

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 8-K

CURRENT REPORT

**Pursuant to Section 13 or 15(d) of The
Securities Exchange Act of 1934**

Date of Report (Date of earliest event reported): August 13, 2018

KLA-TENCOR CORPORATION

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation)

000-09992

(Commission File Number)

04-2564110

(I.R.S. Employer Identification No.)

One Technology Drive, Milpitas, California

(Address of principal executive offices)

95035

(Zip Code)

Registrant's telephone number, including area code: (408) 875-3000

(Former name or former address, if changed since last report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Item 8.01 Other Events.

On August 13, 2018, the Korea Fair Trade Commission provided antitrust clearance for the proposed merger involving KLA-Tencor Corporation ("KLA-Tencor") and Orbotech Ltd. ("Orbotech").

Additional Information and Where to Find It

This report is provided in respect of a proposed business combination involving KLA-Tencor Corporation ("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 was submitted to the shareholders of Orbotech for their consideration through the proxy statement/prospectus described below. On May 16, 2018, KLA-Tencor filed with the SEC a Registration Statement on Form S-4 (the "Registration Statement") that included a preliminary proxy statement/prospectus with respect to Orbotech in connection with the merger of an indirect subsidiary of KLA-Tencor with and into Orbotech, with Orbotech surviving, and with respect to KLA-Tencor's common stock to be issued in the proposed transaction. The Registration Statement was amended and declared effective on June 7, 2018, a copy of the final proxy statement/prospectus contained therein was first made available to Orbotech shareholders on June 7, 2018 and was mailed to Orbotech shareholders on or about June 15, 2018 and the Extraordinary General Meeting of shareholders of Orbotech was held on July 12, 2018. 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). In addition, investors and security holders will be able to obtain free copies of the proxy statement/prospectus 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) 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).

SIGNATURES

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

KLA-TENCOR CORPORATION

Date: August 13, 2018

By: /s/ TERI A. LITTLE
Name: Teri A. Little
Title: Executive Vice President and Chief Legal Officer