Services GmbH. From July 2012 and until its merger with SES Platform Services GmbH, Mr. Cohen served as the chief executive officer of RR Media Ltd. (previously known as RRsat Global Communications Network Ltd.), which was a public company traded on NASDAQ. Prior to that, until March 2012, Mr. Cohen served as President and Chief Executive Officer of Orbit Technologies, a public company traded on the TASE. Prior to joining Orbit in December 2008, Mr. Cohen served as Chief Operating Officer and Deputy to the chief executive officer of ECI Telecom Ltd. a leading supplier of best-in-class networking infrastructure equipment for carrier and service provider networks worldwide. Prior to joining ECI in September 2006, Mr. Cohen served in a variety of management positions at KLA-Tencor. From 2003 Mr. Avi Cohen was a Group Vice President, Corporate Officer and Member of the Executive Management Committee based at the corporate headquarters in the U.S. During his tenure, he successfully led the creation of KLA-Tencor's global Metrology Group. From 1995 he was the President of KLA-Tencor Israel responsible for the Optical Metrology Division. Before joining KLA-Tencor, Mr. Cohen also spent three years as Managing Director of Octel Communications, Israel, after serving as Chief Executive Officer of Allegro Intelligent Systems, which he founded and which was acquired by Octel. Mr. Cohen holds B.Sc. and M.Sc. degrees in electrical engineering and applied physics from Case Western Reserve University, USA.

*Mr. Raanan Cohen (61)* was appointed as a director of the Company by our board of directors in February 2014. Prior to that and until December 2012, Mr. Cohen has served as the President and Chief Executive Officer of Orbotech Ltd., a public company traded on NASDAQ. Mr. Cohen has also served in a range of other executive positions at Orbotech Ltd, including Co-President for Business and Strategy, EVP and President of the Printed Circuit Board (PCB) Division, Vice President for the PCB-AOI product line and President and Chief Executive Officer of Orbotech, Inc. Prior to its merger with Orbotech in 1991, Mr. Cohen held various positions at Orbot, another manufacturer of AOI systems. Prior to joining Orbot in 1984, he worked at Telrad Networks Ltd. Mr. Cohen currently serves as the Chief Executive Officer of EyeWay Vision Ltd. and as a member of the board of directors of Utilight Ltd., both private companies. Mr. Cohen holds a B.Sc. in Computer Science from the Hebrew University in Jerusalem, Israel.

*Mr. Eli Fruchter (61)* was appointed to serve as a director of the Company by our board of directors in August 2016. Mr. Fruchter founded EZchip Semiconductor Ltd., a supplier of highly integrated Network Processors, where he served as the chief executive officer until February 2016 when the company was acquired by Mellanox (Nasdaq: MLNX) for approximately \$811 million. Prior to EZChip, Mr. Fruchter co-founded LanOptics Ltd., a supplier of networking products, where he served as co-general manger. During his tenure at LanOptics, Mr. Fruchter led LanOptics' successful initial public offering on the Nasdaq. Mr. Fruchter was also among the founders of Adacom Technologies Ltd., a manufacturer of data communications products. Mr. Fruchter holds a B.Sc. degree in Electrical Engineering from the Technion – Israel Institute of Technology, Haifa, Israel.

Each of the director nominees has certified to us that he complies with all requirements under the Companies Law for serving as a director (and, in the case of Messrs. Avi Cohen, Raanan Cohen and Eli Fruchter, for serving as an independent director). Such certifications will be available for inspection at the Meeting. Under the Companies Law, a public company may classify a director as independent only if (i) the audit committee has determined that he or she is qualified to serve as an external director (with the exception that such director does not have to have professional qualifications or accounting and financial expertise in order to serve as an independent director), and (ii) he or she is not serving as a director in the company for more than consecutive nine years (only a period of two or more years, in which such person did not serve as a director in the company, will be deemed to discontinue the nine year sequence), provided that a company listed on NASDAQ, such as our company, may extend such nine year period by additional three-year periods in certain circumstances. Our audit committee and board of directors acted accordingly and resolved to extend the classification of Mr. Avi Cohen as an independent director under the Companies Law. Mr. Avi Cohen and Mr. Raanan Cohen are not related.

For information on the compensation payable to our directors, please see our annual report for the fiscal year ended December 31, 2016, filed on Form 20-F with the Commission on March 3, 2017 (the "Annual Report").

At the Meeting, it is proposed that the following resolution be adopted:

**"RESOLVED**, to approve the re-election of each of Messrs. Michael Brunstein, Alon Dumanis, Avi Cohen, Raanan Cohen and Eli Fruchter, as a director of the Company to hold office until the close of the next annual general meeting."

PROPOSAL NO. 2

RE-ELECTION OF MS. ZEHAVA SIMON AS AN EXTERNAL DIRECTOR OF THE COMPANY

At the Meeting, shareholders will be asked to approve the re-election of Ms. Dafna Gruber as an external director of the Company, for a three-year term commencing as of June 24, 2017. Currently and in accordance with the Companies Law, two of the Company's directors serve as external directors: Ms. Dafna Gruber, who serves as an external director of the Company since April 29, 2015 and Ms. Zehava Simon, who was initially elected as an external director in June 2014 and now stands for re-election.

Herein below are details regarding Ms. Simon:

*Ms. Zehava Simon* (58) was elected as the Company's external director in accordance with the provisions of the Companies Law in June 2014. Ms. Simon served as a Vice President of BMC Software from 2000 until 2013 and in her last position (as of 2011) acted as Vice President of Corporate Development. From 2002 to 2011, Ms. Simon served as Vice President and General Manager of BMC Software in Israel. In this role, she was responsible for directing operations in Israel and India as well as offshore sites. Prior to that, Ms. Simon held various positions at Intel Israel., which she joined in 1982, including leading of Finance & Operations and Business Development for Intel in Israel. Ms. Simon is currently a board member of Audiocodes, a public company traded on NASDAQ and TASE, Nice Systems, a public company traded on NASDAQ and TASE, and Amiad water systems, a public company traded on London Stock Exchange. Ms. Simon is a former member of the board of directors of Insightec Ltd. (2005-2012), M-Systems Ltd., a NASDAQ listed company which was acquired in 2006 by SanDisk Corp., a public company traded on NASDAQ as well (2005-2006) and Tower Semiconductor Ltd., a public company traded on TASE and NASDAQ (1999-2004). Ms. Simon holds a B.A. in Social Sciences from the Hebrew University, Jerusalem, Israel, a law degree (LL.B.) from the Interdisciplinary Center in Herzlia and an M.A. in Business and Management from Boston University, USA.

Ms. Simon has certified to the Company that she complies with all requirements under the Companies Law for serving as an external director. Such certification will be available for inspection at the Meeting. Our Board has determined that Ms. Simon qualified as "independent director" under the rules of The NASDAQ Stock Market.

For information on the compensation payable to our external directors, please see our Annual Report.

At the Meeting, it is proposed that the following resolution be adopted:

**"RESOLVED**, to approve the election of Ms. Zehava Simon as an external director of the Company for a three-year term, commencing as of June 24, 2017."

**PROPOSAL NO. 3**

**APPROVAL OF AMENDMENTS TO THE EMPLOYMENT TERMS OF MR. EITAN  
OPPENHAIM, THE PRESIDENT AND CHIEF EXECUTIVE OFFICER OF THE COMPANY**

At the Meeting, our shareholders will be asked to approve the following amendments to Mr. Oppenheim employment terms:

- (i) An increase of Mr. Oppenheim's monthly salary to NIS 120,000 from NIS 101,000;
- (ii) A grant of 50,000 options and 50,000 restricted shares units, in each year of 2017, 2018 and 2019 in accordance with the following scheme:
  - a. A first grant of 50,000 options and 50,000 restricted share units will be made on July 1, 2017;
  - b. The second and third grants of 50,000 options and 50,000 restricted share units each will be made on the second and third anniversary of the initial grant, provided that Mr. Oppenheim is fully employed by the Company and continues with his duties as the President and Chief Executive Officer of the Company at the respective grant date, and, provided further, that in each case, the grant of 16,667 restricted share units out of the 50,000 restricted share units is conditioned upon the Company's exceeding the performance target of profitability in the fiscal year preceding the date of the grant by a certain threshold determined by the compensation committee and Board; and
  - c. The vesting schedule of the options and restricted share units is over a four (4) year period with a one fourth of such options and restricted share units vesting on each anniversary of the grant, unless they have been exercised or cancelled in accordance with the terms and conditions of the applicable incentive plan of the Company or the employment terms of Mr. Oppenheim. The term of the options is of seven (7) years after each grant date. The exercise price will be determined in accordance with the Company's equity-based compensation policy (currently, in accordance with our equity-based compensation policy, effective February 2016, the exercise price of granted options is equal to the average closing price of the Company's Shares on NASDAQ during the 30-trading day period preceding the day of allocation).

All other employment terms shall remain unchanged.

The proposed amendments to the employment terms of the President and Chief Executive Officer of the Company were approved by the compensation committee and the Board, while considering, among others, Mr. Oppenheim's performance and contribution to the Company in general (in particular during 2016, which represented a 4th consecutive year of growth in revenue to a record level of \$163.9 million, as a result of customer diversification, organic and inorganic growth and successful implementation of ReVera acquisition, leading to record non-GAAP net income in 2016), his experience, a compensation survey provided to the members of the compensation committee and the Board, the terms of our compensation policy adopted on August 2, 2016 (the "Compensation Policy"), and the ratio between the employer cost associated with the engagement of the President and Chief Executive Officer and the average and median employer cost associated with the engagement of the other employees of the Company.

The employment terms of Mr. Oppenheim following the proposed amendments are consistent with our Compensation Policy.

For more information on the compensation paid to our executive officers for fiscal year ended on December 31, 2016, please see our Annual Report and under “Compensation of Executive Officers and Directors” in this proxy statement.

At the Meeting, it is proposed that the following resolution be adopted:

“**RESOLVED**, to approve the amendments to the terms of employment of Mr. Oppenheim, the President and Chief Executive Officer of the Company, as set forth in the Proxy Statement, dated May 18, 2017.”

PROPOSAL NO. 4

**RATIFICATION AND APPROVAL OF A FRAMEWORK OF TERMS AND  
CONDITIONS FOR THE EXTENSION, RENEWAL AND ENTERING INTO AN  
INSURANCE POLICY FOR DIRECTORS' AND OFFICERS' LIABILITY, SUBJECT  
TO, AND IN ACCORDANCE WITH, THE PROVISIONS OF THE COMPANIES LAW**

The Companies Law and our Amended and Restated Articles of Association provide that a company may obtain insurance for an office holder against liabilities incurred with respect to an act or omission in his or her capacity as an office holder.

We currently maintain directors' and officers' liability insurance that provides coverage of \$40,000,000 (including \$5,000,000 Side A DIC) per occurrence and in the aggregate for the period commencing from November 2, 2016 until May 1, 2018 (the "Current Period of Insurance"), subject to certain terms, exclusions and limitations (the "Policy") and subject to its approval by the Company's shareholders.

Our compensation committee and Board previously authorized the Company, from time to time and for up to a period of three years in the aggregate (including the Current Period of Insurance), to extend and/or renew the Policy or enter into a new insurance policy, with the same insurers or any other insurers, in Israel or overseas, for the insurance of directors and officers liability with respect to the directors and/or officers serving in the Company and its subsidiaries, as may serve from time to time, and with the directors and/or officers serving in associated companies on behalf of the Company and/or on behalf of its subsidiaries, provided however, that the insurance transaction complies with the following conditions:

(i) the annual premium to be paid by us will not exceed 1.5% of the aggregate coverage of the insurance policy;

(ii) the limit of liability of the insurer will not exceed the greater of \$50 million or 30% of our shareholders equity based on our most recent financial statements at the time of approval by the compensation committee; and

(iii) the insurance policy, as well as the limit of liability and the premium for each extension or renewal will be approved by the compensation committee (and, if required by law, by the board of directors) which will determine that the sums are reasonable considering our exposures, the scope of coverage and the market conditions and that the insurance policy reflects the current market conditions, and it will not materially affect our profitability, assets or liabilities.

Further, upon circumstances to be approved by the compensation committee (and, if required by law, by the board of directors), we will be entitled to enter into a "run off" insurance policy of up to seven years, with the same insurer or any other insurance, as follows:

(i) the limit of liability of the insurer will not exceed the greater of \$50 million or 30% of our shareholders equity based on our most recent financial statements at the time of approval by the compensation committee;

(ii) the annual premium will not exceed 300% of the last paid annual premium; and

(iii) the insurance policy, as well as the limit of liability and the premium for each extension or renewal will be approved by the compensation committee (and, if required by law, by the board of directors) which shall determine that the sums are reasonable considering our exposures covered under such policy, the scope of cover and the market conditions, and that the insurance policy reflects the current market conditions and that it will not materially affect our profitability, assets or liabilities.

We may also extend the insurance policy in place to include cover for liability pursuant to a future public offering of securities as follows:

(i) the additional premium for such extension of liability coverage will not exceed 50% of the last paid annual premium; and

(ii) the insurance policy as well as the additional premium will be approved by the compensation committee (and if required by law, by the board of directors) which will determine that the sums are reasonable considering the exposures pursuant to such public offering of securities, the scope of cover and the market conditions and that the insurance policy reflects the current market conditions, and it does not materially affect our profitability, assets or liabilities.

The approval of the framework under this Proposal No. 4 shall be deemed an amendment to the Compensation Policy.

At the Meeting, it is proposed that the following resolution be adopted:

**“RESOLVED**, to approve, in compliance with the requirements of the Companies Law, the Policy and the framework of terms and conditions for the renewal, extension and replacement of the directors’ and officers’ liability insurance policy of the Company as set forth in the Proxy Statement, dated May 18, 2017.”

**PROPOSAL NO. 5**

**APPROVAL AND RATIFICATION OF THE RE-APPOINTMENT OF KOST FORER  
GABBAY & KASIERER, A MEMBER OF ERNEST & YOUNG, AS THE  
INDEPENDENT AUDITORS OF THE COMPANY FOR THE PERIOD ENDING AT  
THE CLOSE OF THE NEXT ANNUAL GENERAL MEETING**

Under the Companies Law and our Amended and Restated Articles of Association, the shareholders of our Company are authorized to appoint the Company's independent auditors. Under our Amended and Restated Articles of Association, the Board (or a committee, if it is so authorized by the Board) is authorized to determine the independent auditor's remuneration. In addition, the approval by the Company's audit committee of the independent auditor's re-appointment and remuneration is required under the corporate governance rules of The NASDAQ Stock Market.

Following the recommendation by the Company's audit committee and the Board, it is proposed that Kost Forer Gabbay & Kasierer, a member of Ernest & Young, be reappointed as the independent auditors of the Company for the period ending at the close of the next annual general meeting. Such auditors served as the Company's auditors for fiscal year 2016 and have no relationship with the Company or with any affiliate of the Company, except as described in the Annual Report. Information on fees paid to the Company's independent public accountants may be found in the Annual Report.

At the Meeting, it is proposed that the following resolution be adopted:

**"RESOLVED**, to approve and ratify the re-appointment of Kost Forer Gabbay & Kasierer, a member of Ernest & Young, as the independent auditors of the Company for the period ending at the close of the next annual general meeting."

**OTHER BUSINESS**

Management knows of no other business to be acted upon at the Meeting. However, if any other business properly comes before the Meeting, the persons named in the enclosed proxy will vote upon such matters in accordance with their best judgment.

By the Order of the Board of Directors,



Michael Brunstein  
Chairman of the Board of Directors of the Company

Dated: May 18, 2017

Nova Measuring Instruments Ltd.

**IMPORTANT ANNUAL MEETING INFORMATION**

Using a **black ink** pen, mark your votes with an  as shown in this example. Please do not write outside the designated areas.

**Annual Meeting Proxy Card**

▼ PLEASE FOLD ALONG THE PERFORATION, DETACH AND RETURN THE BOTTOM PORTION IN THE ENCLOSED ENVELOPE. ▼

**A Proposals**

**Proposal No. 1**

Re-election of each of Messrs. Michael Brunstein, Alon Dumanis, Avi Cohen, Raanan Cohen and Eli Fruchter as a director of the Company to hold office until the close of the next annual general meeting.

	<b>For</b>	<b>Against</b>	<b>Abstain</b>
I. Dr. Michael Brunstein	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
II. Dr. Alon Dumanis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
III. Avi Cohen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IV. Raanan Cohen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
V. Eli Fruchter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Proposal No. 2**

Re-election of Ms. Zehava Simon as an external director of the Company for a three-year term, commencing as of June 24, 2017.

Are you a controlling shareholder in the Company, or have a personal interest in the election of Ms. Zehava Simon (other than a personal interest unrelated to relationships with a controlling shareholder of the Company)? (Please note: If you do not mark either Yes or No, your shares will not be voted for Proposal No. 2).

<b>For</b>	<b>Against</b>	<b>Abstain</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Yes</b>	<b>No</b>	
<input type="checkbox"/>	<input type="checkbox"/>	

**Proposal No. 3**

Approval of amendments to the employment terms of Mr. Eitan Oppenheim, the President and Chief Executive Officer of the Company.

Are you a controlling shareholder in the Company, or have a personal interest in the approval of this Proposal? (Please note: If you do not mark either Yes or No, your shares will not be voted for Proposal No. 3).

<b>For</b>	<b>Against</b>	<b>Abstain</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Yes</b>	<b>No</b>	

**Proposal No. 4**

Ratification and approval of a framework of terms and conditions for the extension, renewal and entering an insurance policy for directors' and officers' liability, subject to, and in accordance with, the provisions of the Companies Law.

Are you a controlling shareholder in the Company, or have a personal interest in the approval of this Proposal? (Please note: If you do not mark either Yes or No, your shares will not be voted for Proposal No. 4).

<b>For</b>	<b>Against</b>	<b>Abstain</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Yes</b>	<b>No</b>	

**Proposal No. 5**

Approval and ratification of the re-appointment of Kost Forer Gabbay & Kasierer, a member of Ernest & Young, as the independent auditors of the Company for the period ending at the close of the next annual general meeting.

Shareholders entitled to notice of and to vote at the meeting shall be determined as of the close of business on May 15, 2017, the record date fixed by the Board of Directors for such purpose.

The signer hereby revokes all previous proxies given by the signer to vote at the annual general meeting or any adjournments thereof.

▼ PLEASE FOLD ALONG THE PERFORATION, DETACH AND RETURN THE BOTTOM PORTION IN THE ENCLOSED ENVELOPE. ▼

**Nova Measuring Instruments Ltd.**

Weizmann Science Park, Building 22, 2<sup>nd</sup> Floor  
Einstein Street, Ness Ziona, Israel  
Tel: +972-73-2295600  
Fax: +972-8-9407776

**THIS PROXY IS SOLICITED ON BEHALF OF THE BOARD OF DIRECTORS OF NOVA MEASURING INSTRUMENTS LTD.**

The undersigned, a shareholder of Nova Measuring Instruments Ltd. (the "Company"), an Israeli corporation, hereby appoints Michael Brunstein and Dror David, and each of them acting individually, as the attorney and proxy of the undersigned, with full power of substitution, for and in the name of the undersigned, to vote and otherwise act on behalf of the undersigned at the annual general meeting of shareholders of the Company to be held at the offices of the Company, Building 22 (2<sup>nd</sup> floor) Weizmann Science Park, Einstein Street, Ness Ziona, on June 22, 2017, at 5:00 p.m. Israel time (10:00 a.m. Eastern time), or at any adjournment(s) or postponement(s) thereof, with respect to all of the ordinary shares, par value NIS 0.01, of the Company (the "Shares") which the undersigned would be entitled to vote, with all powers the undersigned would possess if personally present, provided said proxies are authorized and directed to vote as indicated with respect to the matter set forth below this Proxy. Subject to applicable law and the rules of NASDAQ, in the absence of such instructions, the Shares represented by properly executed and received proxies will be voted "FOR" all of the proposed resolutions to be presented to the annual general meeting or any adjournment(s) or postponement(s) thereof for which the Board of Directors recommends a "FOR" vote, other than Proposal Nos. 2, 3 and 4.

This proxy also delegates, to the extent permitted by applicable law, discretionary authority to vote with respect to any other business which may properly come before the annual general meeting or any adjournment(s) or postponement(s) thereof.

**WHETHER OR NOT YOU EXPECT TO ATTEND THE MEETING, PLEASE COMPLETE, DATE AND SIGN THIS FORM OF PROXY AND MAIL THE ENTIRE PROXY PROMPTLY, ALONG WITH PROOF OF IDENTITY IN ACCORDANCE WITH THE COMPANY'S PROXY STATEMENT, IN THE ENCLOSED ENVELOPE IN ORDER TO ASSURE REPRESENTATION OF YOUR SHARES. NO POSTAGE NEED BE AFFIXED IF THE PROXY IS MAILED IN THE UNITED STATES.**

**B Non-Voting Items**

**Change of Address** — Please print new address below.

**Meeting Attendance**

Mark box to the right if  
you plan to attend the   
Annual Meeting

**C Authorized Signatures** — This section must be completed for your vote to be counted. — Date and Sign Below

Please sign exactly as your name(s) appears on the Proxy. If held in joint tenancy, the shareholder named first in the Company's register must sign. Trustees, Administrators, etc., should include title and authority. Corporation should provide full name of corporation and title of authorized officer signing the Proxy. PLEASE BE SURE TO RETURN THE ENTIRE PROXY ALONG WITH PROOF OF IDENTITY AS DESCRIBED IN THE COMPANY'S PROXY STATEMENT.

Date (mm/dd/yyyy) — Please print date below.

/ /

Signature 1 — Please keep signature within the box.

Signature 2 — Please keep signature within the box.

**IF VOTING BY MAIL, YOU MUST COMPLETE SECTIONS A - C ON BOTH SIDES OF THIS CARD.**

