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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):

On May 10, 2017, the Registrant published a notice that it will hold its Annual General Meeting of Shareholders on June 22, 2017 with a record date on May 15, 2017. The Registrant will distribute a proxy statement (which will include the full version of the proposed resolutions) and a proxy card to all shareholders of record after the record date. The notice is attached hereto.

**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 10, 2017

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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://maya.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.

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.

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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