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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): 10/01/2008**

**KLA-TENCOR CORPORATION**

(Exact name of registrant as specified in its charter)

**Commission File Number: 000-09992**

**Delaware**  
(State or other jurisdiction of  
incorporation)

**04-2564110**  
(IRS Employer  
Identification No.)

**One Technology Drive, Milpitas, California 95035**  
(Address of principal executive offices, including zip code)

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

**N/A**  
(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))
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**Item 8.01. Other Events**

On October 1, 2008, KLA-Tencor Corporation (the "Company") issued a news release announcing that the Company had completed its acquisition of the Microelectronic Inspection Equipment (MIE) business unit of Vistec Semiconductor Systems. The MIE business unit of Vistec is headquartered in Weilburg, Germany and provides advanced semiconductor mask and wafer manufacturing systems. Financial terms of the transaction were not disclosed.

A copy of the news release issued by the Company on October 1, 2008 is attached hereto as Exhibit 99.1 and is incorporated herein by reference. References to the Company's website in the release do not incorporate by reference the information on such website into this Current Report on Form 8-K, and the Company disclaims any such incorporation by reference.

**Item 9.01. Financial Statements and Exhibits**

(d) Exhibits

The following exhibit is filed herewith:

Exhibit No.	Description
99.1	Text of news release issued by KLA-Tencor Corporation dated October 1, 2008

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**Signature(s)**

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 hereunto duly authorized.

KLA-TENCOR CORPORATION

Date: October 01, 2008

By: /s/ Brian M. Martin

Brian M. Martin  
Senior Vice President and General Counsel

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## Exhibit Index

<u>Exhibit No.</u>	<u>Description</u>
EX-99.1	Text of news release issued by KLA-Tencor Corporation dated October 1, 2008

## FOR IMMEDIATE RELEASE

### Investor Relations:

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## KLA-TENCOR COMPLETES ACQUISITION OF MICROELECTRONIC INSPECTION EQUIPMENT BUSINESS UNIT OF VISTEC SEMICONDUCTOR SYSTEMS

MILPITAS, Calif.-Oct. 1, 2008-KLA-Tencor Corporation (NASDAQ: KLAC) today announced that it has completed its acquisition of the Microelectronic Inspection Equipment (MIE) business unit of Vistec Semiconductor Systems. The MIE business unit of Vistec is headquartered in Weilburg, Germany and provides advanced semiconductor mask and wafer manufacturing systems. Financial terms of the transaction were not disclosed.

"Vistec has a renowned legacy for developing precision inspection and metrology equipment," said Rick Wallace, chief executive officer of KLA-Tencor. "The MIE division of Vistec complements KLA-Tencor's product portfolio and provides an opportunity for growth into new segments of the mask and wafer markets."

Vistec's MIE business unit is one of three internationally active business units of Vistec Semiconductor Systems, which is wholly owned by Golden Gate Capital, a San Francisco based private equity firm. The Vistec Semiconductor Systems organization was formerly a part of Leica Microsystems and took on its current name in March 2006.

### Forward Looking Statements:

Statements in this press release other than historical facts, such as statements regarding the potential benefits and growth opportunities that may result from the transaction, are forward-looking statements and are subject to the Safe Harbor provisions created by the Private Securities Litigation Reform Act of 1995. These forward-looking statements are based on current information and expectations, and involve a number of risks and uncertainties. Actual results may differ materially from those projected in such statements due to various factors, including but not limited to those associated with demand for the companies' respective product lines; the results of product development efforts; the success of product offerings to meet customer needs within the timeframes required by customers in these markets; disruption from the proposed acquisition making it more difficult to maintain relationships with customers, vendors and employees; the failure to obtain and retain expected benefits from the proposed acquisition; and other similar factors. For other factors that may cause actual results to differ materially from those projected and anticipated in forward-looking statements in this release, please refer to the Company's Annual Report on Form 10-K for the year ended June 30, 2008, subsequently filed Quarterly Reports on Form 10-Q and other filings with the Securities and Exchange Commission (including, but not limited to, the risk factors described therein).

### About KLA-Tencor:

KLA-Tencor Corporation is the world's leading supplier of process control and yield management solutions for the semiconductor and related microelectronics industries. Headquartered in Milpitas, Calif., the company has sales and service offices around the world. An S&P 500 company, KLA-Tencor is traded on the NASDAQ Global Select Market under the symbol KLAC. Additional information about the company is available at <http://www.kla-tencor.com>. (KLAC-F).