

**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

KLA-Tencor Corporation (“KLA-Tencor”) announced today that (1) on May 2, 2018, the 30-day waiting period under the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended, related to the proposed merger of KLA-Tencor with Orbotech Ltd. (“Orbotech”) expired, and (2) on May 2, 2018, the Israel Antitrust Authority granted KLA-Tencor’s request for an exemption from any premerger notification requirement in Israel related to the proposed merger with Orbotech.

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.

#### Cautionary Statement Regarding Forward-Looking Statements

This communication contains forward-looking statements as defined in the Securities Exchange Act of 1934 and is subject to the safe harbors created therein. These forward-looking statements involve risks and uncertainties that could significantly affect the expected results of the proposed transaction and are based on certain key assumptions. Due to such uncertainties and risks, no assurances can be given that such expectations will prove to have been correct, and readers are cautioned not to place undue reliance on such forward-looking statements, which speak only as of the date hereof. The forward-looking statements contained herein include, but are not limited to, the manner in which the parties plan to effect the transaction, including the share repurchase program; the ability of KLA-Tencor to raise additional capital necessary to complete the repurchase program within the time frame expected; the expected benefits, synergies and costs of the transaction; management plans relating to the transaction, including with respect to Orbotech’s ownership interest in Frontline; the expected timing of the completion of the transaction; the parties’ ability to complete the transaction considering the various closing conditions, including conditions related to regulatory and Orbotech shareholder approvals; the plans, strategies and objectives of management for future operations; product development, product extensions, product integration, complementary product offerings and growth opportunities in certain business areas; the potential future financial impact of the transaction; and any assumptions underlying any of the foregoing. Actual results may differ materially from those referred to in the forward-looking statements due to a number of important factors, including but not limited to the possibility that expected benefits of the transaction may not materialize as expected; that the transaction may not be timely completed, if at all; or that KLA-Tencor may not be able to successfully integrate the solutions and employees of the two companies or ensure the continued performance or growth of Orbotech’s products or solutions.

In addition, other risks that KLA-Tencor faces include those detailed in KLA-Tencor’s filings with the Securities and Exchange Commission, including KLA-Tencor’s annual report on Form 10-K for the year ended June 30, 2017 and quarterly report on Form 10-Q for the quarter ended December 31, 2017. Other risks that Orbotech faces include those detailed in Orbotech’s filings with the Securities and Exchange Commission, including Orbotech’s annual report on Form 20-F for the year ended December 31, 2017.

#### Additional Information and Where to Find It

This communication is being made in respect of a proposed business combination involving KLA-Tencor and Orbotech. This communication 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. KLA-Tencor intends to file with the SEC a Registration Statement on Form S-4 that will include a preliminary prospectus with respect to KLA-Tencor’s common stock to be issued in the proposed transaction and a 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 may be changed. KLA-Tencor may not sell the common stock referenced in the proxy statement/prospectus until the Registration Statement on Form S-4 filed with the SEC 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.

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**This communication is not a substitute for any prospectus, proxy statement or any other document that KLA-Tencor or Orbotech 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 ([ir.kla-tencor.com](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 3, 2018