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**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549**

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**FORM 6-K**

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**Report of Foreign Private Issuer  
Pursuant to Rule 13a-16 or 15d-16  
under the Securities Exchange Act of 1934**

**For the month of May 2018**

**Commission File Number 000-12790**

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**ORBOTECH LTD.**

**(Translation of Registrant's name into English)**

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**7 SANHEDRIN BOULEVARD, NORTH INDUSTRIAL ZONE, YAVNE 8110101, ISRAEL**  
**(Address of principal executive offices)**

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Indicate by check mark whether the Registrant files or will file annual reports under cover of 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):

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### Information Contained in this Report on Form 6-K

On May 16, 2018, KLA-Tencor Corporation (“KLA-Tencor”) filed with the Securities and Exchange Commission (the “SEC”) a registration statement on Form S-4 of which the preliminary proxy statement for the 2018 Extraordinary General Meeting of Shareholders of Orbotech Ltd. (“Orbotech”), relating to the proposed business combination between KLA-Tencor and Orbotech, forms a part. For more information, see KLA-Tencor’s registration statement on Form S-4, Registration No. 333-224982.

This report on Form 6-K is furnished with the Securities and Exchange Commission. This report shall not be deemed incorporated by reference in any filing under the Securities Act of 1933 or the Securities Exchange Act of 1934.

#### **Additional Information and Where to Find It**

This report is provided in respect of a proposed business combination involving KLA-Tencor and Orbotech. This report does not constitute an offer to sell or the solicitation of an offer to buy or subscribe for any securities or a solicitation of any vote or approval nor shall there be any sale, issuance or transfer of securities in any jurisdiction in which such offer, solicitation, sale, issuance or transfer would be unlawful prior to registration or qualification under the securities laws of any such jurisdiction. The proposed transaction will be submitted to the shareholders of Orbotech for their consideration. On May 16, 2018, KLA-Tencor filed with the SEC a Registration Statement on Form S-4 that includes a preliminary prospectus with respect to KLA-Tencor’s common stock to be issued in the proposed transaction and a preliminary proxy statement of Orbotech in connection with the merger of an indirect subsidiary of KLA-Tencor with and into Orbotech, with Orbotech surviving. The information in the preliminary proxy statement/prospectus is not complete and will be changed. KLA-Tencor may not sell the common stock referenced in the proxy statement/prospectus until the Registration Statement on Form S-4 becomes effective. The proxy statement/prospectus will be provided to the Orbotech shareholders. KLA-Tencor and Orbotech also plan to file other documents with the SEC regarding the proposed transaction.

**This report is not a substitute for any prospectus, proxy statement or any other document that KLA-Tencor or Orbotech has or may file with the SEC in connection with the proposed transaction. Investors and security holders of KLA-Tencor and Orbotech are urged to read the proxy statement/prospectus and any other relevant documents that will be filed with the SEC carefully and in their entirety when they become available because they will contain important information about the proposed transaction.**

You may obtain copies of all documents filed with the SEC regarding this transaction, free of charge, at the SEC’s website ([www.sec.gov](http://www.sec.gov)). In addition, investors and security holders will be able to obtain free copies of the proxy statement/prospectus (when they become available) and other documents filed with the SEC by KLA-Tencor on KLA-Tencor’s Investor Relations page (<http://ir.kla-tencor.com>) or by writing to KLA-Tencor Corporation, Investor Relations, 1 Technology Drive, Milpitas, CA 95035 (for documents filed with the SEC by KLA-Tencor), or by Orbotech on Orbotech’s Investor Relations page ([investors.Orbotech.com](http://investors.Orbotech.com)) or by writing to Orbotech Ltd., Investor Relations, 7 Sanhedrin Boulevard, North Industrial Zone, Yavne 8110101 Israel (for documents filed with the SEC by Orbotech).

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**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.

ORBOTECH LTD.  
(Registrant)

By: /s/ Alon Rozner

Alon Rozner  
Corporate Vice President and  
Chief Financial Officer

Date: May 16, 2018