

KLA TENCOR CORP
Form S-4/A
May 18, 2006

Table of Contents

As filed with the Securities and Exchange Commission on May 18, 2006

Registration No. 333-132563

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

**AMENDMENT NO. 1 TO
THE
FORM S-4
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933**

KLA-Tencor Corporation

(Exact name of Registrant as specified in its charter)

Delaware

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

3825

*(Primary Standard Industrial
Classification Code Number)*

04-2564110

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

**160 Rio Robles
San Jose, California 95134
(408) 875-3000**

*(Address, Including Zip Code, and Telephone Number including Area Code, of Registrant's Principal Executive
Offices)*

**Stuart J. Nichols, Esq.
Vice President and General Counsel**

**160 Rio Robles
San Jose, California 95134
(408) 875-3000**

(Name, Address, Including Zip Code, and Telephone Number, Including Area Code, of Agent for Service)

copies to:

**William M. Kelly, Esq.
William H. Aaronson, Esq.
Davis Polk & Wardwell
1600 El Camino Real
Menlo Park, California 94025
(650) 752-2000**

**William A. Levine, Esq.
Howard E. Berkenblit, Esq.
Sullivan & Worcester LLP
One Post Office Square
Boston, MA 02109
(617) 338-2800**

Approximate date of commencement of proposed sale to the public: As soon as practicable after the effective date of this registration statement and the effective time of the merger of a wholly-owned subsidiary of Registrant with and into ADE Corporation as described in the Agreement and Plan of Merger dated as of February 22, 2006.

If the securities being registered on this form are being offered in connection with the formation of a holding company and there is compliance with General Instruction G, check the following box.

If this form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

The Registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the registration statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

Table of Contents

Prospectus Of

Proxy Statement Of

MERGER PROPOSED YOUR VOTE IS VERY IMPORTANT

The boards of directors of KLA-Tencor Corporation and ADE Corporation have approved a merger under which KLA-Tencor will acquire ADE.

Pursuant to a merger agreement entered into on February 22, 2006, South Acquisition Corporation, a wholly owned subsidiary of KLA-Tencor, will merge with and into ADE. Each share of ADE common stock will be converted into the right to receive 0.64 shares of KLA-Tencor common stock and cash in lieu of fractional shares. The merger will be tax-free, except that ADE stockholders may recognize gain on any cash received in lieu of fractional shares of KLA-Tencor.

If the merger is completed, ADE will be a wholly owned subsidiary of KLA-Tencor and ADE stockholders will be stockholders of KLA-Tencor. KLA-Tencor common stock is currently traded on The Nasdaq National Market under the symbol **KLAC** and will continue to be traded under this symbol following the merger. On May 17, 2006, the closing price of KLA-Tencor common stock was \$45.12 per share. Upon completion of the merger, ADE common stock, which is traded on The Nasdaq National Market under the symbol **ADEX**, will be delisted. On May 17, 2006, the closing price of ADE common stock was \$28.84 per share.

We are asking stockholders of ADE to, among other things, consider and vote upon the approval of a merger proposal. The special meeting will be held on June 29, 2006, at 10:00 a.m., Eastern time, at ADE's corporate headquarters located at 80 Wilson Way, Westwood, Massachusetts. ADE's board of directors unanimously recommends that ADE stockholders vote **FOR** the merger proposal. **KLA-Tencor and ADE cannot complete the merger unless ADE stockholders approve the merger proposal.**

Whether or not you plan to attend the special meeting in person, we urge you to complete, date, sign and promptly return the enclosed proxy card in the enclosed postage pre-paid envelope to ensure that your shares will be represented at the special meeting. Your proxy is revocable and will not affect your right to vote in person if you decide to attend the special meeting. Since approval of the merger proposal requires the affirmative vote of the holders of at least $66\frac{2}{3}\%$ of the outstanding shares of ADE common stock, and failure to vote has the same effect as a vote against the proposal, your vote is very important regardless of the number of shares you own.

This proxy statement/ prospectus provides you with detailed information about the special meeting and the merger proposal to be voted on. We urge you to read this material, including the section entitled Risk Factors beginning on page 14, carefully and in its entirety.

Richard P. Wallace
Chief Executive Officer
KLA-Tencor Corporation

Chris L. Koliopoulos, Ph.D.
President and Chief Executive Officer
ADE Corporation

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this proxy statement/ prospectus. Any representation to the contrary is a criminal offense.

This proxy statement/ prospectus is dated May 18, 2006, and is first being mailed to ADE stockholders on May 23, 2006.

Table of Contents

REFERENCES TO ADDITIONAL INFORMATION

Except where indicated otherwise, as used in this proxy statement/ prospectus, KLA-Tencor refers to KLA-Tencor Corporation and its consolidated subsidiaries, and ADE refers to ADE Corporation and its consolidated subsidiaries. This proxy statement/ prospectus incorporates important business and financial information about KLA-Tencor and ADE from documents that each company has filed with the Securities and Exchange Commission, which is referred to in this proxy statement/ prospectus as the SEC, under the Securities and Exchange Act of 1934, as amended, but that have not been included in or delivered with this proxy statement/ prospectus. For a list of documents incorporated by reference into this proxy statement/ prospectus, see the section entitled Where You Can Find More Information beginning on page 63.

This information is available to you without charge upon your written or oral request. You can obtain the documents incorporated by reference into this proxy statement/ prospectus by accessing the website of the SEC maintained at *www.sec.gov*.

In addition, KLA-Tencor's filings with the SEC are available to the public on KLA-Tencor's website, *www.kla-tencor.com*, and ADE's filings with the SEC are available to the public on ADE's website, *www.ade.com*. Information contained on KLA-Tencor's website and ADE's website is not incorporated by reference into this proxy statement/ prospectus, and you should not consider information contained on those websites as part of this proxy statement/ prospectus.

ADE will provide you with copies of this information relating to ADE, without charge, if you request it in writing from ADE Corporation, 80 Wilson Way, Westwood, Massachusetts 02090, Attention: Chief Financial Officer, or by telephone by calling (781) 467-3500. To obtain timely delivery, you must request any documents no later than five business days before the special meeting. Accordingly, please request any documents from ADE by June 22, 2006, in order to receive them before the special meeting.

KLA-Tencor has supplied all information contained in or incorporated by reference in this proxy statement/ prospectus relating to KLA-Tencor, and ADE has supplied all information contained in or incorporated by reference in this proxy statement/ prospectus relating to ADE. KLA-Tencor and ADE have both contributed to the information contained in this proxy statement/ prospectus relating to the merger.

ABOUT THIS DOCUMENT

This document, which forms part of a registration statement on Form S-4 filed with the SEC by KLA-Tencor, constitutes the following:

a prospectus of KLA-Tencor under Section 5 of the Securities Act of 1933, as amended, and the rules thereunder, which is referred to in this proxy statement/ prospectus as the Securities Act, with respect to the shares of KLA-Tencor common stock to be issued to the holders of ADE common stock in the merger;

a proxy statement of ADE under Section 14(a) of the Securities Exchange Act of 1934, as amended, and the rules thereunder, which is referred to in this proxy statement/ prospectus as the Exchange Act; and

a notice of special meeting with respect to the ADE special meeting, at which, among other things, the stockholders of ADE will consider and vote upon the merger proposal.

Table of Contents

**NOTICE OF
SPECIAL MEETING OF STOCKHOLDERS
TO BE HELD ON JUNE 29, 2006**

May 23, 2006

To our Stockholders:

Notice is hereby given that a Special Meeting of Stockholders of ADE Corporation, a Massachusetts corporation, will be held on June 29, 2006 at 10:00 a.m., Eastern time, at ADE's corporate headquarters located at 80 Wilson Way, Westwood, Massachusetts for the purpose of considering and voting on the following matters:

1. To approve the Agreement and Plan of Merger, dated as of February 22, 2006, among KLA-Tencor Corporation, ADE Corporation and South Acquisition Corporation, a copy of which is attached as Annex A to this proxy statement/prospectus;

2. To permit ADE's board of directors or its chairman in its or his discretion, to adjourn or postpone the special meeting if necessary for further solicitation of proxies if there are not sufficient votes at the originally scheduled time of the special meeting to approve the ADE merger proposal; and

3. To act upon such other matters as may properly come before the special meeting.

The proposals listed above are described in this proxy statement/prospectus which you are urged to read carefully and in its entirety. As of the date of this notice, ADE's board of directors knows of no other business to be conducted at the special meeting.

ADE's board of directors unanimously recommends that ADE stockholders vote FOR each of the foregoing proposals.

ADE's board of directors has fixed the close of business on May 17, 2006 as the record date for the determination of ADE stockholders entitled to notice of, and to vote at, the special meeting and any continuation, adjournment or postponement of the special meeting. During the period beginning on May 25, 2006 through the time of the special meeting, ADE will keep a list of stockholders entitled to vote at the special meeting available for inspection during normal business hours at its offices in Westwood, Massachusetts, for any purpose germane to the special meeting. The list of stockholders will also be provided and kept at the location of the special meeting for the duration of the special meeting, and may be inspected by any stockholder or its representative who is present. All persons wishing to be admitted to the special meeting must present photo identification. Please also note that if you hold your shares in street name through a broker or other nominee, you will need to bring a copy of a brokerage statement reflecting your stock ownership on the record date and check in at the registration desk at the special meeting.

By Order of the Board of Directors

William A. Levine
Clerk

THE APPROVAL OF THE MERGER PROPOSAL REQUIRES THE AFFIRMATIVE VOTE OF AT LEAST 66²/3% OF THE OUTSTANDING SHARES OF ADE COMMON STOCK. YOUR FAILURE TO VOTE HAS THE SAME EFFECT AS A VOTE AGAINST THE MERGER PROPOSAL. TO VOTE YOUR SHARES, PLEASE COMPLETE, SIGN AND DATE THE ENCLOSED PROXY CARD AND MAIL IT PROMPTLY IN THE ENCLOSED RETURN ENVELOPE. YOU MAY REVOKE YOUR PROXY AT ANY TIME PRIOR TO ITS EXERCISE OR BY ATTENDING THE SPECIAL MEETING OF ADE STOCKHOLDERS IN PERSON. DO NOT SEND ANY STOCK CERTIFICATES WITH YOUR PROXY CARD.

Table of Contents**TABLE OF CONTENTS**

	Page
<u>QUESTIONS AND ANSWERS ABOUT THE MERGER</u>	1
<u>WHO CAN HELP ANSWER YOUR QUESTIONS</u>	2
<u>SUMMARY</u>	4
<u>The Companies</u>	4
<u>What ADE Stockholders Will Receive in the Merger</u>	4
<u>Recommendation to ADE s Stockholders</u>	5
<u>Reasons For and Factors Considered in Connection With the Merger</u>	5
<u>ADE Stockholder Vote Required</u>	5
<u>The Merger</u>	5
<u>Treatment of ADE Stock Options</u>	5
<u>Ownership of KLA-Tencor After the Merger</u>	6
<u>Conditions to the Merger</u>	6
<u>Termination of Merger Agreement</u>	6
<u>Regulatory Approvals</u>	8
<u>Opinion of ADE s Financial Advisor</u>	8
<u>Material U.S. Federal Income Tax Consequences</u>	8
<u>Accounting Treatment of the Merger</u>	8
<u>Listing of KLA-Tencor Common Stock</u>	9
<u>Interests of Certain Persons in the Merger</u>	9
<u>Comparison of Stockholder Rights</u>	9
<u>Risk Factors</u>	9
<u>SELECTED HISTORICAL FINANCIAL INFORMATION</u>	10
<u>KLA-Tencor Selected Financial Information</u>	10
<u>ADE Selected Financial Information</u>	11
<u>Comparative Per Share Data</u>	11
<u>Comparative Per Share Market Price and Dividend Information</u>	12
<u>RISK FACTORS</u>	14
<u>FORWARD-LOOKING STATEMENTS</u>	17
<u>THE PROPOSED MERGER</u>	18
<u>General</u>	18
<u>Background of the Merger</u>	18
<u>Reasons For and Factors Considered in Connection With the Merger</u>	23
<u>Opinion of ADE s Financial Advisor</u>	27
<u>Material U.S. Federal Income Tax Consequences</u>	35
<u>Regulatory Matters Relating to the Merger</u>	37
<u>Federal Securities Laws Consequences; Stock Transfer Restriction Agreements</u>	37
<u>INTERESTS OF CERTAIN PERSONS IN THE MERGER</u>	39
<u>Ownership of Common Stock; Stock Options</u>	40
<u>ADE s Directors and Executive Officers</u>	42

Table of Contents

	Page
<u>Treatment of ADE Stock Options</u>	42
<u>Director and Officer Liability</u>	42
<u>THE MERGER AGREEMENT</u>	43
<u>Consideration to Be Received in the Merger; Treatment of Stock Options</u>	43
<u>Exchange of Certificates in the Merger</u>	44
<u>Fractional Shares</u>	44
<u>Listing of KLA-Tencor Common Stock</u>	45
<u>Covenants</u>	45
<u>Representations and Warranties</u>	48
<u>Conditions to the Merger</u>	49
<u>Termination</u>	51
<u>Termination Fee Payable by ADE</u>	52
<u>Other Expenses</u>	52
<u>Amendments; Waivers</u>	52
<u>Voting Agreements</u>	52
<u>ACCOUNTING TREATMENT OF THE MERGER</u>	54
<u>INFORMATION ABOUT THE ADE SPECIAL MEETING AND VOTING</u>	54
<u>Date, Time and Place of the Special Meeting</u>	54
<u>Purpose of the Special Meeting</u>	54
<u>Stockholder Record Date for the Special Meeting</u>	54
<u>Quorum; Vote Required for Each Proposal</u>	55
<u>Shares Beneficially Owned by ADE Directors and Executive Officers</u>	55
<u>Voting Procedures</u>	55
<u>Revoking Your Proxy</u>	56
<u>Voting Confidentiality</u>	56
<u>Adjournment or Postponement</u>	56
<u>Other Business</u>	56
<u>Solicitation of Proxies</u>	56
<u>COMPARISON OF STOCKHOLDER RIGHTS</u>	57
<u>DESCRIPTION OF KLA-TENCOR CAPITAL STOCK</u>	61
<u>Authorized Capital Stock</u>	61
<u>KLA-Tencor Common Stock</u>	61
<u>KLA-Tencor Preferred Stock</u>	61
<u>LEGAL MATTERS</u>	62
<u>EXPERTS</u>	62
<u>STOCKHOLDER PROPOSALS FOR ADE'S 2006 ANNUAL MEETING</u>	62
<u>WHERE YOU CAN FIND MORE INFORMATION</u>	63
<u>ANNEXES</u>	
<u>Annex A Agreement and Plan of Merger</u>	
<u>Annex B Opinion of RBC Capital Markets Corporation</u>	
<u>EXHIBIT 5</u>	
<u>EXHIBIT 8.(A)</u>	
<u>EXHIBIT 8.(B)</u>	
<u>EXHIBIT 23.(A)</u>	
<u>EXHIBIT 23.(B)</u>	
<u>EXHIBIT 99.(A)</u>	

Table of Contents

QUESTIONS AND ANSWERS ABOUT THE MERGER

Q: Why am I receiving these materials?

A: We sent you this proxy statement/ prospectus and the enclosed proxy card because the board of directors of ADE is soliciting your proxy to vote at a special meeting of ADE stockholders. You may submit a proxy if you complete, date, sign and return the enclosed proxy card. You are also invited to attend the special meeting in person, although you do not need to attend the special meeting to have your shares voted at the special meeting. We intend to mail this proxy statement/ prospectus and accompanying proxy card on or about May 23, 2006 to all stockholders of record of ADE entitled to vote at the special meeting.

Q: When and where is the special meeting?

A: The special meeting will take place on June 29, 2006 at ADE's headquarters at 80 Wilson Way, Westwood, Massachusetts, 02090 at 10:00 a.m., Eastern time.

Q: Why is my vote important?

A: Approval of the merger proposal requires the affirmative vote of the holders of at least 66²/₃% of the outstanding shares of ADE common stock. **Accordingly, a failure to return your proxy card or vote in person at the special meeting will have the same effect as a vote against the merger proposal.**

Q: What am I voting on?

A: There are two matters scheduled for a vote:

Approval of the merger proposal, as described in "The Proposed Merger" beginning on page 18.

Approval of a proposal to adjourn the special meeting, if necessary, to permit further solicitation of proxies if there are not sufficient votes at the time of the special meeting to approve the merger proposal.

In addition, you are entitled to vote on any other matters that are properly brought before the special meeting.

Q: What are the recommendations of the ADE Board of Directors?

A: The ADE Board of Directors:

Recommends a vote **FOR** the approval of the merger proposal.

Recommends a vote **FOR** the approval of a proposal to adjourn the special meeting, if necessary, to permit further solicitation of proxies if there are not sufficient votes to approve the merger proposal.

Q: What do I need to do now?

A: After you carefully read this document, mail your signed proxy card in the enclosed return envelope as soon as possible, so that your shares may be represented at the special meeting. In order to assure that your vote is obtained, please vote your proxy as instructed on your proxy card even if you currently plan to attend the special meeting in person. If you have received multiple proxy cards, your shares may be registered in more than one account, such as brokerage accounts or employee stock purchase plan accounts. It is important that you complete,

sign, date and return each proxy card that you receive.

Q: If my shares are held in street name by my broker, will my broker vote my shares for me?

A: No. If you do not provide your broker with instructions on how to vote your street name shares, your broker will not be permitted to vote them on the approval of the merger proposal by ADE stockholders. You should therefore be sure to provide your broker with instructions on how to vote your shares. Please check the voting form used by your broker to see if it offers telephone or Internet submission of proxies.

Table of Contents

Q: What if I fail to instruct my broker?

A: If you fail to instruct your broker to vote your shares and the broker submits an unvoted proxy, the resulting broker non-vote will be counted toward a quorum at the special meeting, but it will otherwise have the same effect as a vote against the approval of the merger proposal.

Q: Can I change my vote after I have mailed my proxy card?

A: Yes. You can change your vote at any time before your proxy is voted at the special meeting. You can do this in any of three ways:

timely delivery of a valid, later-dated proxy;

written notice to ADE's Clerk before the special meeting that you have revoked your proxy; or

voting by ballot at the special meeting.

If you have instructed a broker to vote your shares, you must follow directions from your broker to change those instructions.

Q: Am I entitled to exercise any dissenters' or appraisal rights in connection with the merger?

A: Under Massachusetts law, ADE stockholders are not entitled to exercise dissenters' or appraisal rights in connection with the merger.

Q: Should I send in my stock certificates now?

A: No. After the merger is completed, KLA-Tencor will send ADE stockholders written instructions for exchanging their stock certificates.

Q: When do you expect the merger to be completed?

A: KLA-Tencor and ADE are working to complete the merger by early in the third quarter of 2006. However, it is possible that factors outside the control of both companies could result in the merger being completed at a later time. KLA-Tencor and ADE hope to complete the merger as soon as reasonably practicable.

WHO CAN HELP ANSWER YOUR QUESTIONS

If you have additional questions about the merger, you should contact:

ADE Corporation
80 Wilson Way
Westwood, Massachusetts 02090
Attention: Chief Financial Officer
Phone Number: (781) 467-3500
or
The Altman Group, Inc.
1200 Wall Street West
3rd Floor
Lyndhurst, New Jersey 07071
Holders: (800) 581-5204
Banks/Brokers: (201) 806-7300

Table of Contents

If you would like additional copies of this document, you should contact:

KLA-Tencor Corporation

160 Rio Robles

San Jose, California 95134

Attention: Investor Relations

Phone Number: (408) 875-3000

You can find more information about KLA-Tencor and ADE from various sources described in the section entitled Where You Can Find More Information beginning on page 63.

Table of Contents

SUMMARY

*This summary highlights selected information from this proxy statement/prospectus and may not contain all of the information that is important to you. To understand the merger fully and for a more complete description of the legal terms of the merger agreement, you should carefully read this entire document and the documents referred to herein. See *Where You Can Find More Information* beginning on page 63.*

The Companies

KLA-Tencor Corporation

160 Rio Robles
San Jose, California 95134
(408) 875-3000
Internet address: *www.kla-tencor.com*

KLA-Tencor is the world leader in yield management and process control solutions for semiconductor manufacturing and related industries. Its comprehensive portfolio of products, software, analysis, services and expertise is designed to help integrated circuit manufacturers manage yield throughout the entire fabrication process from research and development to final mass-production yield analysis.

ADE Corporation

80 Wilson Way
Westwood, Massachusetts 02090
(781) 467-3500
Internet address: *www.ade.com*

ADE is engaged in the design, manufacture, marketing and service of production metrology and inspection systems for the semiconductor wafer, semiconductor device, magnetic data storage and optics manufacturing industries. Its systems analyze and report product quality at critical manufacturing process steps, sort wafers and disks, and provide manufacturers with quality certification data upon which they rely to manage processes and accept incoming material. Semiconductor wafer, device, magnetic data storage and optics manufacturers use its systems to improve yield and capital productivity.

The Internet addresses provided in this proxy statement/prospectus are textual references only. The KLA-Tencor and ADE websites are not part of this proxy statement/prospectus.

What ADE Stockholders Will Receive in the Merger (see page 43)

ADE stockholders will receive 0.64 shares of KLA-Tencor common stock for each share of ADE common stock. KLA-Tencor will not issue fractional shares in the merger. As a result, the total number of shares of KLA-Tencor common stock that each ADE stockholder will receive in the merger will be rounded down to the nearest whole number, and each ADE stockholder will receive a cash payment for the remaining fraction of a share of KLA-Tencor common stock that he or she would otherwise receive, if any, based on the market value of KLA-Tencor common stock at the close of the business day immediately prior to the date that the merger becomes effective.

Example: If you currently own 20 shares of ADE common stock, absent the treatment of the fractional shares discussed above, you would be entitled to receive (20 x 0.64) or 12.8 shares of KLA-Tencor common stock. Since fractional shares will not be issued, you will be entitled to 12 shares of KLA-Tencor common stock and a check for the market value of 0.8 shares of KLA-Tencor common stock as of the close of business on the business day immediately prior to the date that the merger becomes effective.

The number of shares of KLA-Tencor common stock that will be issued in the merger for each share of ADE common stock is fixed. Accordingly, the value of what ADE stockholders receive will fluctuate with the price of KLA-Tencor common stock. The merger may not be completed until a significant period

Table of Contents

of time has passed after the special meeting. Accordingly, at the time of the special meeting, ADE stockholders will not know the exact value of the KLA-Tencor common stock that will be issued in connection with the merger.

Recommendation to ADE's Stockholders (see page 23)

ADE's board of directors believes the merger is advisable and fair to you and in your best interests and recommends that you vote **FOR** the merger proposal. When you consider the board of directors' recommendation of the merger, you should be aware that ADE's directors may have interests in the merger that may be different from, or in addition to, your interests. These interests are described in **Interests of Certain Persons in the Merger** beginning on page 39.

Reasons For and Factors Considered in Connection With the Merger (see page 23)

ADE's board of directors has unanimously approved the merger proposal. In reaching its decision to approve the merger proposal, ADE's board of directors considered a number of factors. These factors are described in the section entitled **Reasons For and Factors Considered in Connection With the Merger** Factors Considered by, and Recommendation of, the Board of Directors of ADE beginning on page 23.

KLA-Tencor's board of directors has unanimously approved the merger proposal. In reaching its decision to approve the merger proposal, KLA-Tencor's board of directors considered a number of factors. These factors are described in the section entitled **Reasons For and Factors Considered in Connection With the Merger** Factors Considered by the Board of Directors of KLA-Tencor beginning on page 26.

ADE Stockholder Vote Required (see page 55)

Approval of the merger proposal requires the affirmative vote of the holders of at least 66²/₃ % of all outstanding shares of ADE common stock entitled to vote at the special meeting.

The Merger (see page 18)

Under the terms of the proposed merger, South Acquisition Corporation, or South, a wholly owned subsidiary of KLA-Tencor formed for the purpose of the merger, will be merged with and into ADE. As a result, ADE will continue as the surviving corporation and will become a wholly owned subsidiary of KLA-Tencor upon completion of the merger. Accordingly, ADE shares will no longer be publicly traded.

The merger agreement is attached as Annex A to this proxy statement/ prospectus. Please read the merger agreement carefully and fully as it is the legal document that governs the merger. For a summary of the merger agreement, see **The Merger Agreement** beginning on page 43.

Treatment of ADE Stock Options (see page 43)

The merger agreement provides that, at the effective time of the merger:

Except as set forth under the next bullet point, each ADE stock option outstanding under any stock option or compensation plan, agreement or arrangement of ADE which remains outstanding at the effective time of the merger will be converted into an option to purchase, on substantially the same terms and conditions previously applicable, KLA-Tencor common stock, except that the number of shares subject to the option will be multiplied by the exchange ratio of 0.64 and the exercise price will be divided by the exchange ratio of 0.64. Under pre-existing agreements, the vesting of certain employees' options will accelerate upon completion of the merger. See **The Proposed Merger** **Interests of Certain Persons in the Merger** beginning on page 39; and

Each ADE stock option held by a non-employee director or former director of ADE outstanding at the effective time of the merger will be canceled, and ADE will pay each holder for each such option an amount of cash equal to the product of (1) the excess of (A) 0.64 multiplied by the closing price per share of KLA-Tencor common stock on The Nasdaq National Market on the

Table of Contents

business day immediately prior to the closing date of the merger over (B) the exercise price of such option and (2) the number of shares of ADE common stock that could have been purchased had the such option been exercised immediately prior to the effective time of the merger.

Ownership of KLA-Tencor After the Merger

KLA-Tencor expects to issue approximately 9,277,479 shares of KLA-Tencor common stock to ADE stockholders in the merger. At the completion of the merger, it is expected that there will be outstanding approximately 208,101,956 shares of the combined company. The shares of KLA-Tencor common stock to be issued to ADE stockholders in the merger are expected to represent approximately 4.5% of the outstanding KLA-Tencor common stock after the merger. This information is based on the number of KLA-Tencor and ADE shares outstanding on May 17, 2006, without taking into consideration anticipated stock repurchases by KLA-Tencor before completion of the merger.

Conditions to the Merger (see page 49)

The completion of the merger depends upon the satisfaction or waiver of a number of conditions, including the following:

the approval of the merger proposal by ADE's stockholders;

the expiration or termination of the waiting period under the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended;

the absence of any applicable law or proceeding that would prohibit the consummation of the merger;

the receipt of opinions of counsel to each of KLA-Tencor and ADE to the effect that the merger will qualify as a tax-free reorganization;

the absence of any event, change or development that has had or would reasonably be expected to have a material adverse effect on ADE;

the accuracy, as of the closing, of the parties' representations and warranties, except, in certain cases, for such inaccuracies as have not and would not reasonably be expected to have a material adverse effect;

the performance in all material respects of all of the parties' covenants under the merger agreement at or prior to the effective time of the merger; and

the approval for listing on The Nasdaq National Market of the shares of KLA-Tencor common stock to be issued in connection with the merger.

Termination of Merger Agreement (see page 51)

Right to Terminate. The merger agreement may be terminated at any time prior to the effective time of the merger in any of the following ways:

by mutual written consent of KLA-Tencor and ADE;

by either party if:

the merger has not been completed by the date that is 75 days after the effectiveness of the registration statement, except that if, on such date, all conditions to the completion of the merger have been satisfied or waived other than the conditions relating to antitrust approvals, then such date will be automatically extended to November 22, 2006, such date being referred to as the end date;

there exists any permanent legal prohibition against consummation of the merger;

the merger proposal is not approved by ADE's stockholders at the special meeting; or

Table of Contents

the other party has breached its representations, warranties, covenants or agreements under the merger agreement and such breach would cause the conditions to the nonbreaching party's obligations to complete the merger not to be satisfied and be incapable of being satisfied by the end date.

by KLA-Tencor if:

ADE's board of directors withdraws, modifies or changes its approval of the merger agreement and the transactions contemplated thereby or its recommendation of the merger to its stockholders;

ADE enters into, or publicly announces its intention to enter into, a definitive agreement or an agreement in principle with respect to a superior proposal (as described on page 51); or

ADE willfully and materially breaches its obligations not to solicit acquisition proposals or other offers. See *The Merger Agreement - No Solicitation* beginning on page 45.

by ADE if:

prior to receiving the approval of its stockholders, ADE's board of directors authorizes ADE to terminate the merger agreement to enter into an agreement with respect to a superior proposal, except that ADE cannot terminate the merger agreement for this reason unless (1) ADE provides KLA-Tencor with three business days advance written notice of its intent to terminate the merger agreement to enter into an agreement with respect to a superior proposal, including the material terms and conditions of the superior proposal, (2) KLA-Tencor, within three business days of receiving such notice from ADE, does not make an offer that the board of directors of ADE determines, in good faith after consultation with its financial advisors, is at least as favorable to the ADE stockholders as the transaction as set forth in such written notice and (3) ADE pays KLA-Tencor the fee, described in *The Merger Agreement - Termination Fee Payable by ADE* beginning on page 52 at or prior to such termination.

Termination Fee Payable by ADE. ADE has agreed to pay KLA-Tencor a fee of \$15 million if the merger agreement is terminated:

by KLA-Tencor if ADE's board of directors withdraws, modifies or changes its approval of the merger agreement or its recommendation of the merger to its stockholders;

by KLA-Tencor if ADE enters into, or publicly announces its intention to enter into, a definitive agreement or an agreement in principle with respect to a superior proposal;

by KLA-Tencor if ADE has willfully and materially breached its obligations not to solicit acquisition proposals or other offers;

by ADE if at any time prior to receiving the approval of the merger proposal by ADE's stockholders, ADE enters into a definitive agreement with respect to a superior proposal by a third party;

by KLA-Tencor or ADE following the failure of the merger to be completed by the end date, provided that prior to the end date, an acquisition proposal was made with respect to ADE and within 12 months following the termination of the merger agreement, ADE consummates an alternative business combination; or

by KLA-Tencor or ADE following the failure by ADE's stockholders to approve the merger proposal at the special meeting, provided that prior to the special meeting, an acquisition proposal was made with respect to ADE and within 12 months following the termination of the merger agreement, ADE consummates an alternative business combination.

Table of Contents

Regulatory Approvals (see page 37)

Under the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended, the merger cannot be completed until the companies have made required notifications, provided certain information and materials to the Federal Trade Commission, or the FTC, and to the Antitrust Division of the United States Department of Justice, or the Antitrust Division, and specified waiting period requirements have expired. KLA-Tencor and ADE filed the required Notification and Report Forms with the Antitrust Division and the FTC by March 8, 2006. The waiting period under the statute applicable to the merger was scheduled to expire on April 7, 2006. Following discussion with the Antitrust Division staff, however, KLA-Tencor voluntarily withdrew its Notification and Report Form and then re-filed the form on April 11, 2006. The effect of this re-filing was to extend the waiting period to May 11, 2006. On May 10, 2006, the Antitrust Division staff informed KLA-Tencor and ADE that the Antitrust Division would not issue a second request extending the waiting period and granted early termination of the waiting period effective as of such date.

KLA-Tencor and ADE also conduct operations in a number of foreign countries. In connection with completion of the merger, KLA-Tencor and ADE have identified foreign jurisdictions that will require the filing of information with, or the obtaining of approval of, governmental authorities in those countries. KLA-Tencor and ADE intend to make such filings and obtain those approvals.

Opinion of ADE's Financial Advisor (see page 27)

In connection with the ADE board's evaluation of the proposed merger, ADE's financial advisor, RBC Capital Markets Corporation, rendered a written opinion to the ADE board on February 21, 2006 that, as of such date and subject to the assumptions, qualifications and limitations set forth in its opinion, the merger consideration of 0.64 of a share of KLA-Tencor common stock (together with cash in lieu of fractional shares of KLA-Tencor common stock) per share of ADE common stock was fair, from a financial point of view, to the ADE stockholders. The full text of RBC's written opinion, dated February 21, 2006, is attached to this proxy statement/prospectus as Annex B. We encourage you to read this opinion carefully in its entirety for a description of the procedures followed, assumptions made, matters considered and limitations on, the review undertaken. **RBC's opinion is addressed to ADE's board of directors and does not constitute a recommendation to any stockholder as to any matters relating to the merger.** See The Proposed Merger Opinion of ADE's Financial Advisor beginning on page 27.

Material U.S. Federal Income Tax Consequences (see page 35)

The merger has been structured as a tax-free reorganization for U.S. federal income tax purposes. Accordingly, holders of ADE common stock will generally not recognize any gain or loss for U.S. federal income tax purposes on the exchange of their ADE common stock for KLA-Tencor common stock in the merger, except for any gain or loss recognized in connection with any cash received in lieu of a fractional share of KLA-Tencor common stock. The companies themselves will not recognize gain or loss as a result of the merger. It is a condition to the obligations of ADE and KLA-Tencor to complete the merger that each receive a legal opinion from its outside counsel that the merger will be a tax-free reorganization for U.S. federal income tax purposes.

The U.S. federal income tax consequences described above may not apply to all holders of ADE common stock, including certain holders specifically referred to on page 35. Your tax consequences will depend on your own situation. You should consult your tax advisor to determine the particular tax consequences of the merger to you.

Accounting Treatment of the Merger (see page 53)

KLA-Tencor will account for the merger under the purchase method of accounting for business combinations under accounting principles generally accepted in the United States of America.

Table of Contents

Listing of KLA-Tencor Common Stock (see page 45)

The shares of KLA-Tencor common stock to be issued in the merger will be listed on The Nasdaq National Market under the ticker symbol KLAC .

Interests of Certain Persons in the Merger (see page 39)

When considering the recommendation of ADE's board of directors to vote in favor of the merger proposal, ADE stockholders should be aware that the directors and executive officers of ADE have agreements or arrangements that provide them with interests in the merger that may be different from, or in addition to, the interests of ADE stockholders. These interests include the benefits described in The Proposed Merger Interests of Certain Persons in the Merger beginning on page 39.

Comparison of Stockholder Rights (see page 57)

KLA-Tencor, in which you will hold shares following the merger, is a Delaware corporation, while ADE is a Massachusetts corporation. Delaware law, as well as the certificate of incorporation and bylaws of KLA-Tencor, contains different provisions than the law and documents governing ADE. For a summary of these differences, see the section entitled Comparison of Stockholder Rights beginning on page 57.

Risk Factors (see page 14)

The combined company may not achieve the expected benefits of the merger because of the risks and uncertainties discussed in the sections entitled Risk Factors beginning on page 14 and Forward-Looking Statements beginning on page 17. Such risks include risks relating to the uncertainty that KLA-Tencor and ADE will be able to integrate their businesses successfully, uncertainties as to whether the combined company will achieve synergies expected to result from the merger, and uncertainties relating to the performance of the combined company following the merger.

Table of Contents**SELECTED HISTORICAL FINANCIAL INFORMATION**

The following financial information is provided to assist you in your analysis of the financial aspects of the merger. The annual KLA-Tencor historical information is derived from the audited consolidated financial statements of KLA-Tencor as of and for each of the years ended June 30, 2001 through 2005. The annual ADE historical information is derived from the audited consolidated financial statements of ADE as of and for each of the years ended April 30, 2001 through 2005. The KLA-Tencor data for the nine months ended March 31, 2006 and 2005, have been derived from interim unaudited financial statements of KLA-Tencor that include, in management's opinion, all adjustments, consisting of normal recurring adjustments, necessary to state fairly the results of operations and financial position of KLA-Tencor for the periods and dates presented. The ADE data for the nine months ended January 31, 2006 and 2005, have been derived from the interim unaudited financial statements of ADE that include, in management's opinion, all adjustments, consisting of normal recurring adjustments, necessary to state fairly the results of operations and financial position of ADE for the periods and dates presented. The information is only a summary and should be read in conjunction with each company's historical consolidated financial statements and related notes and the sections entitled Management's Discussion and Analysis of Financial Condition and Results of Operations contained in the annual and quarterly reports of KLA-Tencor and ADE and in conjunction with other information that KLA-Tencor and ADE have filed with the SEC and incorporated by reference. See "Where You Can Find More Information" beginning on page 63.

KLA-Tencor Selected Financial Information

	As of and for the						
	Nine Months Ended March 31,		Year Ended June 30,				
	2006(1)	2005	2005	2004	2003	2002	2001(2)
	(Unaudited)		(Unaudited)				
	(In millions, except per share data)						
Consolidated Statement of Operations Data:							
Total revenues	\$ 1,490	\$ 1,593	\$ 2,085	\$ 1,497	\$ 1,323	\$ 1,637	\$ 2,104
Total costs and operating expenses(*)	1,245	1,126	1,503	1,199	1,184	1,392	1,645
Income from operations(*)	245	467	583	297	139	245	458
Net income(*)	\$ 251	\$ 362	\$ 467	\$ 244	\$ 137	\$ 216	\$ 67
Net income per common share							
Basic	\$ 1.27	\$ 1.84	\$ 2.38	\$ 1.25	\$ 0.72	\$ 1.15	\$ 0.36
Diluted	\$ 1.23	\$ 1.80	\$ 2.32	\$ 1.21	\$ 0.70	\$ 1.10	\$ 0.34
Dividends per common share	\$ 0.36	\$	\$ 0.12	\$	\$	\$	\$
(*) includes the following amounts related to equity awards							
Total costs and operating expenses	116	2	3				
Income from operations	116	2	3				
Net income	81	2	2				
Consolidated Balance Sheet Data:							
Cash, cash equivalents and marketable securities	\$ 2,285	\$ 2,195	\$ 2,195	\$ 1,876	\$ 1,488	\$ 1,334	\$ 1,144

Total assets	4,361	3,986	3,986	3,539	2,867	2,718	2,745
Long-term obligations							
Total stockholders equity	\$ 3,413	\$ 3,045	\$ 3,045	\$ 2,628	\$ 2,216	\$ 2,030	\$ 1,760

- (1) KLA-Tencor adopted the provisions of Statement of Financial Accounting Standards No. 123R which requires KLA-Tencor to measure all employee stock-based compensation awards using a fair value method and record such expense in its consolidated financial statements.

Table of Contents

(2) In fiscal 2001, KLA-Tencor recorded a non-cash charge net of tax of \$306 million or \$1.59 per diluted share to reflect the cumulative effect of the accounting change as of July 1, 2000 related to the adoption of Staff Accounting Bulletin No. 101, Revenue Recognition in Financial Statements .

ADE Selected Financial Information

	As of and for the						
	Nine Months Ended January 31,		Year Ended April 30,				
	2006	2005	2005	2004	2003	2002	2001(1)
	(Unaudited)		(Unaudited)				
	(In millions, except per share data)						
Consolidated Statement of Operations Data:							
Total revenue	\$ 74	\$ 87	\$ 117	\$ 89	\$ 71	\$ 82	\$ 100
Total costs and operating expenses	62	69	93	82	78	95	99
Income (loss) from operations	13	18	24	7	(7)	(13)	1
Net income (loss)	\$ 11	\$ 18	\$ 41	\$ 9	\$ (7)	\$ (23)	\$ 1
Net earnings (loss) per common share:							
Basic	\$ 0.73	\$ 1.27	\$ 2.91	\$ 0.63	\$ (0.54)	\$ (1.70)	\$ 0.04
Diluted	\$ 0.72	\$ 1.25	\$ 2.86	\$ 0.62	\$ (0.54)	\$ (1.70)	\$ 0.04
Consolidated Balance Sheet Data:							
Cash, cash equivalents and marketable securities	\$ 88	\$ 66	\$ 74	\$ 43	\$ 23	\$ 29	\$ 31
Total assets	168	129	153	108	101	115	147
Long-term debt obligations	3	3	3	4	10	11	11
Total stockholders' equity	\$ 144	\$ 105	\$ 130	\$ 86	\$ 75	\$ 83	\$ 105

(1) In fiscal 2001, ADE recorded a non-cash charge net of tax of \$2 million, or \$0.13 per diluted share, to reflect the cumulative effect of the accounting change as of May 1, 2000 related to the adoption of Staff Accounting Bulletin No. 101, Revenue Recognition in Financial Statements .

Comparative Per Share Data

The following table sets forth selected historical per share information of KLA-Tencor and ADE and unaudited combined per share information. You should read this information in conjunction with the selected historical financial information, included elsewhere in this document, and the historical financial statements of KLA-Tencor and ADE and related notes that are incorporated in this document by reference. The historical per share information is derived from audited financial statements as of and for the year ended June 30, 2005 and unaudited financial statements as of and for the nine months ended March 31, 2006 in the case of KLA-Tencor, and from audited financial statements as of and for the year ended April 30, 2005 and unaudited financial statements as of and for the nine months ended January 31, 2006, in the case of ADE. See [Where You Can Find More Information](#) beginning on page 63.

KLA-Tencor Selected Financial Data:

As of and for the

Year Ended

	Nine Months Ended	
	March 31, 2006	June 30, 2005
Net income per common share basic	\$ 1.27	\$ 2.38
Net income per common share diluted	1.23	2.32
Cash dividends per common share	0.36	0.12
Book value per common share(1)	17.09	15.49

Table of Contents**ADE Selected Financial Data:**

	As of and For the	
	Nine Months Ended January 31, 2006	Year Ended April 30, 2005
Net income per common share basic	\$ 0.73	\$ 2.91
Net income per common share diluted	0.72	2.86
Cash dividends per common share		
Book value per common share(1)	9.97	9.12

(1) The historical book value per common share is computed by dividing stockholder's equity at the end of the period by the number of shares outstanding at the end of the period.

No pro-forma information giving effect to the merger is presented because the merger will not materially change the selected amounts presented for KLA-Tencor.

Comparative Per Share Market Price and Dividend Information

KLA-Tencor common stock and ADE common stock are each listed on The Nasdaq National Market. KLA-Tencor's and ADE's ticker symbols are KLAC and ADEX, respectively. The following table shows, for the calendar quarters indicated, based on published financial sources: (1) the high and low sale prices of shares of KLA-Tencor common stock and ADE common stock as reported on The Nasdaq National Market and (2) the cash dividends per share of KLA-Tencor common stock and ADE common stock.

	KLA-Tencor Common Stock			ADE Common Stock		
	High	Low	Dividends	High	Low	Dividends
2004						
First Quarter	\$ 62.82	\$ 48.86	\$	\$ 24.00	\$ 18.18	\$
Second Quarter	53.97	40.88		23.00	16.25	
Third Quarter	49.20	35.02		21.81	14.65	
Fourth Quarter	49.86	39.43		19.10	14.90	
2005						
First Quarter	51.56	41.70		23.60	16.70	
Second Quarter	47.61	37.39	0.12	30.40	20.20	
Third Quarter	52.08	43.40	0.12	29.12	21.33	
Fourth Quarter	55.00	44.03	0.12	26.90	19.96	
2006						
First Quarter	55.03	48.09	0.12	34.60	24.02	
Second Quarter (through May 17, 2006)	51.49	44.61	0.12	32.69	28.50	

Recent Closing Prices

The following table sets forth the closing prices per share of KLA-Tencor common stock and ADE common stock as reported on The Nasdaq National Market on February 22, 2006, the last full trading day prior to the announcement of the merger agreement, and May 17, 2006, the most recent practicable date prior to the mailing of this proxy

statement/ prospectus to ADE's stockholders. This table also sets forth the equivalent price per share of ADE common stock on those dates. The equivalent price per share is equal to the closing price of a share of KLA-Tencor common stock on that date multiplied by 0.64, the exchange ratio in the merger. These prices will fluctuate prior to the special meeting and the merger, and

Table of Contents

stockholders are urged to obtain current market quotations prior to making any decision with respect to the merger.

Date	KLA-Tencor Common Stock	ADE Common Stock	ADE Common Stock per share Equivalent
February 22, 2006	\$ 51.86	\$ 30.95	\$ 33.19
May 17, 2006	45.12	28.84	28.87

Although dividends are subject to future approval and declaration by KLA-Tencor's boards of directors, KLA-Tencor plans to continue to pay regular dividends on their common stock until closing of the merger. KLA-Tencor's dividend policy following the merger will be determined by KLA-Tencor's board of directors. ADE has never declared or paid dividends on its common stock.

Table of Contents

RISK FACTORS

In addition to the other information included in, incorporated by reference in, and found in the Annexes attached to, this proxy statement/ prospectus, including the matters addressed in the section entitled Forward-Looking Statements beginning on page 17, you should carefully consider the following risks before deciding how to cast your vote. Other than risks that could apply to any issuer or any offering, the material risks relating to the transaction are discussed below. In addition, you should read and consider the risks associated with the businesses of KLA-Tencor and ADE. Risks relating to KLA-Tencor can be found in Item 2 Management's Discussion and Analysis of Financial Condition and Results of Operations Factors Affecting Results, Including Risks and Uncertainties in KLA-Tencor's Quarterly Report on Form 10-Q for the quarter ended March 31, 2006, which has been filed with the SEC. Risks relating to ADE can be found in Item 2 Management's Discussion and Analysis of Financial Condition and Results of Operations Other Risk Factors and Trends in ADE's Quarterly Report on Form 10-Q for the quarter ended January 31, 2006, and in Item 5 Management's Discussion and Analysis of Financial Condition and Results of Operations in ADE's Annual Report on Form 10-K for the year ended April 30, 2005, which have been incorporated by reference in this proxy statement/ prospectus. You should also read and consider the other information in this proxy statement/ prospectus and in the other documents incorporated by reference in this proxy statement/ prospectus. Please see

Where You Can Find More Information beginning on page 63. Additional risks and uncertainties not presently known to KLA-Tencor or ADE or that are not currently believed to be important also may adversely affect the transaction and the combined company following the merger.

The Value of KLA-Tencor Shares Received Will Fluctuate; Stockholders of ADE May Receive More or Less Value Depending on Fluctuations in the Price of KLA-Tencor Common Stock

The number of shares of KLA-Tencor common stock that will be issued in the merger for each share of ADE common stock is fixed. The market prices of KLA-Tencor common stock and ADE common stock when the merger is completed may vary from their respective market prices at the date of this document and at the date of the special meeting. Because the exchange ratio will not be adjusted to reflect any changes in the market value of KLA-Tencor common stock, the value of the shares of common stock that ADE stockholders receive will fluctuate with the price of KLA-Tencor common stock. During the 12-month period ending on May 17, 2006, the most recent practicable date prior to the mailing of this proxy statement/ prospectus, KLA-Tencor common stock traded in a range from a low of \$37.39 to a high of \$55.03 and ended that period at \$45.12, and ADE common stock traded in a range from a low of \$19.96 to a high of \$34.60 and ended that period at \$28.84. See Summary Comparative Per Share Market Price and Dividend Information beginning on page 12 for more detailed share price information.

The market value of KLA-Tencor common stock may fluctuate based on a number of factors including:

changes in the business, operations or prospects of KLA-Tencor or ADE;

governmental and/or litigation developments and/or regulatory considerations;

market assessments as to whether and when the merger will be consummated;

governmental action affecting the semiconductor and microelectronic industries generally; and

general market and economic conditions.

The merger may not be completed until a significant period of time has passed after the special meeting. As a result, at the time of the special meeting, ADE stockholders will not know the value of the KLA-Tencor common stock that will be issued in connection with the merger.

Stockholders of ADE are urged to obtain current market quotations for KLA-Tencor and ADE common stock.

Table of Contents

The Combined Company May Be Unable to Successfully Integrate Operations and Realize the Full Anticipated Benefits of the Merger

The merger involves the integration of two companies that have previously operated independently. The difficulties of combining the companies' operations include:

the necessity of coordinating geographically separated organizations, systems and facilities;

integrating the technologies of two previously independent companies; and

integrating personnel with diverse business backgrounds.

The process of integrating the operations of KLA-Tencor and ADE could cause an interruption of, or loss of momentum in, the activities of either or both companies and the loss of key personnel. The diversion of KLA-Tencor management's attention and any delays or difficulties encountered in connection with the merger and the integration of the two companies' operations could result in the disruption of KLA-Tencor's ongoing business. Integrating sales of ADE's products into KLA-Tencor's business will involve risks that may jeopardize the success of the combined company. In addition, ADE's customers, suppliers, employees and others with whom it has business dealings may have a potentially adverse reaction to the merger or resulting changes to the combined company's product and service offerings, which could in turn harm KLA-Tencor's operating results.

Among the factors considered by the KLA-Tencor and ADE boards of directors in connection with their respective approvals of the merger agreement were the opportunities for operating efficiencies that could result from the merger. These savings may not be realized within the time periods contemplated or at all. If KLA-Tencor is not able to successfully achieve these savings, the anticipated benefits of the merger may not be realized fully or at all or may take longer to realize than expected.

The Combined Company Will Incur Significant Transaction and Merger-Related Costs In Connection with the Merger

KLA-Tencor and ADE expect to incur significant costs associated with completing the merger and combining the operations of the two companies. The exact magnitude of these costs is not yet known, and KLA-Tencor and ADE have just recently begun collecting information in order to formulate detailed integration plans. In addition, there may be unanticipated costs associated with the integration. Although KLA-Tencor and ADE expect that the elimination of duplicative costs and other efficiencies may offset incremental transaction and merger-related costs over time, these benefits may not be achieved in the near term, or at all.

Obtaining Required Approvals and Satisfying Closing Conditions May Delay or Prevent Completion of the Merger or Reduce the Anticipated Benefits of the Merger

Completion of the merger is conditioned upon the receipt, to the extent required, of all material governmental authorizations, consents, orders and approvals, including the expiration or termination of the applicable waiting periods and obtaining approvals under applicable foreign antitrust laws. KLA-Tencor and ADE intend to pursue all required approvals in accordance with the merger agreement. These approvals may not be granted or may be conditioned upon divestitures relating to the divisions, operations or assets of KLA-Tencor or ADE. In addition, KLA-Tencor may elect not to make any divestitures that, individually or in the aggregate, would have an impact that is both material in comparison to, and adverse to, the benefits that would be reasonably expected to accrue to KLA-Tencor from the merger. As a result, any divestitures or other conditions proposed by governmental authorities may jeopardize, delay or preclude completion of the merger or may reduce the anticipated benefits of the merger. See

The Merger Agreement—Conditions to the Merger beginning on page 49 for a discussion of the conditions to the completion of the merger and The Proposed Merger—Regulatory Matters Relating to the Merger beginning on page 37 for a description of the regulatory approvals necessary in connection with the merger.

Table of Contents

Certain Directors and Executive Officers of ADE May Have Potential Conflicts of Interests In Recommending That You Vote In Favor of the Merger

The directors and executive officers of ADE may have interests that differ from yours. These directors and executive officers are party to agreements and arrangements that will be affected by the merger in accordance with their terms and that are described under **Interests of Certain Persons in the Merger** beginning on page 39, including change of control and severance arrangements and agreements under which certain options held by executive officers will receive accelerated vesting. ADE directors and officers will also be entitled to continuation of indemnification and insurance arrangements under the merger agreement. See **Interests of Certain Persons in the Merger** beginning on page 39 for a description of the interests that ADE's directors and executive officers have in the merger, including the benefits they will be entitled to receive in connection with the merger. You should be aware of these interests when you consider the ADE board of directors' recommendation that you vote **FOR** the approval of the merger proposal.

Provisions of the Merger Agreement May Deter Alternative Business Combinations and Could Negatively Impact the Value of ADE Common Stock if the Merger Agreement is Terminated in Certain Circumstances

Restrictions in the merger agreement on solicitation generally prohibit ADE from soliciting any acquisition proposal or offer for a merger or business combination with any other party, including a proposal that might be advantageous to the stockholders of ADE when compared to the terms and conditions of the merger described in this proxy statement/prospectus. In addition, if the merger is not completed under certain circumstances specified in the merger agreement, ADE may be required to pay KLA-Tencor a termination fee of \$15 million. These provisions may deter third parties from proposing or pursuing alternative business combinations that might result in greater value to ADE stockholders than the merger. In the event the merger is terminated by KLA-Tencor and/or ADE in circumstances that obligate ADE to pay the termination fee to KLA-Tencor, including where KLA-Tencor terminates the merger agreement because ADE's board of directors withdraws its support of the merger or where ADE terminates the merger agreement to accept a superior acquisition proposal made by a third party, the value of ADE common stock may be reduced. See **The Merger Agreement - Termination Fee Payable by ADE** beginning on page 52.

ADE Stockholders Will Have a Reduced Ownership and Voting Interest After the Merger and Will Exercise Less Influence Over Management

After the merger's completion, ADE stockholders will own a significantly smaller percentage of KLA-Tencor than they currently own of ADE. Following completion of the merger, ADE stockholders will own approximately 4.5% of the combined company. Consequently, ADE stockholders will exercise less influence over the management and policies of KLA-Tencor than they currently exercise over the management and policies of ADE.

Table of Contents

FORWARD-LOOKING STATEMENTS

KLA-Tencor and ADE have made forward-looking statements in this document, and in documents that are incorporated by reference in this document, that are subject to risks and uncertainties. These statements are based on the beliefs and assumptions of each company's management. Generally, forward-looking statements include information concerning possible or assumed future actions, events or results of operations of KLA-Tencor, ADE and the combined company. Forward-looking statements specifically include, without limitation, the information in this document regarding: synergies and efficiencies/cost avoidance; cost savings; revenue and profit; earnings per share; growth; economies of scale; combined operations; the economy; future economic performance; conditions to, and the timetable for, completing the merger; litigation related to, and the legality of, the merger; management's plans; taxes; and merger and integration-related expense.

The sections in this document that have forward-looking statements include Questions and Answers About the Merger, Summary, Selected Historical Financial Information, Risk Factors, The Proposed Merger Background of Merger, The Proposed Merger Reasons For and Factors Considered in Connection With the Merger, The Proposed Merger Interests of Certain Persons in the Merger, and The Proposed Merger Opinion of ADE's Financial Advisor. Forward-looking statements may be preceded by, followed by or include the words may, will, could, would, should, expects, plans, anticipates, relies, believes, estimates, predicts, intends, potential, continue, or the terms, or other comparable terminology. KLA-Tencor and ADE claim the protection of the safe harbor for forward-looking statements contained in the Private Securities Litigation Reform Act of 1995 for all forward-looking statements.

Forward-looking statements are not guarantees of performance. You should understand that the following important factors, in addition to those discussed in Risk Factors above and elsewhere in this document, and in the documents which are incorporated by reference in this document, could affect the future results of KLA-Tencor and ADE, and of the combined company after the completion of the merger, and could cause those results or other outcomes to differ materially from those expressed or implied in the forward-looking statements:

the ability to manage and maintain key customer relationships;

the ability to maintain supply of key components and manage manufacturing requirements;

the ability to successfully manage regulatory, tax and legal matters (including intellectual property matters);

the ability to manage global economic uncertainty and worldwide political instability;

materially adverse changes in industry conditions generally or in the markets served by KLA-Tencor and ADE;

the ability to successfully implement new systems;

the ability to develop and implement new technologies and introduce new products;

customers' acceptance and adoption of new products and technologies;

the strength or weakness of the semiconductor, data storage and device markets;

wafer pricing and wafer demand;

the results of product development efforts and the success of product offerings to meet customer needs within the timeframe required by customers;

the ability to integrate the businesses of KLA-Tencor and ADE successfully after the merger;

the challenges inherent in diverting management's focus and resources from other strategic opportunities and from operational matters during the integration process; and

the process of, or conditions imposed in connection with, obtaining regulatory approvals for the merger.

Table of Contents

THE PROPOSED MERGER

General

The ADE board of directors is using this document to solicit proxies from the holders of ADE common stock for use at the special meeting.

At the special meeting, holders of ADE common stock will be asked to vote upon a merger proposal and a proposal to adjourn the special meeting, if necessary, to permit further solicitation of proxies in the event there are not sufficient votes at the time of the special meeting to approve the merger proposal.

Background of the Merger

ADE continually evaluates strategic opportunities within the semiconductor metrology and inspection equipment industry to strengthen its business and to deliver long-term value to its stockholders. During the past several years, senior management and the board of ADE have regularly reviewed the company's strategic growth objectives and means of achieving those objectives, including potential strategic initiatives and various business combinations. In particular, ADE's senior management and board have focused on ADE's long-term ability to compete successfully in the semiconductor metrology and inspection equipment industry. As part of ADE's strategic review of opportunities, it has considered, from time to time, possible business combinations consistent with its long-term strategy of (1) increasing the size and diversification of its operations, (2) becoming an increasingly broader provider of metrology and inspection equipment, as well as other equipment, to the bare wafer and semiconductor device industry and (3) leveraging ADE's history of operational excellence.

In early July 2005, Mr. John Kispert, currently KLA-Tencor's President and Chief Operating Officer, contacted Mr. Brian James, ADE's Chief Financial Officer, to suggest meeting later that month in San Francisco at Semicon West 2005, an annual exposition for semiconductor and related microelectronics manufacturing. ADE's management was familiar with KLA-Tencor's products and industry reputation. In addition, patent infringement litigation had arisen between the two companies in 2000 and had been resolved in early 2005.

At Semicon West 2005, Dr. Chris Koliopoulos, ADE's President and Chief Executive Officer, Mr. James, Mr. Kispert and Mr. Ken Schroeder, then KLA-Tencor's Chief Executive Officer and now a Senior Advisor to KLA-Tencor, held a meeting at which KLA-Tencor expressed its interest in a potential business combination with ADE. Mr. James and Dr. Koliopoulos informed members of ADE's board on an individual basis that KLA-Tencor had approached ADE regarding a potential business combination.

On July 13, 2005, Mr. Kispert telephoned Mr. James and stated that a member of KLA-Tencor's senior management would be contacting ADE with a more detailed proposal for KLA-Tencor to acquire ADE.

On August 9, 2005, Dr. Koliopoulos and Mr. Gary Bultman, KLA-Tencor's Senior Vice President, Strategic Business Development, met in Tucson, Arizona to discuss further the possibility of a combination of the two companies. No specific terms of such a combination were discussed.

On September 13, 2005, Dr. Koliopoulos, Mr. James, Mr. Jeffrey Hall, currently KLA-Tencor's Chief Financial Officer, and Mr. Bultman held a meeting in Boston to discuss KLA-Tencor's rationale for a proposed business combination with ADE.

On September 21, 2005, following a regularly scheduled meeting of the ADE board, Mr. Bultman visited ADE's office in Westwood, Massachusetts and met with Dr. Koliopoulos, Mr. James and the other members of ADE's board. Mr. Bultman outlined the proposed terms of a possible transaction and presented his views of the general benefits and synergies that would result from a combination of the two companies. In conjunction with this meeting, also on September 21, 2005, Dr. Koliopoulos received by

Table of Contents

email a non-binding term sheet from Mr. Bultman for a potential business combination between ADE and KLA-Tencor. The term sheet reflected the following material terms:

a stock-for-stock transaction in which ADE stockholders would receive shares of KLA-Tencor common stock based on a value of \$30.00 for each outstanding share of ADE common stock;

the transaction would be structured as a tax-free reorganization; and

voting agreements would be executed by each executive officer, director and principal stockholder of ADE.

After internal ADE discussion among Mr. James and members of ADE's board, Mr. James indicated to Mr. Bultman that ADE would be interested in holding negotiations if the transaction would be priced at \$31.00 per share of ADE common stock rather than \$30.00. After conferring with members of KLA-Tencor's senior management, Mr. Bultman agreed to raise the offer price to \$31.00 and negotiations between the two companies proceeded on this basis. On September 20, 2006, the closing price of ADE common stock was \$22.07 per share.

On September 22, 2005, Mr. Stuart Nichols, KLA-Tencor's Vice President and General Counsel, presented an initial draft of a Non-Disclosure Agreement to Mr. James concerning commercially sensitive information to be exchanged between ADE and KLA-Tencor in the course of their discussions.

On September 23, 2005, ADE and KLA-Tencor entered into the Non-Disclosure Agreement. This agreement contained standstill provisions under which KLA-Tencor agreed for a period of 12 months not to acquire any voting securities of ADE without prior approval of ADE. Also on September 23, Mr. James and Mr. Nichols began initial discussions regarding the terms of the proposed merger.

On September 27, 2005, at a meeting of KLA-Tencor's board of directors, Mr. Bultman updated the board on the status of the negotiations with ADE and the proposed key terms of the transaction.

On September 29, 2005, KLA-Tencor and KLA-Tencor's legal counsel, Davis Polk & Wardwell, or DPW, distributed an initial draft of the proposed merger agreement to ADE, and on September 30, 2005, KLA-Tencor distributed an initial due diligence request list to ADE.

During late September and early October 2005, Mr. James and representatives of ADE's legal counsel, Sullivan & Worcester LLP, or S&W, and members of KLA-Tencor's senior management and representatives of DPW, negotiated the provisions of the proposed merger agreement. The parties discussed, among other things, an all-stock transaction in which ADE stockholders would receive shares of KLA-Tencor common stock valued at \$31.00 for each of their shares of ADE common stock, subject to a collar which would provide that the exchange ratio would be fixed if KLA-Tencor's average stock price during a pricing period prior to closing was 20% higher or lower than KLA-Tencor's stock price at the signing of the merger agreement. Under the terms of the transaction then under discussion, if the average price was more than 20% lower than the signing price, ADE would have the option to convert the transaction into an all-cash transaction in which ADE stockholders would receive \$31.00 in cash for each of their shares of ADE common stock or to terminate the merger agreement, subject in either case to the right of KLA-Tencor to top up the amount of stock issuable in the merger so that ADE stockholders would receive \$31.00 in KLA-Tencor common stock per share of ADE common stock notwithstanding the collar. ADE also sought to limit the circumstances under which a material adverse change to ADE would give KLA-Tencor the ability to terminate the merger agreement. Although many merger agreement provisions remained unresolved, the most material was KLA-Tencor's insistence on a package of limitations on ADE's ability to enter into a merger transaction with a third party, including (1) a force the vote provision that would require ADE to submit the merger agreement to a vote of its stockholders even in the event that a third party made a superior merger proposal that the ADE board decided to recommend instead of the KLA-Tencor merger, (2) prohibitions on ADE's ability to seek other offers to acquire ADE, (3) a requirement for ADE to pay a break up fee in the event ADE terminated the merger agreement in the event of a superior proposal and (4) limitations on the ability of the parties to the voting agreements to terminate those agreements. ADE insisted on a fiduciary out, or a right to terminate the merger agreement (and, similarly, the voting agreements) to accept a superior proposal made

Table of Contents

by a third party without any requirement prior to such termination that ADE hold a meeting of its stockholders to vote on the merger agreement.

Throughout the remainder of October 2005, members of KLA-Tencor's senior management and representatives of KLA-Tencor's financial and legal advisors and members of ADE's senior management and representatives of S&W held a series of telephonic discussions regarding the issues raised by the merger agreement.

On October 4, 2005, ADE engaged RBC Capital Markets Corporation, or RBC, to act as its exclusive financial advisor to provide an opinion to ADE's board with respect to the fairness, from a financial point of view, of the consideration to be received by ADE's stockholders pursuant to a business combination with KLA-Tencor, if an agreement were reached.

On October 21, 2005, ADE's board held a special meeting to discuss KLA-Tencor's proposal, of which the directors had previously been informally informed. Representatives of S&W and RBC participated in the meeting. At this meeting, Dr. Koliopoulos and Mr. James reported on the status and progress of negotiations with members of KLA-Tencor's senior management and on due diligence relating to the proposed transaction. Dr. Koliopoulos and Mr. James, together with representatives of S&W, summarized the structure of the proposed transaction and the negotiations with KLA-Tencor to date, and discussed open issues relating to the transaction, and S&W described the ADE board's fiduciary duties under Massachusetts law. ADE's board discussed the potential benefits of the transaction to ADE and its stockholders, including the expected synergies between ADE and KLA-Tencor, as well as their belief that there were only a limited number of other potential acquirors with the strengths, resources and potential of KLA-Tencor. Among other things, ADE's board noted that the proposed transaction (1) provided ADE's stockholders with a minimum fixed-value of \$31.00 per share of ADE's common stock since even if the average KLA-Tencor stock price during the pricing period prior to closing fell below the collar ADE could elect an all-cash transaction at \$31.00 per share, (2) allowed ADE's stockholders to continue their investment in the combined corporation, and (3) contained a fairly narrow material adverse change clause, as compared to similar mergers and acquisitions transactions, which would limit KLA-Tencor's ability to terminate the transaction after signing, but which was not as narrow as ADE wanted. The board also noted that KLA-Tencor was still insisting on the full package of restrictions on ADE's ability to obtain and accept a superior offer. At this meeting, RBC also explained the process of preparing the analysis for, and if appropriate rendering, a fairness opinion. ADE's board discussed the foregoing topics at length and authorized Dr. Koliopoulos and Mr. James to continue discussions with KLA-Tencor.

Throughout the weeks of October 24, 2005 and November 1, 2005, representatives of KLA-Tencor, DPW and Credit Suisse, KLA-Tencor's financial advisor, visited the data room at S&W's Boston office at various times to conduct their due diligence investigations of ADE. In addition, during this time, members of senior management of ADE and KLA-Tencor and representatives of Credit Suisse, RBC, DPW and S&W held a series of telephonic meetings to discuss and answer questions about ADE's and KLA-Tencor's respective businesses.

On November 8, 2005, at a special meeting of the ADE board, Dr. Koliopoulos and Mr. James updated the ADE directors on the negotiations with KLA-Tencor and on KLA-Tencor's due diligence investigation of ADE. Following the update, representatives of S&W made a presentation to the board on the legal aspects of the transaction. After the presentation, the board engaged in an extensive discussion of the open issues outlined by ADE management and S&W. The board also discussed the current and future business and prospects of ADE in the event that the proposed transaction was not completed.

On November 10, 2005, Mr. Richard P. Wallace, currently KLA-Tencor's Chief Executive Officer, Mr. Bultman and certain members of KLA-Tencor's senior management met with Dr. Koliopoulos and Mr. James at the Boston office of S&W to discuss ADE's historical financial information and otherwise conduct due diligence regarding ADE in preparation for a meeting with a subcommittee of the KLA-Tencor board.

Table of Contents

On November 14, 2005, Dr. Koliopoulos and Mr. James met with certain members of KLA-Tencor's senior management, including Messrs. Schroeder, Hall and Wallace, and Mr. Kenneth Levy, chairman of KLA-Tencor's board, at KLA-Tencor's offices in San Jose, California. At this meeting, KLA-Tencor senior management gave a presentation regarding its perspective on ADE's business that was prepared by members of KLA-Tencor's project team. Dr. Koliopoulos and Mr. James also made a presentation to KLA-Tencor management regarding ADE's technologies, its tools, its lines of business and general product roadmaps. No open items under the merger agreement were discussed at this meeting.

At a regularly scheduled meeting held on November 16, 2005, ADE's board discussed the status of the proposed transaction. At this meeting, Dr. Koliopoulos and Mr. James reported on their November 14, 2005 meeting with certain members of KLA-Tencor's senior management. Dr. Koliopoulos and Mr. James also discussed KLA-Tencor's business and products, KLA-Tencor's view of the expected synergies resulting from a combination of ADE and KLA-Tencor and the current and future business of ADE on a stand-alone basis in the event that the transaction was not completed. A representative of RBC reported to the board on the status of RBC's review and analysis of the fairness to ADE's stockholders, from a financial point of view, of the consideration to be received in the proposed transaction with KLA-Tencor.

On November 18, 2005, members of KLA-Tencor's senior management visited ADE's offices in Tucson, Arizona to review capabilities of the current optical manufacturing infrastructure available at ADE's Tucson facility.

On November 29, 2005, members of KLA-Tencor's senior management informed Dr. Koliopoulos that the proposed transaction was on hold on account of KLA-Tencor's desire to wait for the release of, and evaluate, the results of ADE's fiscal quarter ended October 31 prior to agreeing to a transaction and also on account of a transition of KLA-Tencor management. Members of KLA-Tencor's senior management indicated that KLA-Tencor would continue to consider an acquisition of ADE.

On January 23, 2006, at a special meeting of KLA-Tencor's board of directors, Mr. Wallace, Dr. Michael Kirk, a member of KLA-Tencor's senior management team, and Mr. Hall presented to the board an overview of the proposed transaction with ADE. After extensive discussions, the board approved the acquisition of ADE on the terms as described to the board.

On January 23, 2006, Mr. Wallace contacted Dr. Koliopoulos to resume discussions of the proposed transaction. Mr. James and Mr. Hall then engaged in a telephonic discussion regarding the open issues with respect to the merger agreement. Throughout the week of January 23, 2006, Mr. James, Mr. Hall, DPW and S&W held various discussions in an attempt to resolve all open issues relating to the merger agreement.

On January 25, 2006, ADE's board held a special meeting that was attended by members of ADE's senior management and S&W. At this meeting, Dr. Koliopoulos and Mr. James reported that they had been informed by KLA-Tencor management that KLA-Tencor desired to proceed with a transaction on the basis of the then current draft merger agreement, which provided for the transaction described above but also still included the full package of restrictions on ADE's ability to obtain and accept a superior offer. After a presentation from S&W on the board's fiduciary obligations, the board discussed the recent increase in ADE's stock price (on January 24, 2006, the closing stock price of ADE's common stock was \$31.28 per share), and expressed concern about the board's ability to approve KLA-Tencor's offer of \$31.00 per share of ADE common stock and the ability to receive stockholder approval at such a price combined with the lack of a fiduciary out in the merger agreement. ADE's board concluded that it would not approve KLA-Tencor's offer and that ADE should only resume merger negotiations if KLA-Tencor would agree to include a fiduciary out in the merger agreement and to loosen the limitations on ADE's ability to engage in negotiations and terminate the merger agreement upon acceptance of a superior offer.

On January 26, 2006, Mr. James and Mr. Hall engaged in telephonic discussions regarding the structure and the consideration for the proposed transaction. Mr. James informed Mr. Hall that ADE's board was no longer in a position to accept KLA-Tencor's proposal of \$31.00 per share of ADE common stock based on economic and other terms. Mr. James also informed Mr. Hall of ADE's position on the fiduciary out. In response, and following discussions between DPW and S&W, Mr. Hall agreed to

Table of Contents

eliminate the force the vote provision (but not the prohibition on seeking other offers or the break up fee) and to include a fiduciary out in the merger agreement, but did not increase or modify KLA-Tencor's proposal of \$31.00 per share of ADE common stock.

On February 2, 2006, following concerns expressed by Mr. James about obtaining the ADE board's approval of a transaction priced at \$31.00 per share of ADE common stock, Mr. Hall and Mr. James discussed the possibility of an all-stock transaction at a fixed exchange ratio. Mr. Hall contacted Mr. James later that day to make a proposal of a fixed exchange ratio of 0.61 or 0.62 shares of KLA-Tencor common stock for each outstanding share of ADE common stock, with a collar on the value of shares of ADE common stock ranging from \$31.00 to \$36.30 per share of ADE common stock. Mr. James rejected Mr. Hall's proposal.

On February 8, 2006, Mr. James contacted Mr. Hall to re-open discussions on Mr. Hall's February 2, 2006 proposal. Mr. James indicated that ADE could not accept KLA-Tencor's proposal of a fixed exchange ratio of 0.62 shares of KLA-Tencor common stock for each outstanding share of ADE common stock with the proposed collar. Mr. Hall indicated that KLA-Tencor had not changed its position, and KLA-Tencor's offer remained a fixed exchange ratio with a collar as proposed on February 2, 2006.

On February 14, 2006, Mr. James again contacted Mr. Hall to inquire as to KLA-Tencor's current position. Mr. Hall again indicated that KLA-Tencor had not changed its position, and KLA-Tencor's offer remained a fixed exchange ratio with a collar as proposed on February 2, 2006.

At a regularly scheduled meeting held on February 15, 2006, ADE's board discussed recent developments in the proposed transaction. This meeting was attended by members of ADE's senior management and representatives of S&W and RBC. At this meeting, Mr. James reported on the status and progress of discussions with KLA-Tencor since the last meeting of ADE's board. Also at this meeting, Mr. James summarized the most recent discussions with KLA-Tencor over changing from the fixed value structure to a fixed exchange ratio structure with a collar whereby the number of shares of KLA-Tencor common stock into which ADE common stock would be converted would be fixed at the time of execution of the merger agreement.

ADE's board discussed at length Mr. James' report and presentations by representatives of S&W and RBC, including a discussion of the impact of alternative pricing structures. The board came to a consensus that a fixed exchange ratio, with or without a collar, would be acceptable in principle based on the board's confidence in KLA-Tencor and its view of industry trends, the respective prices of ADE's and KLA-Tencor's stock, the potential transaction benefits, and the belief that the premium relative to ADE's historical prices outweighed the risk of not having a fixed value or collar. However, the board decided that the premium implied by the most recent proposal from KLA-Tencor was inadequate. The board instructed Mr. James to continue negotiations with KLA-Tencor over a higher exchange ratio and to report back to the board.

Later that day, Mr. James contacted Mr. Hall to propose a fixed exchange ratio of 0.65 shares of KLA-Tencor common stock for each outstanding share of ADE common stock with no collar. Mr. Hall declined the proposal.

On February 16, 2006, Dr. Koliopoulos and Mr. Wallace agreed to present to their respective boards an all-stock transaction at a fixed exchange ratio of 0.64 shares of KLA-Tencor common stock for each outstanding share of ADE common stock with no collar.

On February 17, 2006, at a meeting of KLA-Tencor's board of directors, the board authorized an acquisition of ADE at a fixed exchange ratio of 0.64 shares of KLA-Tencor common stock for each outstanding share of ADE common stock.

On February 18 and 19, 2006, members of KLA-Tencor's senior management and representatives of DPW and Credit Suisse, and members of ADE's senior management and representatives of S&W and RBC, participated in conference calls to discuss the remaining open issues relating to the merger agreement and the remaining due diligence items.

Table of Contents

On February 21, 2006, the ADE board held a special meeting that was attended by Mr. James and representatives of S&W and RBC. Mr. James, S&W and RBC reviewed with ADE's board the terms of the most recent draft of the proposed merger agreement and the resolution of open issues relating to the merger agreement. ADE's board discussed KLA-Tencor's proposal of a fixed exchange ratio of 0.64 shares of KLA-Tencor common stock for each outstanding share of ADE common stock. Although the stock price of both KLA-Tencor and ADE had increased since November 2005, ADE's board concluded that the proposed fixed exchange ratio still represented a premium over both current and recent ADE stock prices and a significant increase in the valuation of ADE common stock from November 2005 and even more so compared to longer periods of time.

Representatives of RBC reviewed their financial analysis and rendered to ADE's board RBC's oral opinion, which opinion was subsequently confirmed in writing, that as of February 21, 2006, based upon and subject to the various factors, assumptions, procedures, limitations and qualifications set forth in such opinion, the consideration of 0.64 of a share of KLA-Tencor common stock (together with cash in lieu of fractional shares of KLA-Tencor common stock) for each outstanding share of ADE common stock to be received by stockholders of ADE pursuant to the merger was fair from a financial point of view to such holders. See "Opinion of ADE's Financial Advisor" beginning on page 27 for further information regarding this opinion and also see the full text of RBC's opinion, which is attached as Annex B to this proxy statement/prospectus and should be carefully read in its entirety.

Following these discussions and presentations, ADE's board, at the February 21st board meeting, unanimously determined that the merger was advisable, fair to, and in the best interests of ADE and its stockholders, approved the merger agreement and the merger subject to the resolution of some minor issues relating to the merger agreement and the voting agreements, and recommended that ADE stockholders vote **FOR** approval of the KLA-Tencor merger proposal.

On February 21, 2006, Dr. Koliopoulos and Mr. James engaged in telephonic discussions with members of KLA-Tencor's senior management regarding the remaining minor issues that involved changes to the voting agreements and the merger agreement.

On February 22, 2006, Mr. Landon Clay, chairman of ADE's board, Dr. Koliopoulos, Mr. James and certain representatives of S&W and RBC held a meeting to discuss the trading prices of the shares of ADE and KLA-Tencor common stock since the issuance of RBC's fairness opinion on February 21, 2006, and the relationship between those trading prices and that opinion. Representatives of RBC indicated that those trading prices had not affected RBC's willingness to agree to the inclusion of its fairness opinion in this proxy statement/prospectus as one of the factors considered by ADE's board in approving the merger with KLA-Tencor on the financial terms previously negotiated between the companies and reflected in the merger agreement.

On the evening of February 22, 2006, ADE and KLA-Tencor executed the merger agreement. Before the opening of trading on The Nasdaq National Market on February 23, 2006, ADE and KLA-Tencor issued a joint press release announcing the proposed merger.

Reasons For and Factors Considered in Connection With the Merger***Factors Considered by, and Recommendation of, the Board of Directors of ADE***

ADE's board believes that the merger is advisable for, fair to, and in the best interests of ADE and its stockholders. Accordingly, ADE's board has unanimously approved the merger agreement and the merger and unanimously recommends that ADE stockholders vote FOR approval of the merger proposal. When ADE's stockholders consider their board's recommendation, ADE's stockholders should be aware that ADE's directors may have interests in the merger that may be different from, or in addition to, their interests. These interests are described in "Interests of Certain Persons in the Merger" beginning on page 39.

Table of Contents

In reaching its conclusion to approve the merger, ADE's board consulted with ADE's management team, as well as ADE's financial advisor and legal counsel, reviewed a significant amount of information and considered a variety of factors, including the following material factors:

information concerning the businesses, operations, financial performance and condition, asset quality, earnings and prospects of each of ADE and KLA-Tencor as separate entities and on a combined basis, including their revenues, their complementary businesses and the potential for revenue enhancement and cost savings;

the limited number of possible acquirors in the semiconductor industry with the perceived resources and interest in combining and, in particular, with the same perceived strengths as a combination of KLA-Tencor and ADE would provide;

the enhanced strategic and market position of the combined company and the combined company's anticipated future financial performance;

the increased volume, geographical expansion and diversity of operations, product lines, served markets and customers that could be achieved by combining ADE and KLA-Tencor;

the limited overlap of the product lines of ADE and KLA-Tencor and the opportunity for the companies to combine complementary technologies to produce a more extensive set of offerings for their customers;

the opportunity for ADE stockholders to participate in a combined company with increased scale, scope, technology capabilities and diversity of operations, product lines, served markets and customers beyond that achievable by ADE alone, and, as stockholders of the combined company, to benefit from future growth of the combined company;

the belief of ADE's board that the semiconductor industry is entering a consolidation phase and that the combined company, because of its scale and breadth of operations, would be in a better position to lead this consolidation;

the then-current financial market conditions and historical market prices, volatility and trading information with respect to shares of ADE common stock and KLA-Tencor common stock;

the exchange ratio of ADE shares for KLA-Tencor shares and the implied premium over recent and historical market prices of ADE common stock;

the written opinion and related financial analyses of RBC, that, as of the date of the opinion and based on and subject to the various factors, assumptions, procedures, limitations and qualifications set forth in the opinion, the consideration of 0.64 of a share of KLA-Tencor common stock (together with cash in lieu of fractional shares of KLA-Tencor common stock) for each share of ADE common stock provided for in the merger agreement was fair from a financial point of view to holders of shares of ADE common stock. See the section entitled "The Proposed Merger" Opinion of ADE's Financial Advisor beginning on page 27. A copy of RBC's written opinion, dated as of February 21, 2006, is attached as Annex B to this proxy statement/prospectus and should be carefully read in its entirety;

the structure of the merger, including the fact that the fixed exchange ratio provides certainty as to the number of shares of KLA-Tencor common stock to be issued in the merger;

the increased ability of stockholders to liquidate their equity interests, if so desired, by being part of a much larger, more actively traded public company;

the inclusion of a fiduciary out in the merger agreement that permits ADE, subject to payment of a termination fee, to terminate the merger agreement in order to accept a superior merger proposal made by a third party;

Table of Contents

the ability to consummate the merger, including the conditions to the merger requiring receipt of necessary regulatory approvals, and the likelihood of the merger being approved by the appropriate regulatory authorities; and

the fact that the merger is expected to be tax-free to ADE stockholders for U.S. federal income tax purposes, except to the extent that ADE stockholders recognize gain on cash received for any fractional shares; ADE's board also identified and considered certain potentially adverse consequences to ADE, ADE stockholders and the combined company that could arise from the merger, including:

the risk factors described under "Risk Factors" beginning on page 14, including the challenges and costs inherent in integrating the two businesses, and the time and effort from both KLA-Tencor and ADE executives that will be required to successfully achieve that integration;

the possibility that the merger may not be completed and the potential adverse consequences if the merger is not completed;

the risk that expected benefits from the merger will not be achieved;

the risks associated with a fixed exchange ratio, which by its nature would not adjust upward to compensate for declines in KLA-Tencor's stock price prior to the completion of the merger, and the absence of any termination right in the merger agreement that would be triggered by a decrease in KLA-Tencor's stock price (and the corresponding decrease in the value of the merger consideration to be received by ADE stockholders);

the potential loss of customers and suppliers and the termination of contracts of either company as a result of a customer's, supplier's, or other counterparty's unwillingness to do business with the combined company;

the challenges and costs of integrating the assets, operations, management teams, strategies, cultures and organizations of the companies;

the risk that key management and other personnel might not remain employed by the combined company;

the risk that governmental agencies from which KLA-Tencor and ADE will seek approval might seek to impose conditions on or enjoin or otherwise prevent or delay the merger, including requiring KLA-Tencor or ADE to divest assets in connection with obtaining their approval;

if, once initiated, the merger is not ultimately completed, this fact could have the effect of depressing values offered by others to ADE in a business combination and could erode customer and employee confidence in ADE;

the fact that under Massachusetts law and the ADE charter, approval of the merger proposal requires the affirmative vote of at least 66²/₃ % of the holders of the outstanding shares of ADE common stock; and

the interests of ADE's executive officers with respect to the merger may be different from, or in addition to, the interests of ADE stockholders, as described in the section entitled "Interests of Certain Persons in the Merger" beginning on page 39.

After consideration of these material factors, ADE's board determined that these risks are of a nature that are customary in business combinations similar to the merger, could be mitigated or managed by ADE or KLA-Tencor following the merger, were reasonably acceptable under the circumstances, or, in light of the anticipated benefits, the risks were unlikely to have a material impact on the merger or on KLA-Tencor following the merger, and that, overall, these risks were significantly outweighed by the potential benefits of the merger.

Table of Contents

The foregoing discussion of the information and factors considered by ADE's board is not intended to be exhaustive but includes the material factors considered by ADE's board. In view of the wide variety of factors considered in connection with its evaluation of the merger and the complexity of these matters, ADE's board did not find it useful to and did not attempt to quantify, rank or otherwise assign relative weights to these factors. In addition, ADE's board did not undertake to make any specific determination as to whether any particular factor, or any aspect of any particular factor, was favorable or unfavorable to its ultimate determination, but rather ADE's board conducted an overall analysis of the factors described above, including discussions with ADE's management, outside consultants, legal counsel and financial advisor. In considering the factors described above, individual members of ADE's board may have given different weight to different factors. It should be noted that this explanation of the reasoning of ADE's board and information presented in this section is forward-looking in nature and, therefore should be read in light of the factors discussed in the sections entitled "Risk Factors" beginning on page 14 and "Forward-Looking Statements" beginning on page 17.

Factors Considered by the Board of Directors of KLA-Tencor

At a special meeting held on January 23, 2006, the KLA-Tencor board of directors:

determined by a unanimous vote of the directors present at the meeting that the merger agreement and the transactions contemplated thereby, including the issuance of KLA-Tencor common stock in the merger, are advisable, fair to and in the best interests of KLA-Tencor and its stockholders; and

approved the merger agreement and the issuance of KLA-Tencor common stock in the merger.

In the course of reaching its decision to approve the merger agreement, KLA-Tencor's board of directors consulted with KLA-Tencor's management, as well as its legal counsel and financial advisor and considered the following material factors as generally supporting its decision:

information concerning the businesses, operations, financial performance and condition, asset quality, earnings and prospects of ADE, including its revenues, product lines and the potential for revenue enhancement and cost savings;

the potential benefit of adding ADE's metrology tools to KLA-Tencor's current and future product lines to provide more comprehensive yield management solutions to bare wafer manufacturers;

current industry, economic and market conditions and trends;

the potential benefits to be derived from a combination of the two companies, including potential cost savings and efficiencies that could result from the merger;

the likelihood that the merger will be completed on a timely basis;

the ability to consummate the merger, including the conditions to the merger requiring receipt of necessary regulatory approvals, and the likelihood of the merger being approved by the appropriate regulatory authorities;

the structure of the merger, including the fact that the fixed exchange ratio provides certainty as to the number of shares of KLA-Tencor common stock to be issued in the merger; and

the terms and conditions of the merger agreement, including:

restrictions on ADE's ability to solicit other acquisition proposals; and

ADE's agreement to pay KLA-Tencor a \$15 million termination fee in connection with certain terminations of the merger agreement.

Table of Contents

The KLA-Tencor board of directors also considered a number of potentially negative factors in its deliberations concerning the merger proposal, including:

the risk factors described under Risk Factors beginning on page 14;

the challenges and costs of integrating the assets, operations, strategies, cultures and organizations of the companies;

the risk that key management and other personnel might not remain employed by KLA-Tencor;

the potential loss of ADE customers and suppliers and the termination of contracts of ADE as a result of a customer's, supplier's, or other counterparty's unwillingness to do business with KLA-Tencor;

the effort and distraction required of KLA-Tencor personnel, and the expenses to be absorbed by KLA-Tencor, in connection with attempting to complete the merger;

the risk that expected benefits from the merger will not be achieved;

the risk that governmental agencies from which KLA-Tencor and ADE will seek approval might seek to impose conditions on or enjoin or otherwise prevent or delay the merger;

the limitations imposed by the federal securities laws on KLA-Tencor's ability to repurchase shares of KLA-Tencor common stock prior to the completion of the merger; and

the risk that, because the exchange ratio under the merger agreement would not be adjusted for changes in the market price of KLA-Tencor common stock or ADE common stock, the per share value of the consideration to be paid to ADE stockholders on consummation of the merger could be significantly more than the per share value of the consideration immediately prior to the announcement of the proposed merger;

In view of the variety of factors and the amount of information considered, KLA-Tencor's board of directors did not find it practicable to and did not quantify, rank or otherwise assign relative weights to the specific factors it considered in reaching its decision. The determination was made after consideration of all of the factors, both negative and positive, taken as a whole. In addition, individual members of KLA-Tencor's board of directors may have given different weights to different factors. KLA-Tencor's board of directors believed the anticipated synergies which it considered in reaching its decision to approve the merger agreement to be reasonably prepared and reflected the best currently available estimates and judgments of management at the time they were prepared.

KLA-Tencor's board of directors considered all these factors in reaching the conclusions and recommendations described above. It should be noted that this explanation of the KLA-Tencor board's reasoning and certain information presented in this section is forward-looking in nature and, therefore, such information should be read in light of the factors discussed under the heading Forward-Looking Statements beginning on page 17.

The KLA-Tencor board of directors has unanimously approved the merger agreement, the merger, the issuance of KLA-Tencor common stock in the merger and the other transactions contemplated thereby and believes that the terms of the merger are fair to, and in the best interests of, KLA-Tencor and its stockholders.
Opinion of ADE's Financial Advisor

On February 21, 2006, RBC rendered its written opinion to ADE's board of directors that, as of that date and subject to the assumptions, qualifications and limitations set forth in its opinion, the merger consideration, as defined below, was fair, from a financial point of view, to the ADE stockholders. The full text of the opinion of RBC is attached to this proxy statement/prospectus as Annex B. This summary of the opinion is qualified in its entirety by reference to the full text of the RBC opinion. ADE stockholders are urged to read the RBC opinion carefully and in its entirety.

Table of Contents

RBC's opinion was provided for the information and assistance of the ADE board of directors in connection with its consideration of the merger. RBC's opinion did not address ADE's underlying business decision to engage in the merger or the relative merits of the merger compared to any alternative business strategy or transaction in which ADE might engage. RBC's opinion and presentation to the ADE board of directors were only two of many factors taken into consideration by the ADE board of directors in making its determination to approve the merger. RBC's opinion does not constitute a recommendation to ADE stockholders as to how they should vote on the merger proposal.

RBC's opinion addressed solely the fairness of the merger consideration, from a financial point of view, to the ADE stockholders and did not address other merger terms or arrangements, including, without limitation, the financial or other terms of any voting or employment agreement, nor did RBC express any opinion as to the prices at which KLA-Tencor's common stock had traded or may trade following the announcement or consummation of the merger. As used in this section and the opinion of RBC, the term "merger consideration" refers to the consideration of 0.64 of a share of KLA-Tencor common stock (together with cash in lieu of fractional shares of KLA-Tencor common stock) per share of ADE common stock specified in the merger agreement. For the purposes of its analyses summarized below, RBC calculated an implied value for the merger consideration of \$33.62 per share of ADE common stock based on the closing price for KLA-Tencor common stock on February 17, 2006, the last trading day preceding the finalization of RBC's analysis.

In rendering its opinion, RBC assumed and relied upon the accuracy and completeness of the financial, legal, tax, operating, and other information provided to it by ADE and KLA-Tencor, including, without limitation, the financial statements and related notes thereto of ADE and KLA-Tencor. RBC did not assume responsibility for independently verifying, and did not independently verify, this information. RBC assumed, after discussions with the managements of ADE and KLA-Tencor, that the First Call and Thomson One Analytics consensus estimates it reviewed regarding the potential future performance of ADE and KLA-Tencor as stand-alone entities corresponded to the best currently available estimates and judgments of the respective managements of ADE and KLA-Tencor. RBC expressed no opinion as to those financial forecasts or the assumptions on which they were based. RBC did not assume any responsibility to perform, and did not perform, an independent evaluation or appraisal of any of the respective assets or liabilities of ADE or KLA-Tencor, and RBC was not furnished with any valuations or appraisals of these types. In addition, RBC did not assume any obligation to conduct, and did not conduct, any physical inspection of the property or facilities of ADE or KLA-Tencor. Additionally, RBC was not asked to, and did not consider, the possible effects of any litigation or other claims.

In rendering its opinion, RBC assumed that all conditions to the consummation of the merger would be satisfied without waiver and that the executed version of the merger agreement would not differ, in any respect material to its opinion, from the latest draft RBC reviewed.

The opinion of RBC spoke only as of the date it was rendered, was based on the conditions as they existed and information with which RBC was supplied as of such date, and was without regard to any market, economic, financial, legal or other circumstances or event of any kind or nature which may exist or occur after such date. RBC has not undertaken to reaffirm or revise its opinion or otherwise comment on events occurring after the date of its opinion and does not have an obligation to update, revise or reaffirm its opinion. Unless otherwise noted, all analyses were performed based on market information available as of February 17, 2006, the last trading day preceding the finalization of RBC's analysis.

In connection with its review of the merger and the preparation of its opinion, RBC undertook the review and inquiries it deemed necessary and appropriate under the circumstances, including:

reviewing the financial terms of the draft merger agreement dated February 20, 2006 and received by RBC on February 21, 2006;

reviewing and analyzing certain publicly available financial and other data with respect to ADE and KLA-Tencor and certain other relevant historical operating data relating to ADE and KLA-Tencor

Table of Contents

made available to RBC from published sources and from the internal records of ADE and KLA-Tencor;

conducting discussions with members of the senior managements of ADE and KLA-Tencor with respect to the business prospects and financial outlook of ADE and KLA-Tencor;

reviewing historical financial information relating to ADE and KLA-Tencor and First Call and Thomson One Analytics consensus estimates regarding the potential future performance of ADE and KLA-Tencor as a standalone entities;

reviewing the reported prices and trading activity for the common stock of each of ADE and KLA-Tencor including their trading relative to one another;

reviewing the potential impact of the merger on KLA-Tencor's future financial results; and

performing other studies and analyses as RBC deemed appropriate.

Among such other studies and analysis, RBC reviewed the ratios of the reported closing prices of shares of ADE common stock divided by the corresponding reported closing prices of shares of KLA-Tencor common stock over various periods ending February 17, 2006, the last trading day preceding the finalization of RBC's analysis. RBC compared the merger consideration with the spot price one day (February 17, 2006) relative trading ratio for ADE and KLA-Tencor and with the spot price and average price one week (February 10, 2006), one month (January 17, 2006), three month (November 17, 2005), six month (August 17, 2005), nine month (May 17, 2005), twelve month (February 17, 2005), two year (February 17, 2004) and three year (February 18, 2003) relative trading ratios for ADE and KLA-Tencor. The following table summarizes this data:

	Spot		Average	
	Relative Trading Ratio	Implied Premium	Relative Trading Ratio	Implied Premium
1 Day	0.579x	10.6%		
1 Week	0.590x	8.5%	0.577x	11.0%
1 Month	0.576x	11.2%	0.596x	7.4%
3 Month	0.450x	42.3%	0.533x	20.1%
6 Month	0.466x	37.4%	0.490x	30.6%
9 Month	0.500x	27.9%	0.506x	26.5%
12 Month	0.404x	58.6%	0.504x	27.0%
2 Year	0.362x	76.6%	0.460x	39.2%
3 Year	0.197x	224.2%	0.396x	61.6%

RBC noted that: (1) there was a premium implied by the merger consideration compared with the relative trading ratios for ADE and KLA-Tencor for every period analyzed; and (2) due to a recent increase in the trading prices of ADE common stock, the spot and average premiums implied by the merger consideration compared with the relative trading ratios for ADE and KLA-Tencor were lower for the one day, one week and one month periods than for every other period analyzed.

In arriving at its opinion, in addition to reviewing the matters listed above, RBC performed the following analyses:

RBC compared selected market valuation metrics of ADE and other comparable publicly-traded companies with the financial metrics implied by the merger consideration;

RBC compared the financial metrics of selected precedent transactions with the financial metrics implied by the merger consideration; and

RBC compared the premiums paid in selected precedent transactions with the premiums implied by the merger consideration.

Table of Contents

In connection with the rendering of its opinion to the ADE board of directors, RBC prepared and delivered to the ADE board of directors written materials containing the analyses listed above and other information material to the opinion. In presenting its opinion to the ADE board of directors, RBC noted that it did not perform (1) a discounted cash flow analysis due to a lack of long-term financial projections for ADE or (2) a contribution analysis due to the relative sizes of ADE and KLA-Tencor. Set forth below is a summary of the analyses used by RBC, including information presented in tabular format. To fully understand the summary of the analyses used by RBC, the tables must be read together with the text of each summary. The tables alone do not constitute a complete description of the analysis.

Comparable Company Analysis. RBC prepared a comparable company analysis to analyze ADE's implied transaction multiples relative to a group of publicly-traded companies that RBC deemed for purposes of its analysis to be comparable to ADE. In this analysis, RBC compared the enterprise value of ADE implied by the merger consideration, expressed as a multiple of actual last twelve months revenue and operating profit and projected calendar year 2005 and calendar year 2006 revenue and operating profit, to the respective mean and median enterprise value to revenue and enterprise value to operating profit multiples of the comparable companies implied by the public trading price of their common stock. RBC also compared the per share value of ADE common stock implied by the merger consideration, expressed as a multiple of actual last twelve months earnings per share and projected calendar year 2005 and calendar year 2006 earnings per share, to the respective mean and median price to earnings per share multiples of the comparable companies implied by the public trading price of their common stock. In addition, RBC compared the equity value of ADE implied by the merger consideration, expressed as a multiple of tangible book value, to the respective mean and median equity value to tangible book value multiples of the comparable companies implied by the public trading price of their common stock. Projected revenue, operating profit and earnings per share for ADE and the comparable companies used in the analysis were based on First Call and Thomson One Analytics consensus estimates. For the purposes of its analysis, RBC assumed that ADE's calendar year end was the twelve month period ending January of the following year. RBC defined enterprise value as equity value plus total debt, preferred stock and minority interest less cash and cash equivalents and defined tangible book value as actual stockholders' equity less goodwill and other intangible assets.

RBC compared enterprise value to revenue, enterprise value to operating profit, price to earnings per share and equity value to tangible book value multiples of ADE's implied transaction valuation with those of the following publicly-traded companies:

Applied Materials

FEI

ICOS Vision Systems

KLA-Tencor

Nanometrics¹

Rudolph Technologies²

Therma-Wave

Veeco Instruments

Zygo

¹ Does not reflect pending acquisition of Accent Optical Technologies.

²Does not reflect acquisition of August Technology.

30

Table of Contents

The following table presents, as of February 17, 2006, ADE's implied enterprise value to revenue, enterprise value to operating profit, price to earnings per share and equity value to tangible book value multiples and the mean and median enterprise value to revenue, enterprise value to operating profit, price to earnings per share and equity value to tangible book value multiples for the listed comparable companies:

	Comparable Company Analysis		ADE (As Implied by the Merger Consideration)
	Mean	Median	
Enterprise value as a multiple of:			
Last twelve months revenue	2.6x	2.3x	3.9x
Projected calendar year 2005 revenue	2.6x	2.3x	4.1x
Projected calendar year 2006 revenue	2.4x	2.2x	3.5x
Enterprise value as a multiple of:			
Last twelve months operating profit	22.6x	18.8x	21.4x
Projected calendar year 2005 operating profit	22.6x	18.8x	23.5x
Projected calendar year 2006 operating profit	17.3x	15.5x	14.2x
Share price as a multiple of:			
Last twelve months earnings per share	35.9x	30.1x	26.7x
Projected calendar year 2005 earnings per share	35.9x	30.1x	32.3x
Projected calendar year 2006 earnings per share	30.4x	24.8x	26.5x
Equity value as a multiple of:			
Tangible book value	3.1x	2.7x	3.7x

RBC noted that: (1) ADE's multiples implied by the merger consideration for the last twelve months and projected calendar year 2005 and calendar year 2006 revenue were above the mean and median multiples of the comparable companies analyzed; (2) ADE's multiple implied by the merger consideration for the last twelve months operating profit was below the mean multiple and above the median multiple of the comparable companies analyzed, for projected calendar year 2005 operating profit was above the mean and median multiples of the comparable companies analyzed, and for projected calendar year 2006 operating profit was below the mean and median multiples of the comparable companies analyzed; (3) ADE's multiple implied by the merger consideration for the last twelve months earnings per share was below the mean and median multiples of the comparable companies analyzed, and for projected calendar year 2005 and calendar year 2006 earnings per share was below the mean multiple and above the median multiple of the comparable companies analyzed; (4) earnings per share for both ADE and the comparable companies may not reflect statutory tax rates; and (5) ADE's multiple implied by the merger consideration for tangible book value was above the mean and median multiples of the comparable companies analyzed.

Precedent Transaction Analysis. RBC compared enterprise value to revenue, enterprise value to earnings before interest, taxes, depreciation and amortization, or EBITDA, equity value to net income and equity value to tangible book value multiples relating to the proposed merger of ADE and KLA-Tencor with like multiples in selected precedent merger and acquisition transactions. In selecting precedent transactions, RBC considered comparable semiconductor capital equipment company transactions

Table of Contents

announced after January 1, 2000, in which the transaction values were greater than \$75 million and less than \$1 billion. Based on these criteria, the following twelve transactions were analyzed:

Acquiror	Target
Nanometrics	Accent Optical Technologies
Brooks Automation	Helix Technology
Entegris	Mykrolis
Rudolph Technologies	August Technology
Toppan Printing	DuPont Photomasks
AIXTRON AG	Genus
Credence Systems	NPTest
Keystone Holdings	Coorstek
Novellus Systems	SpeedFam-IPEC
Brooks Automation	PRI Automation
Novellus Systems	GaSonics International
MKS Instruments	Applied Science and Technology

For the purpose of calculating the multiples, revenue, EBITDA and net income were derived from the actual revenue, adjusted EBITDA (adjusted to exclude non-cash and one-time charges) and adjusted net income (adjusted to exclude non-cash and one-time charges) of the target companies in the last twelve months prior to the announcement of the transaction. For the purpose of calculating the multiples, tangible book value was derived from the latest actual tangible book value of the target companies prior to the announcement of the transaction. Financial data regarding the precedent transactions was taken from filings with the SEC, press releases, Bloomberg and Dealogic.

The following table compares the implied transaction multiples for the merger with the corresponding mean and median multiples for the selected precedent transactions:

	Precedent Transaction Analysis		ADE (As Implied by the Merger Consideration)
	Mean	Median	
Enterprise value as a multiple of:			
Last twelve months revenue	2.0x	2.0x	3.9x
Last twelve months EBITDA	12.9x	9.8x	19.4x
Equity value as a multiple of:			
Last twelve months net income	29.9x	21.0x	27.5x
Tangible book value	3.6x	3.0x	3.7x

RBC noted that: (1) ADE's multiples for last twelve months revenue, last twelve months EBITDA and tangible book value implied by the merger consideration were above both the mean and median multiples found in the selected precedent transactions analyzed; and (2) ADE's multiple for last twelve months net income implied by the merger consideration was below the mean multiple and above the median multiple found in the selected precedent transactions analyzed.

Premiums Paid Analysis (Premiums to Price). RBC compared the premiums implied by the merger consideration to the premiums of the selected precedent transactions included in the Precedent Transaction Analysis (see above). RBC also compared the premiums implied by the merger consideration to the premiums in general technology transactions, consisting of public to public technology transactions announced since January 1, 2005 in which the

transaction values were greater than \$100 million and less than \$1 billion. RBC compared the premiums implied by dividing the value of the per share merger consideration by ADE's spot price one day (February 17, 2006), one week (February 10, 2006), one month (January 17, 2006) and three months (November 17, 2005) prior to February 17, 2006,

Table of Contents

the last trading day preceding the finalization of RBC's analysis, to the spot price premiums for the same periods for the targets in the selected transactions. The following table summarizes this analysis:

Spot Premiums Paid Analysis Summary

	Mean				Median			
	One Day	One Week	One Month	Three Months	One Day	One Week	One Month	Three Months
Type of Transactions:								
Selected Precedent Transactions	32.7%	41.1%	36.0%	11.3%	31.3%	33.9%	34.4%	6.0%
General Technology Transactions	21.7%	24.1%	27.9%	NA	18.2%	20.4%	28.3%	NA
ADE (as implied by the merger consideration)	10.6%	7.7%	12.7%	46.8%	10.6%	7.7%	12.7%	46.8%

	Low				High			
	One Day	One Week	One Month	Three Months	One Day	One Week	One Month	Three Months
Type of Transactions:								
Selected Precedent Transactions	5.0%	2.8%	1.1%	(28.1)%	72.4%	88.7%	72.9%	58.5%
General Technology Transactions	(25.4)%	(14.8)%	(25.7)%	NA	83.3%	84.6%	81.5%	NA
ADE (as implied by the merger consideration)	10.6%	7.7%	12.7%	46.8%	10.6%	7.7%	12.7%	46.8%

NA=not available

RBC noted that: (1) due to a recent increase in the trading prices of ADE common stock, the spot one day, one week and one month premiums implied by the merger consideration were below both the mean and median selected precedent transactions and general technology transactions premiums analyzed; (2) the spot three months premium implied by the merger consideration was higher than both the mean and median selected precedent transactions and general technology transactions premiums analyzed; and (3) the spot one day, one week, one month and three months premiums implied by the merger consideration were within the range of the low and high selected precedent transactions and general technology transactions premiums analyzed.

RBC also compared the premiums implied by dividing the value of the per share merger consideration by ADE's average price one week (February 10, 2006), one month (January 17, 2006) and three months (November 17, 2005) prior to February 17, 2006, the last trading day preceding the finalization of RBC's analysis, to the average price premiums for the same periods for the targets in the selected precedent transactions included in Precedent Transactions Analysis above. The following table summarizes this analysis:

Average Premiums Paid Analysis Summary

	Mean			Median		
	One Week	One Month	Three Months	One Week	One Month	Three Months
Type of Transactions:						
Selected Precedent Transactions	35.9%	37.6%	23.8%	35.2%	36.2%	19.6%
ADE (as implied by the merger consideration)	9.6%	6.7%	21.0%	9.6%	6.7%	21.0%

	Low			High		
	One Week	One Month	Three Months	One Week	One Month	Three Months
Type of Transactions:						
Selected Precedent Transactions	3.5%	2.8%	5.7%	65.9%	66.7%	63.3%
ADE (as implied by the merger consideration)	9.6%	6.7%	21.0%	9.6%	6.7%	21.0%

Table of Contents

RBC noted that: (1) due to a recent increase in the trading prices of ADE common stock, the average one week and one month premiums implied by the merger consideration were below both the mean and median selected precedent transactions analyzed; (2) the average three months premium implied by the merger consideration was below the mean and above the median selected precedent transactions premiums analyzed; and (3) the average one week, one month and three months premiums implied by the merger consideration were within the range of the low and high selected precedent transactions premiums analyzed.

In reaching its opinion, RBC did not assign any particular weight to any one analysis or the results yielded by that analysis. Rather, having reviewed these results in the aggregate, RBC exercised its professional judgment in determining that, based on the aggregate of the analyses used and the results they yielded, the merger consideration was fair, from a financial point of view, to ADE stockholders. RBC believed that it was inappropriate to, and therefore did not, rely solely on the quantitative results of the analyses and, accordingly, also made qualitative judgments concerning differences between the characteristics of ADE and the merger and the data selected for use in its analyses, as further discussed below.

No single company or transaction used in the above analyses as a comparison is identical to ADE or KLA-Tencor or the proposed merger, and an evaluation of the results of those analyses is not entirely mathematical. Rather, the analyses involve complex considerations and judgments concerning financial and operating characteristics and other factors that could affect the acquisition, public trading or other values of the companies, businesses, or transactions analyzed. The analyses were prepared solely for purposes of RBC providing an opinion as to the fairness of the merger consideration, from a financial point of view, to ADE's stockholders and do not purport to be appraisals or necessarily reflect the prices at which businesses or securities actually may be sold, which are inherently subject to uncertainty.

The opinion of RBC as to the fairness, from a financial point of view, of the merger consideration, was necessarily based upon market, economic, and other conditions that existed as of the date of its opinion and on information available to RBC as of that date.

The preparation of a fairness opinion is a complex process that involves the application of subjective business judgment in determining the most appropriate and relevant methods of financial analysis and the application of those methods to the particular circumstances. Several analytical methodologies were used by RBC and no one method of analysis should be regarded as critical to the overall conclusion reached. Each analytical technique has inherent strengths and weaknesses, and the nature of the available information may further affect the value of particular techniques. The overall conclusions of RBC were based on all the analyses and factors presented herein taken as a whole and also on application of RBC's own experience and judgment. Such conclusions may involve significant elements of subjective judgment and qualitative analysis. RBC therefore believes that its analyses must be considered as a whole and that selecting portions of the analyses and of the factors considered, without considering all factors and analyses, could create an incomplete or misleading view of the processes underlying its opinion.

In connection with its analyses, RBC made, and was provided by ADE's and KLA-Tencor's managements with, numerous assumptions with respect to industry performance, general business and economic conditions and other matters, many of which are beyond ADE's or KLA-Tencor's control. Analyses based upon forecasts of future results are not necessarily indicative of actual future results, which may be significantly more or less favorable than suggested by these analyses. Because these analyses are inherently subject to uncertainty, being based upon numerous factors or events beyond the control of ADE,

Table of Contents

KLA-Tencor or their advisors, none of ADE, KLA-Tencor, RBC or any other person assumes responsibility if future results or actual values are materially different from these forecasts or assumptions.

ADE selected RBC to render its opinion based on RBC's experience in mergers and acquisitions and in securities valuation generally. RBC is an internationally recognized investment banking firm and is regularly engaged in the valuation of businesses and their securities in connection with mergers and acquisitions, corporate restructurings, underwritings, secondary distributions of listed and unlisted securities, private placements, and valuations for corporate and other purposes. In the ordinary course of business, RBC may act as a market maker and broker in the publicly-traded securities of ADE and KLA-Tencor and receive customary compensation, and may also actively trade securities of ADE and/or KLA-Tencor for its own account and the accounts of its customers, and, accordingly, RBC and its affiliates, may hold a long or short position in such securities.

RBC's engagement letter provides for ADE to pay RBC a customary fee in connection with RBC's opinion, a portion of which was paid upon delivery of the opinion and a portion of which is payable upon the closing of the merger. Whether or not the merger closes, ADE has also agreed to reimburse RBC for its reasonable out-of-pocket expenses and to indemnify it against liability that may arise out of services performed by RBC in connection with the merger, including without limitation, liabilities arising under the federal securities laws. The terms of the engagement letter were negotiated at arm's-length between ADE and RBC and the ADE board of directors was aware of this fee arrangement at the time of its adoption and approval of the merger agreement and approval of the merger.

Material U.S. Federal Income Tax Consequences

General

In the opinion of Davis Polk & Wardwell, counsel to KLA-Tencor, and Sullivan & Worcester LLP, counsel to ADE (together with KLA-Tencor's counsel, referred to as tax counsel), the following are the material U.S. federal income tax consequences of the merger to U.S. Holders (as defined below) of ADE common stock. This discussion is based on the Internal Revenue Code of 1986, as amended, or the Internal Revenue Code, applicable Treasury regulations, administrative interpretations and court decisions as in effect as of the date of this proxy statement/prospectus, all of which may change, possibly with retroactive effect. For purposes of this discussion, a U.S. Holder is a beneficial owner of ADE common stock that is for U.S. federal income tax purposes:

a citizen or resident of the United States;

a corporation, or other entity taxable as a corporation for U.S. federal income tax purposes, created or organized in or under the laws of the United States or of any political subdivision thereof; or

an estate or trust the income of which is subject to U.S. federal income taxation regardless of its source.

This discussion addresses only the consequences of the exchange of shares of ADE common stock held as capital assets. It does not address all aspects of U.S. federal income taxation that may be important to a U.S. Holder in light of that stockholder's particular circumstances or to a U.S. Holder subject to special rules, such as:

a financial institution or insurance company;

a tax-exempt organization;

a dealer or broker in securities;

a stockholder who holds ADE common stock as part of a hedge, appreciated financial position, straddle, conversion or other integrated transaction; or

a stockholder who acquired ADE common stock pursuant to the exercise of compensatory options or otherwise as compensation.

Table of Contents

If a partnership holds ADE common stock, the tax treatment of a partner will generally depend upon the status of the partner and the activities of the partnership. A partner of a partnership holding ADE common stock should consult its tax advisors.

This discussion of material U.S. federal income tax consequences is not a complete analysis or description of all potential U.S. federal income tax consequences of the merger. This discussion does not address tax consequences that may vary with, or are contingent on, individual circumstances. In addition, it does not address any non-income tax or any foreign, state or local tax consequences of the merger. Accordingly, we strongly urge each ADE stockholder to consult his or her own tax advisor to determine the particular U.S. federal, state or local or foreign income or other tax consequences to him or her of the merger.

U.S. Federal Income Tax Consequences of the Transaction***Tax Opinions***

Based on certain representations, covenants and assumptions described below, all of which must continue to be true and accurate in all material respects as of the effective time of the merger, it is the opinion of tax counsel that the merger will be treated for U.S. federal income tax purposes as a reorganization within the meaning of Section 368(a) of the Internal Revenue Code and that KLA-Tencor, South and ADE will each be a party to that reorganization within the meaning of Section 368(b) of the Internal Revenue Code. It is a condition to the obligation of each of KLA-Tencor and ADE to complete the merger that the relevant tax counsel confirm its opinion as of the closing date of the merger. Neither KLA-Tencor nor ADE intends to waive this condition.

The opinions of tax counsel regarding the merger have relied, and the confirmation opinions regarding the merger as of the closing date of the merger, or the closing date opinions, will each rely, on (1) representations and covenants made by KLA-Tencor, South and ADE, including those contained in certificates of officers of KLA-Tencor, South and ADE, and (2) specified assumptions, including an assumption regarding the completion of the merger in the manner contemplated by the merger agreement. In addition, the opinions of tax counsel have assumed, and tax counsel's ability to provide the closing date opinions will depend on, the absence of changes in existing facts or in law between the date of this proxy statement/ prospectus and the closing date of the merger. If any of those representations, covenants or assumptions is inaccurate, tax counsel may not be able to provide the required closing date opinions or the tax consequences of the merger could differ from those described in the opinions that tax counsel have delivered. An opinion of tax counsel neither binds the Internal Revenue Service, or IRS, nor precludes the IRS or the courts from adopting a contrary position. Neither KLA-Tencor nor ADE intends to obtain a ruling from the IRS on the tax consequences of the merger.

U.S. Federal Income Tax Consequences to KLA-Tencor, South and ADE

None of KLA-Tencor, South and ADE will recognize any gain or loss for U.S. federal income tax purposes as a result of the merger.

U.S. Federal Income Tax Consequences to U.S. Holders

A U.S. Holder who receives shares of KLA-Tencor common stock in the merger will not recognize any gain or loss except for any gain or loss recognized with respect to cash received in lieu of a fractional share of KLA-Tencor common stock. U.S. Holders will recognize gain or loss on any cash received in lieu of a fractional share of KLA-Tencor common stock equal to the difference between the amount of cash received in lieu of the fractional share and the portion of the holder's tax basis of the shares of ADE common stock surrendered that is allocable to the fractional share. Such gain or loss generally will be long-term capital gain or loss if the holding period in ADE common stock is more than one year as of the closing date of the merger. Such U.S. Holder will have a tax basis in the KLA-Tencor common stock received in the merger, including any fractional share for which cash is received, equal to the tax basis of the ADE common stock surrendered by that holder in the merger. The holding period for KLA-Tencor

Table of Contents

common stock received in the merger will include the holding period for the ADE common stock surrendered therefor.

Backup Withholding and Information Reporting

Information returns may be filed with the IRS in connection with cash received in lieu of a fractional share of KLA-Tencor common stock pursuant to the merger. Backup withholding at a rate of 28% may apply to a U.S. Holder's receipt of such cash, unless the U.S. Holder furnishes a correct taxpayer identification number and certifies that he or she is not subject to backup withholding. Any amount withheld under the backup withholding rules will be allowed as a refund or credit against the U.S. Holder's U.S. federal income tax liability, provided the required information is furnished to the IRS.

Reporting Requirements

A U.S. Holder will be required to retain records pertaining to the merger and will be required to file with such holder's U.S. federal income tax return for the year in which the merger takes place a statement setting forth facts relating to the merger, including:

the cost or other basis of the shares of ADE common stock transferred in the exchange; and

the fair market value of the KLA-Tencor common stock and the amount of cash in lieu of a fractional share received in the exchange.

Regulatory Matters Relating to the Merger

U.S. Antitrust. Under the Hart-Scott-Rodino Antitrust Improvement Act of 1976, or the HSR Act, as amended, and the rules that have been promulgated thereunder by the FTC, the merger may not be consummated unless KLA-Tencor and ADE provide certain information to the Antitrust Division and the FTC, and specified waiting period requirements have been satisfied. Pursuant to the requirements of the HSR Act, KLA-Tencor and ADE each filed Notification and Report Forms with respect to the merger with the Antitrust Division and the FTC by March 8, 2006. As a result, the waiting period applicable to the merger was scheduled to expire on April 7, 2006. Following discussion with the Antitrust Division staff, however, KLA-Tencor voluntarily withdrew its Notification and Report Form and then re-filed the form on April 11, 2006. The effect of this re-filing was to extend the waiting period under the HSR Act to May 11, 2006. On May 10, 2006, the Antitrust Division staff informed KLA-Tencor and ADE that the Antitrust Division would not issue a second request extending the HSR Act waiting period and granted early termination of the HSR waiting period effective as of such date.

Other Laws. KLA-Tencor and ADE conduct operations in a number of foreign countries. In connection with completion of the merger, KLA-Tencor and ADE have identified the foreign jurisdictions that will require the filing of information with, or the obtaining of approval of, governmental authorities therein. KLA-Tencor and ADE intend to make such filings, and receipt of required approvals in respect of these filings is a condition to the closing of the merger. Some of these filings may not be completed before the closing, and some of these approvals, which are not as a matter of practice required to be obtained prior to effectiveness of a merger, may also not be obtained before the closing.

Federal Securities Laws Consequences; Stock Transfer Restriction Agreements

This proxy statement/prospectus does not cover any resales of the shares of KLA-Tencor common stock to be received by ADE's stockholders upon completion of the merger, and no person is authorized to make any use of this document in connection with this resale.

All shares of KLA-Tencor common stock that ADE stockholders receive in the merger will be freely transferable, with the exception of the shares of KLA-Tencor common stock received by persons who are deemed to be affiliates of ADE under the Securities Act, and the related SEC rules and regulations, at the time of the special meeting. These affiliates may resell their shares of KLA-Tencor common stock only in transactions permitted by Rule 145 under the Securities Act or as otherwise allowed under that

Table of Contents

Act. Persons who may be deemed to be affiliates of ADE for these purposes generally include individuals or entities that control, are controlled by, or are under common control with ADE and may include some officers, directors and principal stockholders of ADE. The merger agreement requires ADE to use reasonable best efforts to deliver or cause to be delivered to KLA-Tencor on or prior to the effective time of the merger from each of those affiliates an executed letter agreement to the effect that those persons will not offer or sell or otherwise dispose of any shares of KLA-Tencor common stock issued to them in the merger in violation of the Securities Act or the related SEC rules and regulations.

Table of Contents**INTERESTS OF CERTAIN PERSONS IN THE MERGER**

When considering the recommendation of ADE's board to vote **FOR** the approval of the ADE merger proposal, ADE stockholders should be aware that some directors and executive officers of ADE have agreements or arrangements that provide them with interests in the merger that are different from, or in addition to, the interests of ADE stockholders. The board of ADE was aware of these interests and considered them, among other matters, during its deliberations with respect to the merger and in deciding to recommend that ADE stockholders vote **FOR** the approval of the ADE merger proposal.

Agreement with Dr. Koliopoulos. Dr. Koliopoulos' agreement with ADE, or the Koliopoulos Agreement, provides that in the event that a change of control transaction (as defined in the Koliopoulos Agreement, which definition covers the merger) occurs or is pending, or Dr. Koliopoulos' employment with ADE terminates on account of his death or disability, all of his unvested options to acquire shares of ADE's common stock will, on the date of and immediately prior to the consummation of the change of control transaction or the termination of Dr. Koliopoulos' employment, accelerate and become immediately exercisable in full for a period of up to two years following the occurrence of such event, regardless of any stock option plan of ADE or any stock option agreement between ADE and Dr. Koliopoulos. As of the date of this proxy statement/prospectus, of the options to purchase 100,000 shares of ADE common stock held by Dr. Koliopoulos, options with respect to 70,000 shares are currently vested, while options to purchase 30,000 shares will become fully vested upon the closing of the merger under the terms of the Koliopoulos Agreement, with an exercise price of \$6.125 per share.

Under the terms of the Koliopoulos Agreement, Dr. Koliopoulos is also entitled to receive severance payments under certain circumstances. If Dr. Koliopoulos' employment terminates (1) for a reason other than cause, his death or disability, or (2) because ADE does not offer to extend the term of the Koliopoulos Agreement for at least one additional year upon expiration of the term of the agreement (ending June 20, 2008), or if Dr. Koliopoulos terminates his employment due to job restructuring which includes a change in his position as the Chief Executive Officer of ADE or a material diminishment of his duties and responsibilities so that they are no longer consistent with the duties and responsibilities of the Chief Executive Officer of ADE (regardless of whether such change in title, duties or responsibilities results from a merger, change of control of ADE, action by ADE's board or otherwise), then all of his compensation and benefits shall terminate on the date of his employment, and ADE (or its successor) will be required, under certain circumstances, to pay to Dr. Koliopoulos severance compensation for 24 months following the termination of this employment at a yearly rate equal to his annualized base salary as of the date of termination. Dr. Koliopoulos' current annual salary is \$407,000. Cause is defined in the Koliopoulos Agreement as (1) a material breach by Dr. Koliopoulos of his obligations under the Koliopoulos Agreement or any other agreement between him and ADE, (2) the willful or knowingly reckless engaging by Dr. Koliopoulos in conduct which is or may be materially financially injurious to ADE, (3) the commission by Dr. Koliopoulos of fraud, embezzlement or theft against ADE or (4) conviction of, or Dr. Koliopoulos' written admission to, a felony.

Agreements with Other Executive Officers. Each of Mr. James, ADE's Executive Vice President, and Mr. David Basila, ADE's Vice President, is a party to an agreement with ADE. Mr. James' agreement, or the James Agreement, provides that in the event that a change of control transaction (as defined in the James Agreement, which definition covers the merger) occurs or is pending, or if Mr. James' employment with ADE terminates on account of his death or disability, his unvested options to acquire shares of ADE's common stock will, on or prior to the consummation of the change of control transaction or the termination of Mr. James' employment, accelerate and become immediately exercisable in full, regardless of any stock option plan of ADE or any stock option agreement between ADE and Mr. James. As of the date of this proxy statement/prospectus, of the options to purchase 170,000 shares of ADE common stock held by Mr. James, options with respect to 158,000 shares are currently vested, while options to purchase 12,000 shares will become fully vested upon the closing of the merger under the terms of the James Agreement, with exercise prices ranging from \$9.795 to \$21.17 per share.

Table of Contents

Under the terms of the James Agreement, Mr. James is also entitled to receive his base salary and remain eligible to participate in ADE's medical and dental plans (to the extent permitted under such plans) for a period of 12 months following the termination of his employment with ADE if (1) his employment is involuntarily terminated by ADE and ADE does not have cause for such termination, or (2) his employment with ADE is constructively terminated. Mr. James' current annual salary is \$319,000. Constructive termination is defined as an involuntary relocation beyond a reasonable commuting distance or a substantial, sustained and material reduction in Mr. James' compensation, title, status, authority or responsibility at ADE, without his consent. Cause is defined in the James Agreement as (1) Mr. James' continued material failure to perform the reasonable and customary duties and responsibilities assigned to him following a 30 day cure period, (2) conduct that is materially detrimental to the business, goodwill or reputation of ADE, (3) conduct that constitutes dishonesty, fraud or other malfeasance, (4) felonious conduct, (5) immoral and/or reprehensible conduct, (6) violation of any provision of the James Agreement or (7) any other action constituting cause under the laws of Massachusetts. Under the James Agreement, ADE is not obligated to make any payments to Mr. James if he resigns (except due to constructive termination) or if he is terminated for cause.

Mr. Basila's agreement provides for the same severance arrangement (12 months of base salary and medical benefits upon a termination with cause or a constructive termination) as set forth in the James Agreement. Mr. Basila's current annual salary is \$231,000. Mr. Basila's agreement does not contain any provision relating to stock options.

Ownership of Common Stock; Stock Options

Security Ownership by ADE Executive Officers and Directors. As of May 17, 2006, directors and executive officers of ADE beneficially owned an aggregate of 4,108,495 shares of ADE common stock, including options to purchase 241,000 shares of ADE common stock exercisable within 60 days of the date of this proxy statement/prospectus. ADE's directors and executive officers have agreed to vote the shares of ADE common stock that they beneficially own in favor of the merger.

The voting agreements to which the ADE directors and executive officers are parties permit gifts of up to 12,000 shares of ADE common stock by each such person prior to the closing of the merger. The voting agreement between Dr. Koliopoulos and KLA entered into in connection with the merger agreement further permits Dr. Koliopoulos to enter into hedging arrangements with respect to the shares of ADE common stock that he beneficially owns, so long as any counterparty to any such hedging arrangement agrees in writing to be bound by the terms of the voting agreement with respect to Dr. Koliopoulos' shares of ADE common stock. See *The Merger Agreement - Voting Agreements* beginning on page 52.

Stock Options. Dr. Koliopoulos and Mr. James hold options to purchase 100,000 shares and 170,000 shares, respectively, of ADE common stock. Mr. Basila does not hold any options to purchase shares of ADE common stock. As described in the section entitled *Treatment of ADE Stock Options*, below, KLA-Tencor will assume all of Dr. Koliopoulos' and Mr. James' outstanding options to purchase ADE common stock in the merger.

Each non-employee director of ADE holds options to purchase (1) 10,000 shares of ADE common stock with an exercise price of \$20.74 per share and (2) 5,000 shares of ADE common stock with an exercise price of \$21.97 per share. Under the terms of the merger agreement, the outstanding stock options held by ADE's non-employee directors (or former directors), whether or not exercisable or vested, will be canceled, and ADE will pay to each director at or promptly after the effective time of the merger for each such stock option an amount in cash determined by multiplying (1) the excess, if any, of (a) 0.64 multiplied by the closing price per share of KLA-Tencor common stock on The Nasdaq National Market on the business day immediately prior to the date of closing of the merger over (b) the applicable exercise price of such stock option by (2) the number of shares of ADE common stock the director could have purchased (assuming full vesting of all options) had such director exercised such stock option in full immediately prior to the effective time of the merger. For example, based on the options held by non-employee directors, as described above, and based on the closing price of \$45.12 per share of KLA-Tencor

Table of Contents

common stock on May 17, 2006, each ADE non-employee director would receive a lump sum payment of \$115,863.60 for his options upon the closing of the merger.

The following table sets forth information regarding beneficial ownership of ADE's common stock as of May 17, 2006, by (1) each ADE director, (2) ADE's chief executive officer and each other executive officer, (3) all ADE directors and executive officers as a group and (4) each other person known to ADE to be the beneficial owner of more than five percent of ADE's common stock on that date.

Name	Shares Beneficially Owned(1)	Percentage of Total
Directors and Executive Officers:		
Harris Clay(2)	885,769	6.1%
Landon T. Clay(3)	1,755,108	12.1%
H. Kimball Faulkner(4)	101,717	*
Chris L. Koliopoulos(5)	843,680	5.8%
Kendall Wright(6)	19,656	*
Brian C. James(7)	160,000	1.1%
David F. Basila(8)	342,565	2.4%
All directors and executive officers as a group (7 persons)(9)	4,108,495	27.9%
Other Five Percent Stockholders:		
Mellon Financial Corporation(10)	1,045,986	7.2%
Private Capital Management, Inc.(11)	2,676,747	18.5%
Royce & Associates, LLC(12)	1,372,800	9.5%

* Less than one percent.

(1) Beneficial ownership of shares for purposes hereof, as determined in accordance with applicable SEC rules, includes shares of common stock as to which a person or entity has or shares voting power and/or investment power. Unless otherwise indicated, each beneficial owner listed above has sole voting and investment power for all of the shares of ADE common stock shown to be beneficially owned by that person or entity. All amounts shown in this column include shares obtainable upon exercise of stock options exercisable within 60 days from the date of this table.

(2) Mr. Clay's address is c/o ADE Corporation, 80 Wilson Way, Westwood, Massachusetts 02090. Includes 2,000 shares of common stock issuable upon exercise of stock options.

(3) Includes 240,000 shares held by the Landon T. Clay Charitable Annuity Lead Trust No. 2, 6,500 shares held by the LTC Corp. Pension and Profit Sharing Plan, 180,000 shares held by the Monadnock Charitable Lead Trust, 13,316 shares held by or on behalf of Mr. Clay's children and 1,000 shares held by the East Hill Hedge Fund. Mr. Clay disclaims beneficial ownership of such shares except to the extent of his pecuniary interest therein. Mr. Clay's address is c/o East Hill Management, 200 Clarendon Street, John Hancock Towers, Suite 6000, Boston, Massachusetts 02116. Also includes 2,000 shares of common stock issuable upon exercise of stock options.

(4) Includes 99,717 shares held in Mr. Faulkner's grantor retained annuity trust for which Mr. Faulkner is a trustee and has shared voting and investment power. Also includes 2,000 shares of common stock issuable to Mr. Faulkner upon exercise of stock options.

- (5) Dr. Koliopoulos address is c/o ADE Corporation, 80 Wilson Way, Westwood, Massachusetts 02090. Includes 75,000 shares of common stock issuable upon exercise of stock options.
- (6) Includes 2,000 shares of common stock issuable upon exercise of stock options.
- (7) Includes 158,000 shares of common stock issuable upon exercise of stock options.
- (8) Includes 248,450 shares of common stock held by SJR Technology L.P., which is beneficially owned by Mr. Basila, his wife and his children.
- (9) Includes an aggregate of 241,000 shares of common stock issuable upon exercise of stock options.

Table of Contents

- (10) Based solely on the most recent Schedule 13G filed by Mellon Financial Corporation, or Mellon, with the SEC on February 15, 2006. The address of Mellon is c/o One Mellon Center, Pittsburgh, Pennsylvania 15258.
- (11) Based solely on the most recent Schedule 13G/ A filed by Private Capital Management, L.P., or PCM, with the SEC on February 14, 2006. Includes 2,618,847 shares held by PCM clients and managed by PCM, as to which PCM, its Chief Executive Officer, Bruce S. Sherman, and its President, Gregg J. Powers, have shared dispositive power. Also includes 54,900 shares as to which Mr. Sherman has sole dispositive power. Messrs. Sherman and Powers disclaim beneficial ownership for the shares held by PCM's clients and disclaim the existence of a group. The address of Private Capital Management, Inc. is 8889 Pelican Bay Blvd., Naples, FL 34108.
- (12) Based solely on the most recent Schedule 13G filed by Royce & Associates, LLC, or Royce, with the SEC on January 10, 2006. The address of Royce is 1412 Avenue of the Americas, New York, NY 10019.

ADE's Directors and Executive Officers

For biographical information regarding ADE's directors and executive officers, information concerning the compensation paid to the chief executive officer and the most highly compensated executive officers of ADE other than the chief executive officer for the 2005 fiscal year, as well as any information regarding certain relationships and related transactions involving ADE's directors and executive officers for the 2005 fiscal year, see ADE's proxy statement used in connection with its 2005 annual meeting of stockholders.

Treatment of ADE Stock Options

At the effective time of the merger, each outstanding option to purchase shares of ADE common stock (other than options held by non-employee directors), whether or not vested or exercisable, will cease to represent a right to acquire shares of ADE common stock and will be converted automatically into an option to purchase shares of KLA-Tencor common stock on substantially the same terms and conditions (including vesting schedule, subject to the Koliopoulos and James Agreements described above) as were applicable to such stock option immediately prior to the effective time of the merger, except that (1) the number of shares of KLA-Tencor common stock subject to each assumed ADE stock option shall be determined by multiplying the number of shares of ADE common stock subject to the stock option by 0.64 (rounded down to the nearest whole share) and (2) the per share exercise price for shares of KLA-Tencor common stock issuable upon exercise of such assumed ADE stock option will be determined by dividing the per share exercise price for the shares of ADE common stock in respect of which the ADE stock option was exercisable immediately prior to the effective time of the merger by 0.64.

Director and Officer Liability

KLA-Tencor is obligated, for six years after the effective time of the merger, to cause the surviving corporation in the merger to indemnify and hold harmless the present and former officers and directors of ADE in respect of acts or omissions occurring at or prior to the effective time of the merger to the fullest extent permitted by Massachusetts law or any other law, or as provided under ADE's articles of organization and bylaws in effect on the date of the merger agreement.

KLA-Tencor is also obligated, for six years after the effective time of the merger, to cause the surviving corporation in the merger to provide officers' and directors' liability insurance in respect of acts or omissions occurring prior to the effective time of the merger covering each present and former officer and director of ADE currently covered by ADE's officers' and directors' liability insurance policy on terms with respect to coverage and amount that are not less favorable than those of the policy that is currently in effect. KLA-Tencor is not obligated to pay an aggregate premium for insurance coverage in excess of 250% of the amount per year that ADE paid in its last full fiscal year.

Table of Contents

THE MERGER AGREEMENT

The following is a summary of the material terms of the merger agreement. This summary does not purport to describe all the terms of the merger agreement and is qualified by reference to the complete merger agreement which is attached as Annex A to this proxy statement/prospectus and incorporated herein by reference. We urge you to read carefully the full text of the merger agreement.

Explanatory Note Regarding Summary of Merger Agreement and Representations and Warranties in the Merger Agreement

The summary of the terms of the merger agreement is intended to provide information about the terms of the merger. The terms and information in the merger agreement should not be relied on as disclosures about KLA-Tencor or ADE without consideration to the entirety of public disclosure by KLA-Tencor and ADE as set forth in all of their respective public reports with the SEC. The terms of the merger agreement (such as the representations and warranties) govern the contractual rights and relationships, and allocate risks, between the parties in relation to the merger. In particular, the representations and warranties made by the parties to each other in the merger agreement have been negotiated between the parties with the principal purpose of setting forth their respective rights with respect to their obligation to close the merger should events or circumstances change or be different from those stated in the representations and warranties. Matters may change from the state of affairs contemplated by the representations and warranties. KLA-Tencor and ADE will provide additional disclosure in their public reports to the extent that they are aware of the existence of any material facts that are required to be disclosed under federal securities law and that might otherwise contradict the terms and information contained in the merger agreement and will update such disclosure as required by federal securities laws.

General. Under the merger agreement, South, a wholly owned subsidiary of KLA-Tencor will merge with and into ADE, with ADE continuing as the surviving corporation. As a result of the merger, ADE will become a wholly owned subsidiary of KLA-Tencor. The merger agreement also provides that the directors of South at the effective time of the merger will be the directors of the surviving corporation, and the officers of ADE will be the officers of the surviving corporation, until, in each case, their respective successors are duly elected or appointed and qualified in accordance with applicable law.

Effective Time of the Merger. As soon as practicable (and no later than on the second business day) after the satisfaction or waiver of the conditions to the merger, South and ADE will file a certificate of merger and articles of merger with the Delaware Secretary of State and the Massachusetts Secretary of the Commonwealth, respectively. The merger will become effective when the certificate of merger and the articles of merger are filed.

Consideration to Be Received in the Merger; Treatment of Stock Options

The merger agreement provides that, at the effective time of the merger:

each share of ADE common stock issued and outstanding immediately prior to the effective time of the merger will be converted into the right to receive 0.64 shares of KLA-Tencor common stock;

except as set forth under the next bullet point, each ADE stock option outstanding under any ADE stock option or compensation plan, agreement or arrangement of ADE at the effective time of the merger will be converted into an option to acquire, on substantially the same terms and conditions previously applicable, shares of KLA-Tencor common stock, except that the number of shares of KLA-Tencor common stock underlying the new KLA-Tencor option will equal the number of shares of ADE common stock for which the corresponding ADE option was exercisable, multiplied by 0.64 (rounded, if necessary, down to the nearest whole share). The per share exercise price of each new KLA-Tencor option will equal the exercise price of the corresponding ADE option divided by 0.64;

Table of Contents

each ADE stock option held by a non-employee director or former director of ADE outstanding at the effective time of the merger will be canceled, and ADE will pay each holder for each such option an amount of cash equal to: the product of (i) the excess, if any, of (A) 0.64 multiplied by the closing price per share of KLA-Tencor on The Nasdaq National Market on the business day immediately prior to the closing date over (B) the exercise price of such option and (ii) the number of shares of ADE common stock the holder could have purchased had such holder exercised such option immediately prior to the effective time of the merger; and

shares of ADE common stock held as treasury stock or owned by ADE, KLA-Tencor or KLA-Tencor's subsidiaries will be cancelled. None of KLA-Tencor or its subsidiaries currently owns any shares of ADE common stock.

For a further discussion of the treatment of ADE stock options and other employee benefit plans under the merger agreement, see **Interests of Certain Persons in the Merger** beginning on page 39.

Exchange of Certificates in the Merger

Prior to the effective time of the merger, KLA-Tencor will appoint an exchange agent to handle the exchange of ADE stock certificates or uncertificated shares of ADE common stock for shares of KLA-Tencor common stock (which shares will be in uncertificated book-entry form unless a physical certificate is requested by such holder) and the payment of cash for fractional shares. Promptly (and in any event within five business days) after the effective time of the merger, the exchange agent will send a letter of transmittal, which is to be used to exchange ADE stock certificates or uncertificated shares of ADE common stock for shares of KLA-Tencor common stock, to each former ADE stockholder. The letter of transmittal will contain instructions explaining the procedure for surrendering ADE stock certificates or transferring uncertificated ADE common stock.

ADE stockholders who surrender their stock certificates, together with a properly completed letter of transmittal, or transfer their uncertificated shares of ADE common stock, will receive shares of KLA-Tencor common stock (which shares will be in uncertificated book-entry form unless a physical certificate is requested by such holder) into which the shares of ADE common stock were converted in the merger. After the effective date of the merger, each certificate or uncertificated share that previously represented shares of ADE common stock will only represent the right to receive the shares of KLA-Tencor common stock (and cash in lieu of fractions thereof) into which those shares of ADE common stock have been converted.

After the completion of the merger, KLA-Tencor will not (1) make any cash payment in lieu of fractional shares or (2) pay any dividends or other distributions with a record date after the effective time of the merger to any holder of any ADE stock certificates or uncertificated shares of ADE common stock until the holder surrenders the ADE stock certificates or transfers the uncertificated shares of ADE common stock. However, once those certificates are surrendered or those uncertificated shares are transferred, KLA-Tencor will pay to the holder, without interest, (1) the amount of cash payable in lieu of fractional shares to which such holder is entitled and any dividends or other distributions with a record date after the effective date of the merger previously paid or payable on the date of such surrender with respect to such securities, and (2) at the appropriate payment date, the amount of dividends or other distributions with a record date after the effective time of the merger and prior to surrender or transfer and with a payment date subsequent to surrender or transfer payable with respect to such securities.

KLA-Tencor stockholders do not need to exchange their stock certificates.

Fractional Shares

No fractional shares of KLA-Tencor common stock will be issued in the merger. Instead, the exchange agent will pay each of those stockholders who would have otherwise been entitled to a fractional share of KLA-Tencor common stock an amount in cash determined by multiplying the fractional share

Table of Contents

interest by the closing price for a share of KLA-Tencor common stock on The Nasdaq National Market on the business day immediately prior to the date of the effective time of the merger.

Listing of KLA-Tencor Common Stock

KLA-Tencor has agreed to use its best efforts to cause the shares of KLA-Tencor common stock to be issued in the merger and the shares of KLA-Tencor common stock to be reserved for issuance upon exercise of the ADE stock options to be approved for listing on The Nasdaq National Market, subject to official notice of issuance, prior to the effective time of the merger. KLA-Tencor's symbol KLAC will be used for such shares, assuming the listing application is approved. Approval for listing on The Nasdaq National Market of the shares of KLA-Tencor common stock issuable to the ADE stockholders in the merger, subject only to official notice of issuance, is a condition to the obligations of KLA-Tencor and ADE to complete the merger.

Covenants

KLA-Tencor and ADE have each undertaken certain covenants in the merger agreement concerning the conduct of their respective businesses between the date the merger agreement was signed and the completion of the merger. The following summarizes the more significant of these covenants:

No Solicitation. ADE has agreed that it and its subsidiaries, officers, directors, employees, investment bankers, attorneys, accountants, consultants or other agents or advisors will not, directly or indirectly:

solicit, initiate or take any action that could reasonably be expected to facilitate or encourage the submission of any acquisition proposal;

enter into or participate in any discussions or negotiations with, furnish any nonpublic information relating to ADE or any of its subsidiaries or afford access to the business, properties, assets, books or records of ADE or any of its subsidiaries to, otherwise cooperate in any way with, or knowingly assist, participate in, facilitate or encourage any effort by, any third party that a person acting in good faith would reasonably believe is seeking to make, or has made, an acquisition proposal, except to notify such third party as to the existence of these provisions;

fail to make when required, withdraw or modify in a manner adverse to KLA-Tencor its recommendation of the merger that the ADE stockholders approve the merger proposal (or recommend an acquisition proposal or take any action or make any public statement inconsistent with such recommendation);

grant any third party any waiver or release under any standstill or similar agreement with respect to any class of equity securities of ADE or any of its subsidiaries; or

enter into any agreement in principle, letter of intent, term sheet or other similar instrument relating to an acquisition proposal.

The merger agreement provides that the term "acquisition proposal" means, other than the transactions contemplated by the merger agreement, any offer, proposal or inquiry relating to, or any third party indication of interest in, (1) any acquisition or purchase, direct or indirect, of 20% or more of the consolidated assets of ADE and its subsidiaries or 20% or more of any class of equity or voting securities of ADE or any of its subsidiaries whose assets, individually or in the aggregate, constitute more than 20% of the consolidated assets of ADE, (2) any tender offer (including a self-tender offer) or exchange offer that, if consummated, would result in such third party beneficially owning 20% or more of any class of equity or voting securities of ADE or (3) a merger, consolidation, share exchange, business combination, reorganization, recapitalization, liquidation, dissolution or other similar transaction involving ADE or any of its subsidiaries that, if consummated, would result in such third party or its stockholders beneficially owning 20% or more of any class of equity or voting securities of ADE or the surviving entity in such transaction.

Table of Contents

The merger agreement also provides that, notwithstanding the foregoing, prior to receiving the approval of the ADE stockholders in connection with the merger, ADE's board of directors, directly or indirectly through advisors, agents or other intermediaries, may:

engage in negotiations or discussions with any third party or the third party's representatives that has made a bona fide, unsolicited written acquisition proposal that ADE's board of directors reasonably believes will lead to a superior proposal;

thereafter furnish to such third party nonpublic information relating to ADE or any of its subsidiaries pursuant to a confidentiality agreement with terms no less favorable to the ADE than those contained in the confidentiality agreement dated as of September 23, 2005 between ADE and KLA-Tencor;

following a determination by ADE's board of directors that such acquisition proposal is a superior proposal, make an adverse recommendation change; and/or

take any action ordered by a court of competent jurisdiction;

provided, that in each case above ADE must provide KLA-Tencor with prior written notice of its decision to take such action and in each of the first three cases above ADE's board of directors must determine in good faith after consultation with its outside legal counsel that the failure to take such action would be inconsistent with its fiduciary duties under applicable law.

Under the terms of the merger agreement, a superior proposal means any bona fide, unsolicited written acquisition proposal (with the references to 20% or more contained therein being replaced with 75% or more) on terms that ADE's board of directors determines in good faith by a majority vote, after considering the advice of ADE's financial advisor and taking into account all the terms and conditions of the acquisition proposal, including any break-up fees, expense reimbursement provisions and conditions to consummation, are more favorable and provide greater value to ADE's stockholders than as provided under the merger agreement and the transactions contemplated thereby and for which financing, if a cash transaction, is then fully committed or reasonably determined to be available by ADE's board of directors.

ADE is permitted to take any actions in order to comply with Rule 14e-2(a) or Rule 14d-9 under the Exchange Act with regard to an acquisition proposal, except that ADE's board of directors may not recommend that ADE's stockholders tender shares of capital stock in connection with any tender or exchange offer unless ADE's board of directors determines in good faith by a majority vote, after considering advice from its outside legal counsel that the failure to take such action would be inconsistent with its fiduciary duties under applicable law.

Covenant to Recommend. ADE has agreed that its board of directors will recommend approval of the merger proposal to the ADE stockholders.

However, ADE's board is permitted to withdraw or to modify or to qualify in a manner adverse to KLA-Tencor such recommendation of the merger, before receipt of the approval of ADE's stockholders if:

following receipt of a bona fide written acquisition proposal with respect to which its board of directors reasonably believes in good faith by majority vote, after consultation with its outside legal counsel, there is a reasonable likelihood that such acquisition proposal could result in a superior proposal; and

ADE's board of directors determines in good faith that the failure to effect a change in its recommendation of the merger could be reasonably expected to result in a breach of its fiduciary duties under applicable law.

Operations of ADE Pending Closing. ADE has undertaken a covenant that places restrictions on it and its subsidiaries until either the effective time of the merger or the termination of the merger agreement. In general, ADE and its subsidiaries are required to conduct their business in the ordinary course consistent with past practice and to use reasonable best efforts to preserve intact their business

Table of Contents

organizations and relationships with third parties and to keep available the services of their present officers and employees.

ADE has agreed that, except as required by law, it will not do any of the following:

enter into any contract, agreement, lease, license, note, bond, mortgage, indenture, guarantee, other evidence of indebtedness or other instrument, obligation or commitment as specified in the merger agreement;

adopt or propose to adopt any change to ADE's articles of organization or bylaws;

reclassify, recapitalize, split, combine, exchange or readjust any shares of capital stock of ADE;

declare, set aside or pay any dividend or other distribution with respect to any shares of capital stock of ADE, or repurchase, redeem or otherwise acquire any outstanding shares of capital stock or other securities of, or other ownership interests in, ADE or any of its subsidiaries;

issue, sell, pledge, dispose of, grant, or encumber, except in each case as permitted by the merger for issuances of shares upon the exercise of existing options or under ADE's employee stock purchase plan or grants of a limited number of stock options:

any shares of its capital stock of any class;

any options, warrants, convertible securities or other rights to acquire any shares of such capital stock; or

any other ownership interest of ADE or any of its subsidiaries;

amend any material term of any outstanding security of ADE or any of its subsidiaries;

grant severance or termination pay or increase employee benefits or compensation above limits set forth in the merger agreement;

enter into any plan or agreement of merger or consolidation involving ADE or any of its subsidiaries, or involving any acquisition by ADE or any of its subsidiaries of a material amount of stock or assets of any other entity;

sell or otherwise dispose of any material subsidiary or sell, lease, license or otherwise dispose of any assets, securities or property in each case material to ADE and its subsidiaries, on a consolidated basis, except either pursuant to existing contracts or commitments or in the ordinary course consistent with past practice;

incur, assume or guarantee any material indebtedness for borrowed money;

create or otherwise incur any lien on any asset of ADE or any of its subsidiaries;

make any loan, advance or capital contribution in excess of \$1,000,000 to or investment in any entity;

change any method of accounting or accounting principles or practice by ADE or any of its subsidiaries, except for any such change required by reason of a concurrent change in Generally Accepted Accounting Principles, or GAAP, or Regulation S-X under the Exchange Act; or

authorize, agree or commit to do any of the foregoing.

Reasonable Best Efforts Covenant. KLA-Tencor and ADE have agreed to use their reasonable best efforts to take all actions and do all things necessary, proper or advisable under applicable laws to complete the merger and the other

transactions contemplated thereby, including:

to prepare and to file as promptly as practicable with any governmental authority or other third party all documentation to effect all necessary filings, notices, petitions, statements, registrations, submissions of information, applications and other documents;

Table of Contents

to obtain and to maintain all required approvals, consents, registrations, permits, authorizations and other confirmations from any governmental authority or other third party that are necessary, proper or advisable to consummate the transactions contemplated by the merger agreement;

to defend any lawsuits or other proceedings challenging the merger agreement; and

to satisfy the conditions to closing.

ADE and KLA-Tencor will cooperate with each other in connection with the making of all such filings, including providing copies of all such documents to the non-filing party and its advisors prior to filing and, if requested, to accept all reasonable additions, deletions or changes suggested in connection therewith. ADE and KLA-Tencor will use their respective reasonable efforts to furnish to each other all information required for any application or other filing to be made pursuant to the rules and regulations of any applicable law in connection with the transactions contemplated by the merger agreement.

Other Covenants. The merger agreement contains certain other covenants, including covenants relating to access to information and cooperation between KLA-Tencor and ADE in the preparation of this proxy statement/ prospectus and other governmental filings, public announcements and certain tax matters.

KLA-Tencor has also agreed to indemnify present and former directors and officers of ADE to the fullest extent permitted by applicable law for a period of six years after the effective time of the merger and to provide officers and directors liability insurance covering such persons for acts and omissions occurring prior to the effective time of the merger (subject to limitations on increases in the premium). In addition, for a period of one year, KLA-Tencor has agreed to provide benefits to ADE employees who continue their employment with ADE after the merger that are similar to the benefits such employees received prior to the merger.

Representations and Warranties

The merger agreement contains a number of representations and warranties with respect to KLA-Tencor and ADE. The representations and warranties are subject, in some cases, to specified exceptions and qualifications.

Reciprocal representations and warranties relate to, among other things:

corporate existence, qualification to conduct business and corporate standing and power;

corporate authority to enter into, and carry out the obligations under, the merger agreement and enforceability of the merger agreement;

absence of a breach of the certificate of incorporation or articles of organization, bylaws, law or material agreements as a result of the merger;

filings with the SEC, disclosure controls and procedures, internal control over financial reporting and financial statements;

the absence of outstanding loans or other extensions of credit by ADE or KLA-Tencor or their respective subsidiaries to any executive officer or director of ADE or KLA-Tencor, respectively, and compliance with Section 402 of the Sarbanes-Oxley Act of 2002;

information supplied for use in this proxy statement/ prospectus;

compliance with laws;

payment of fees to finders or brokers in connection with the merger agreement;

certain tax matters;

governmental authorization; and

absence of undisclosed material liabilities.

Table of Contents

Additional representations and warranties made by ADE relate to, among other things:

the unanimous approval by its board of directors of the merger agreement and the transactions contemplated by the merger agreement;

its capitalization, including in particular the number of shares of ADE common stock and stock options outstanding;

corporate existence, qualification to conduct business, corporate standing and power and capitalization of its subsidiaries;

the absence of certain changes to ADE or its subsidiaries or events not in the ordinary course consistent with past practices since April 30, 2005 through the date of the merger agreement;

the absence of any violation of any applicable law and court order which could reasonably be expected to have a material adverse effect and to the knowledge of ADE, absence of any investigation or threat or notice of such violation;

the absence of any action, suit or proceeding pending that could reasonably be expected to have a material adverse effect or that challenges or seeks to prevent, enjoin, alter or materially delay the merger or any of the transactions contemplated by the merger agreement;

the significant contractual agreements to which ADE or any of its subsidiaries is a party;

certain tax representations;

employment and labor matters;

the absence of interested party transactions;

opinion of its financial advisor;

its intellectual property;

its properties and assets;

certain environmental matters with respect to ADE; and

actions related to antitakeover statutes.

The additional representations and warranties made by KLA-Tencor relate to, among other things, the ownership of South, the absence of any business activity by the South other than as contemplated by the merger agreement, and the absence of the necessity for KLA-Tencor's stockholders to approve the merger proposal.

Conditions to the Merger

Conditions to the Obligations of both KLA-Tencor and ADE

The companies' respective obligations to complete the merger are subject to the satisfaction of the following conditions:

the approval of the merger proposal by the ADE stockholders in accordance with Massachusetts law;

the absence of any applicable law that will prohibit the consummation of the merger;

the expiration or termination of any applicable waiting period under the HSR Act relating to the merger;

the SEC having declared effective the KLA-Tencor registration statement, of which this proxy statement/prospectus forms a part, and the absence of any stop order or effectiveness of such registration statement and the absence of any pending or threatened proceedings by the SEC; and

Table of Contents

the approval for listing on The Nasdaq National Market of the shares of KLA-Tencor common stock to be issued in connection with the merger, subject to official notice of issuance.

Conditions to the Obligations of KLA-Tencor and South

KLA-Tencor's and South's obligations to complete the merger are subject to the satisfaction or waiver prior to the effective time of the merger of the following conditions:

ADE's performance in all material respects of all covenants that it is required to perform pursuant to the merger agreement;

as of the effective time of the merger (other than representations and warranties that are made as of a specified date, which need only be accurate as of such specified date), the accuracy of (1) ADE's representations and warranties which are not qualified as to materiality or material adverse effect and (2) ADE's representations and warranties which are qualified as to materiality or material adverse effect, disregarding such qualifications and exceptions, in each case, except for such inaccuracies as have not and would not reasonably be expected to have over a commercially reasonable period of time (which period of time shall not be less than one year), individually or in the aggregate, a material adverse effect on ADE;

the absence of any instituted or pending action or proceeding by any governmental authority:

challenging or seeking to make illegal, to delay materially or otherwise directly or indirectly to restrain or prohibit the consummation of the merger or seeking to obtain material damages relating to the transactions contemplated by the merger;

seeking to restrain or prohibit KLA-Tencor's, South's or any of KLA-Tencor's other affiliates' (1) ability effectively to exercise full rights of ownership of ADE common stock, or (2) ownership or operation (or that of its respective subsidiaries or affiliates) of all or any material portion of the business or assets of ADE and its subsidiaries, taken as a whole, or of KLA-Tencor and its subsidiaries, taken as a whole; or

seeking to compel KLA-Tencor and its subsidiaries or affiliates to dispose of or hold separate all or any material portion of the business or assets of ADE and its subsidiaries, taken as a whole, or of KLA-Tencor and its subsidiaries, taken as a whole;

the receipt by KLA-Tencor of an opinion of Davis Polk & Wardwell to the effect that the merger will qualify as a tax-free reorganization, dated the effective time of the merger; and

ADE having not suffered from any event, change or development which, individually or in the aggregate, has had or would reasonably be expected to have a material adverse effect.

Conditions to the Obligations of ADE

ADE's obligations to complete the merger are subject to the satisfaction or waiver prior to the effective time of the merger of the following conditions:

KLA-Tencor's and South's performance in all material respects of all covenants that they are required to perform pursuant to the merger agreement;

as of the effective time of the merger (other than representations and warranties that are made as of a specified date, which need only be accurate as of such specified date), the accuracy of (1) KLA-Tencor's and South's representations and warranties which are not qualified as to materiality or material adverse effect and (2) KLA-Tencor's and South's representations and warranties which are qualified as to materiality or material adverse effect, disregarding such qualifications and exceptions, in each case, except for such inaccuracies as have not and would not reasonably be expected to have, individually or in the aggregate, a material adverse effect on KLA-Tencor; and

Table of Contents

the receipt by ADE of an opinion of Sullivan & Worcester LLP to the effect that the merger will qualify as a tax-free reorganization, dated the effective time of the merger.

Termination

KLA-Tencor's board of directors and ADE's board of directors may jointly agree to terminate the merger agreement at any time before completing the merger. In addition, the merger agreement may be terminated by either KLA-Tencor or ADE if:

the merger has not been completed by the date that is 75 days after the effectiveness of the registration statement, except that if, on such date, all conditions to the merger have been satisfied or waived other than the conditions relating to antitrust approvals, then the date will be automatically extended to November 22, 2006, such date being referred to as the end date;

there is any permanent legal prohibition to consummating the merger; or

the merger proposal is not approved by ADE's stockholders at the special meeting.

KLA-Tencor may also terminate the merger agreement if:

ADE's board of directors withdraws, modifies or changes its approval of the merger agreement and the transactions contemplated thereby or its recommendation of the merger to its stockholders;

ADE enters into, or publicly announces its intention to enter into, a definitive agreement or an agreement in principle with respect to a superior proposal;

ADE breaches any representation, warranty, covenant or agreement under the merger agreement and such breach causes any condition to KLA-Tencor's obligations to complete the merger to not be satisfied and to be incapable of being satisfied by the end date; or

ADE willfully and materially breaches its obligations not to solicit acquisition proposals or other offers. See The Merger Agreement - No Solicitation above.

ADE may also terminate the merger agreement if:

KLA-Tencor or South breaches any of their respective representations, warranties, covenants or agreements under the merger agreement and such breach causes any condition to ADE's obligations to complete the merger to not be satisfied and to be incapable of being satisfied by the end date; or

prior to receiving the approval of its stockholders of the merger agreement and the transactions contemplated thereby, ADE's board of directors authorizes ADE to terminate the merger agreement to enter into an agreement with respect to a superior proposal, except that ADE cannot terminate the merger agreement for this reason unless (1) ADE provides KLA-Tencor with three business day advance written notice of its intent to terminate the merger agreement, including the material terms and conditions of the superior proposal, (2) KLA-Tencor, within three business days of receiving such notice from ADE, does not make an offer that the board of directors of ADE determines, in good faith after consultation with its financial advisors, is at least as favorable to the ADE stockholders as the transaction as set forth in such written notice (and ADE will not enter into any such binding, definitive agreement during such three business day period) and (3) ADE pays KLA-Tencor the fee described in The Merger Agreement - Termination Fee Payable by ADE below at or prior to such termination.

If the merger agreement is validly terminated, the agreement will become void without any liability on the part of any party unless the party is in willful breach thereof. However, some provisions of the merger agreement including those relating to termination fees and expenses, as well as the confidentiality agreement entered into between KLA-Tencor and ADE, will continue in effect notwithstanding termination of the merger agreement.

Table of Contents

Termination Fee Payable by ADE

ADE has agreed to pay KLA-Tencor a fee of \$15 million if the merger agreement is terminated:

by KLA-Tencor if ADE's board of directors withdraws, modifies or changes its approval of the merger agreement or its recommendation of the merger to its stockholders;

by KLA-Tencor if ADE enters into, or publicly announces its intention to enter into, a definitive agreement or an agreement in principle with respect to a superior proposal;

by KLA-Tencor if ADE has willfully and materially breached its obligations not to solicit acquisition proposals or other offers; and

by ADE if at any time prior to receiving the approval of the merger proposal by ADE's stockholders, ADE enters into a definitive agreement with respect to a superior proposal by a third party;

by KLA-Tencor or ADE following the failure of the merger to be completed by the end date, provided that prior to the end date, an acquisition proposal was made with respect to ADE and within 12 months following the termination of the merger agreement, ADE consummates an alternative business combination; or

by KLA-Tencor or ADE following the failure by ADE's stockholders to approve the merger proposal at the special meeting, provided that prior to the special meeting, an acquisition proposal was made with respect to ADE and within 12 months following the termination of the merger agreement, ADE consummates an alternative business combination.

For purposes of this proxy statement/prospectus, the term "alternative business combination" means any of the following transactions (other than the transactions contemplated by the merger agreement): (1) ADE merges with or into, or is acquired, directly or indirectly, by merger or otherwise by, a third party; (2) a third party, directly or indirectly, acquires more than 50% of the total assets of ADE and its subsidiaries, taken as a whole; (3) a third party, directly or indirectly, acquires more than 50% of the outstanding shares of ADE common stock; or (4) ADE adopts or implements a plan of liquidation, recapitalization or share repurchase relating to more than 50% of the outstanding shares of ADE common stock or an extraordinary dividend relating to more than 50% of such outstanding shares or 50% of the assets of ADE and its subsidiaries, taken as a whole.

Other Expenses

All costs and expenses incurred in connection with the merger agreement and the transactions contemplated thereby, other than termination fees payable upon termination under "The Merger Agreement - Termination Fee Payable by ADE" described above, will be paid by the party incurring such expenses.

Amendments; Waivers

Any provision of the merger agreement may be amended or waived before the effective time of the merger if, but only if, the amendment or waiver is in writing and signed, in the case of an amendment, by each party to the merger agreement or, in the case of a waiver, by each party against whom the waiver is to be effective, provided that, after approval of the merger proposal by ADE stockholders and without their further approval, no amendment or waiver shall reduce the amount or change the kind of consideration to be received in exchange for shares of ADE common stock.

Voting Agreements

As a condition to KLA-Tencor's and South's entering into the merger agreement, the directors and executive officers of ADE entered into voting agreements with KLA-Tencor. By entering into the voting agreements, these parties have agreed to vote shares of ADE stock that they beneficially own in favor of

Table of Contents

the merger proposal. They have also granted KLA-Tencor their proxies, with the limited right to vote such parties shares beneficially owned as of February 22, 2006 in favor of the merger proposal.

The ADE stockholders who are parties to the voting agreements have agreed to certain limitations on their ability to sell, transfer or otherwise dispose of a portion of any shares of KLA-Tencor common stock received in connection with the merger, except that the voting agreements permit these parties to donate up to 12,000 shares to a charity. Such shares would not be subject to the provisions of the voting agreement. In addition, the voting agreement between KLA-Tencor and Dr. Koliopoulos permits certain hedging arrangements, provided that any counterparty to any such hedging arrangement will, as a condition to such transaction, agree in writing to be bound by the terms of such voting agreement.

As of February 22, 2006, the ADE stockholders who are party to the voting agreements collectively beneficially owned shares representing 27.9% of the votes attributable to outstanding shares of ADE s common stock.

None of the ADE stockholders who are parties to the voting agreements were paid additional consideration in connection with the voting agreements.

In addition, each of the parties to the voting agreements has agreed not to and not to permit any of its agents to in any way (1) solicit or initiate any proposal for an alternative acquisition or (2) engage in negotiations with, or disclose any nonpublic information relating to ADE or afford access to information regarding ADE or its subsidiaries to any person that may be considering making or who has made a proposal for an alternative acquisition. The parties to the voting agreements further agreed to keep KLA-Tencor fully informed of the status and details of any proposal for an alternative acquisition of which such party is aware.

The voting agreements will terminate upon the earlier to occur of the termination of the merger agreement and the completion of the merger. The form of voting agreement entered into by each of the parties to the voting agreements is an exhibit to the registration statement of which this proxy statement/ prospectus forms a part, and you are urged to read it in its entirety.

No Dissenters or Appraisal Rights

ADE stockholders are not entitled to any dissenters or appraisal rights in connection with the merger.

Table of Contents

ACCOUNTING TREATMENT OF THE MERGER

The merger will be accounted for in accordance with U.S. GAAP using the purchase method of accounting. KLA-Tencor will establish a new accounting basis for the assets and liabilities of ADE based on their fair values, the value of the consideration deemed to be provided to ADE's stockholders in connection with the merger and the costs of the merger. KLA-Tencor will record as goodwill the excess, if any, of the consideration paid, including the fair value of liabilities assumed, over the fair values of ADE's assets (including identifiable intangible assets) and liabilities. A final determination of required purchase accounting adjustments, including the allocation of consideration to the assets acquired and liabilities assumed, based on their respective fair values, has not yet been made. KLA-Tencor will undertake to determine the fair value of certain of ADE's assets and liabilities (as so adjusted) and will make appropriate purchase accounting adjustments upon the completion of that determination. For financial reporting purposes, the results of operations of ADE will be included in KLA-Tencor's consolidated statement of income following the completion of the merger. KLA-Tencor's financial statements for prior periods will not be restated as a result of the merger or related transactions.

INFORMATION ABOUT THE ADE SPECIAL MEETING AND VOTING

ADE's board of directors is using this proxy statement/prospectus to solicit proxies from the stockholders of ADE at the special meeting. This proxy statement/prospectus is first being mailed to ADE stockholders on or about May 23, 2006.

This proxy statement/prospectus contains important information regarding the special meeting, the proposals on which you are being asked to vote, information you may find useful in determining how to vote and voting procedures.

Date, Time and Place of the Special Meeting

The special meeting will be held on June 29, 2006 at 10:00 a.m., Eastern time, at ADE's corporate headquarters located at 80 Wilson Way, Westwood, Massachusetts.

Purpose of the Special Meeting

The purpose of the special meeting is:

1. To approve the Agreement and Plan of Merger, dated as of February 22, 2006, among KLA-Tencor, ADE and South, a copy of which is attached as Annex A to this proxy statement/prospectus. This proposal is referred to in this proxy statement/prospectus as the merger proposal;
2. To permit ADE's board of directors or its chairman in its or his discretion, to adjourn or postpone the special meeting if necessary for further solicitation of proxies if there are not sufficient votes at the originally scheduled time of the special meeting to approve the merger proposal; and
3. To act upon such other matters as may properly come before the special meeting.

Stockholder Record Date for the Special Meeting

ADE's board of directors has fixed the close of business on May 17, 2006 as the record date for determining which ADE stockholders are entitled to notice of, and to vote at, the special meeting. On the record date, there were 14,496,061 shares of ADE common stock outstanding, held by approximately 83 holders of record.

During the period beginning on May 25, 2006 through the time of the special meeting, ADE will keep a list of stockholders entitled to vote at the special meeting available for inspection during normal business hours at its offices in Westwood, Massachusetts, for any purpose germane to the special meeting. The list of stockholders will also be provided and kept at the location of the special meeting for the duration of the special meeting, and may be inspected by any stockholder who is present.

Table of Contents

Quorum; Vote Required for Each Proposal

Quorum. A majority of the shares of ADE common stock outstanding on the record date must be represented, either in person or by proxy, to constitute a quorum at the special meeting. Proxies marked as abstentions and broker non-votes will be used in determining the number of shares present at the special meeting. At the special meeting, each share of ADE common stock is entitled to one vote on all matters properly submitted to ADE stockholders.

Proposal Number One: The affirmative vote of the holders of at least 66²/₃ % of the outstanding shares of ADE common stock outstanding on the record date is required to approve the ADE merger proposal.

Proposal Number Two: The affirmative vote of the holders of a majority of the shares of ADE common stock present at the special meeting in person or by proxy and entitled to vote on the proposal is required to permit ADE's board of directors or its chairman, in its or his discretion, to adjourn or postpone the special meeting if necessary to solicit further proxies in favor of the ADE merger proposal.

ADE's board of directors unanimously recommends that ADE stockholders vote FOR each of the proposals. Shares Beneficially Owned by ADE Directors and Executive Officers

The directors and executive officers of ADE beneficially owned and were entitled to vote, or shared the right to vote, 4,108,495 shares of ADE common stock, or approximately 27.9% of the total outstanding shares of ADE common stock on the record date, and each of them has indicated his or her intention, and has agreed, to vote **FOR** each of the proposals. See The Merger Agreement Voting Agreements beginning on page 52.

Voting Procedures

ADE stockholders may vote by returning the enclosed proxy card by mail or in person at the special meeting. All shares of ADE common stock represented by properly executed proxy cards received before or at the special meeting will be voted in accordance with the instructions indicated on those proxy cards.

If no instructions are indicated on a properly executed proxy, the shares will be voted **FOR** each of the proposals. You are urged to sign and return the proxy card even if you plan to attend the special meeting. In this way, your shares will be voted even if you are unable to attend the special meeting.

If a properly executed proxy card is returned and the stockholder has abstained from voting on one or more of the proposals, the ADE common stock represented by the proxy will be considered present at the special meeting for purposes of determining a quorum and entitled to vote on the abstained proposal or proposals.

If you received more than one proxy card, that indicates your shares are held in more than one account. Please sign and return all proxy cards to be sure that all your shares are voted for you by the individuals named on the proxy card.

If your shares are held in an account at a brokerage firm or bank, you must instruct them on how to vote your shares. If an executed proxy card is returned by a broker or bank holding shares that indicates that the broker or bank does not have discretionary authority to vote on the proposals, the shares will be considered present at the special meeting for purposes of determining the presence of a quorum, but will not be considered to be entitled to vote on the proposals. Your broker or bank will vote your shares only if you provide instructions on how to vote by following the information provided to you by your broker.

Failure to vote and broker non-votes for the ADE merger proposal will have the same effect as a vote against the merger proposal at the special meeting, but no effect on the proposal to grant discretionary authority to ADE's board of directors or its chairman to adjourn the special meeting to further solicit proxies in favor of the merger proposal. Abstentions will have the effect of a vote against both proposals.

Table of Contents

Revoking Your Proxy

You may change your vote or revoke your proxy at any time before it is voted at the meeting. In order to do this, you must: (1) sign and return another proxy at a later date, OR (2) give written permission to the Clerk of ADE at or before the special meeting at 80 Wilson Way, Westwood MA 02090, OR (3) attend the special meeting and vote in person. Any one of these actions will revoke an earlier proxy from you. Merely attending the special meeting will not constitute revocation of your proxy. If your shares are held in street name by your broker, you will need to contact your broker to revoke your proxy.

Voting Confidentiality

Proxies, ballots and voting tabulations are handled on a confidential basis to protect your voting privacy. Information will not be disclosed except as required by law.

Adjournment or Postponement

If Proposal Number Two is approved at the special meeting, ADE may adjourn or postpone the special meeting if necessary to solicit further proxies for the ADE merger proposal. In addition, ADE may adjourn or postpone the special meeting as set forth in ADE's articles of organization or bylaws or as otherwise permitted by law.

Other Business

ADE is not aware of any business to be acted on at the special meeting, except as described in this proxy statement/ prospectus. If any other matters are properly presented at the special meeting, or any adjournment or postponement of the special meeting, the persons appointed as proxies or their substitutes will have discretion to vote or act on the matter according to their best judgment and according to their best judgment and applicable law unless the proxy indicates otherwise.

Solicitation of Proxies

Proxies may be solicited by directors, officers and employees of ADE and also by representatives of KLA-Tencor by mail, by telephone, in person or otherwise. They will receive no additional compensation for any solicitation efforts. In addition, ADE will request banks, brokers and other custodians, nominees and fiduciaries to forward proxy materials to the beneficial owners of ADE common stock and obtain voting instructions from the beneficial owners. ADE will reimburse those firms for their reasonable expenses in forwarding proxy materials and obtaining voting instructions.

ADE has hired The Altman Group, Inc. to assist in obtaining proxies from its stockholders on a timely basis. ADE will pay The Altman Group a fee of \$7,500, plus additional fees for additional services if they are provided and plus its reasonable expenses for these services.

ADE stockholders should not send in any stock certificates with their proxy card. If you are an ADE stockholder, a transmittal letter with instructions for the surrender of your ADE stock certificates will be mailed to you as soon as practicable after consummation of the merger.

Table of Contents**COMPARISON OF STOCKHOLDER RIGHTS**

In connection with the merger, ADE stockholders will be exchanging shares of ADE common stock, a Massachusetts corporation, for shares of KLA-Tencor common stock, a Delaware corporation. Massachusetts law and Delaware law differ in many respects, as do the provisions of ADE's articles of organization and bylaws and KLA-Tencor's certificate of incorporation and bylaws. ADE's stockholders are urged to carefully read the relevant provisions of Massachusetts and Delaware law, as well as ADE's articles of organization and bylaws and KLA-Tencor's certificate of incorporation and bylaws, which are available upon request. See "Where You Can Find More Information" beginning on page 63. It is not practical to summarize all of the differences that could materially affect the rights of ADE stockholders as holders of shares of KLA-Tencor common stock following the merger. However, a summary of the material differences includes the following:

	ADE Stockholder Rights	KLA-Tencor Stockholder Rights
Authorized Capital Stock:	The authorized capital stock of ADE consists of (a) 25,000,000 shares of common stock, par value \$0.01 per share, and (b) 1,000,000 shares of preferred stock, par value \$1.00 per share.	The authorized capital stock of KLA-Tencor consists of (a) 500,000,000 shares of common stock, par value \$0.001 per share, and (b) 1,000,000 shares of preferred stock, par value \$0.001 per share.
Classified Board of Directors:	ADE's entire board of directors is elected annually.	KLA-Tencor's board of directors is divided into three classes, each as nearly equal in number as possible, with each class being elected every three years to a three-year term.
Size of Board of Directors:	The number of ADE's directors is currently set at five.	The number of KLA-Tencor directors is currently set at nine.
Removal of Directors:	ADE directors may be removed from office by a stockholder vote at any time, with or without cause, but only by the approval of at least 80% of the outstanding shares of ADE common stock. A director may also be removed for cause by the majority of the directors then in office.	KLA-Tencor directors may be removed from office by a stockholder vote at any time, but only with cause, and only by the approval of at least a majority of the outstanding shares of KLA-Tencor common stock.
Nominations of Directors at Annual Meetings:	An ADE stockholder may nominate an individual for election as a director by sending written notice to ADE no later than 90 days prior to the anniversary date of the immediately preceding annual meeting.	A KLA-Tencor stockholder may nominate an individual for election as a director by sending written notice to KLA-Tencor no later than 120 days prior to the anniversary date of the immediately preceding annual meeting, except in certain cases.
Annual Meeting Proposals:	An ADE stockholder who intends to present a proposal at ADE's annual	An KLA-Tencor stockholder who intends to present a proposal at

meeting and who intends to conduct
his or her own proxy solicitation
must submit

KLA-Tencor's annual meeting and
who intends to conduct his or her
own proxy solicitation

Table of Contents

ADE Stockholder Rights

KLA-Tencor Stockholder Rights

the proposal so it is received by ADE no later than 45 calendar days before the first anniversary of the date that ADE first mailed its proxy materials for the previous year's annual meeting.

must submit the proposal so it is received by KLA-Tencor no later than 120 calendar days before the first anniversary of the date that KLA-Tencor first mailed its proxy materials for the previous year's annual meeting.

Calling of Special Meeting of Stockholders:

Holders of at least 40% of the outstanding shares of ADE common stock may call a special meeting of stockholders.

KLA-Tencor's stockholders may not call a special meeting of stockholders.

Amendment of Charter:

An amendment to the ADE articles of organization requires the approval of ADE's board and the affirmative vote of the holders of at least 66²/₃ % of the outstanding shares of ADE common stock, except in circumstances relating to changes in authorized stock or to ADE's name, where only the affirmative vote of the holders of a majority of the outstanding shares of ADE common stock is required.

An amendment to the KLA-Tencor certificate of incorporation requires the approval of KLA-Tencor's board of directors and the affirmative vote of the holders of a majority of the outstanding shares of KLA-Tencor common stock.

Amendment of Bylaws:

ADE's bylaws may be amended either by the affirmative vote of the holders of a majority of the outstanding shares of ADE common stock, or by the affirmative vote of a majority of ADE's board of directors.

KLA-Tencor's bylaws may be amended either by the affirmative vote of the holders of a majority of the outstanding shares of KLA-Tencor common stock, or by the affirmative vote of a majority of KLA-Tencor's board of directors.

Any action taken by ADE's board with respect to ADE's bylaws may be amended, repealed or reinstated by the affirmative vote of the holders of at least a majority of the outstanding shares of ADE common stock, except that the affirmative vote of the holders of at least 80% of the outstanding shares of ADE common stock is required to amend any provision inconsistent with, or repeal any bylaw provisions relating

Any action taken by KLA-Tencor's board with respect to KLA-Tencor's bylaws may be amended, repealed or reinstated by the affirmative vote of the holders of at least a majority of the outstanding shares of KLA-Tencor common stock.

to the number of directors, director terms, nomination of directors, director vacancies, removal of directors and amendments to ADE s bylaws.

Table of Contents

ADE Stockholder Rights

KLA-Tencor Stockholder Rights

Approval of a Merger or Sale of All or Substantially All Assets:

Mergers and consolidations, as well as a sale of all or substantially all assets, must be approved both by the board of directors and holders of at least 66²/₃ % of the outstanding shares of ADE common stock.

Mergers and consolidations, as well as a sale of all or substantially all assets, must be approved both by the board of directors and by holders of a majority of the outstanding shares of KLA-Tencor common stock.

Business Combinations Statute:

ADE is governed by Chapter 110F of the Massachusetts General Laws which generally prohibits ADE from engaging in business combinations with interested stockholders (defined generally as the owner, together with associates and affiliates, of 5% or more of the outstanding voting stock) for a period of three years after the date on which the person becomes an interested stockholder unless (1) the interested stockholder obtains prior board approval before becoming an interested stockholder, (2) the interested stockholder acquires 90% of ADE's outstanding voting stock at the time the person becomes an interested stockholder, or (3) the business combination is approved by both the board of directors and holders of at least 66²/₃ % of the outstanding voting stock.

KLA-Tencor is governed by Section 203 of Delaware General Corporation Law which generally prohibits KLA-Tencor from engaging in business combinations with interested stockholders (defined generally as the owner, together with associates and affiliates, of 15% or more of the outstanding voting stock) for a period of three years after the date in which the person becomes an interested stockholder unless (1) the interested stockholder obtains prior board approval before becoming an interested stockholder, (2) the interested stockholder acquires 85% of KLA-Tencor's outstanding voting stock at the time the person becomes an interested stockholder, or (3) the business combination is approved by both the board of directors and holders of at least 66²/₃% of the outstanding voting stock.

The KLA-Tencor certificate of incorporation provides that certain business combinations with an interested stockholder or affiliate of an interested stockholder require, in addition to any vote required by law, the affirmative vote of at least 80% of the holders of the outstanding shares of KLA-Tencor's common stock, unless such transactions have been approved by a majority of disinterested directors.

Dissenters Rights:

Dissenters' rights are available to dissenting stockholders of ADE

Dissenters' rights are available to dissenting stockholders of KLA-

with respect to certain (1) sales,
leases or exchanges of substantially
all of ADE's property or assets,
(2) mergers

Tencor in connection with a statutory
merger or consolidation in certain
specified situations.

Table of Contents

ADE Stockholder Rights

KLA-Tencor Stockholder Rights

and consolidations, (3) share exchanges and (4) amendments to ADE's articles of organization.

Dissenters' rights are not available in connection with a merger in which (1) all stockholders are to receive only (a) cash for their shares in amounts equal to what they would receive upon a dissolution of ADE or (b) marketable securities of the surviving corporation and/or cash and (2) no director, officer or controlling stockholder has a direct or indirect material financial interest in the merger (other than as a stockholder or director).

Dissenters' rights are not available to KLA-Tencor stockholders (1) with respect to a merger or consolidation if such stockholders receive only shares which are either listed on a national securities exchange or designated as a national market system security on an inter-dealer quotation system by the National Association of Securities Dealers, Inc. or are held of record by more than 2,000 holders, except in certain circumstances, or (2) surviving a merger if no vote of the stockholders of the surviving corporation is required to approve the merger. In addition, dissenters' rights are not available if KLA-Tencor acquires another business through the issuance of its stock (a) in exchange for the assets of the business to be acquired, (b) in exchange for the outstanding stock of the corporation to be acquired, or (c) in a merger of the corporation to be acquired with a subsidiary of the acquiring corporation.

Fiscal Year:

ADE's fiscal year ends on April 30.

KLA-Tencor's fiscal year ends on June 30.

Dividends:

ADE has never declared or paid dividends to its stockholders.

KLA-Tencor currently pays a quarterly dividend to its stockholders. See Summary Comparative Per Share Market Price and Dividend Information beginning on page 12.

Table of Contents

DESCRIPTION OF KLA-TENCOR CAPITAL STOCK

The following summary of the material terms of the capital stock of KLA-Tencor is not meant to be complete and is qualified by reference to the relevant provisions of Delaware law and the KLA-Tencor amended and restated certificate of incorporation and bylaws. Please see the section entitled "Where You Can Find More Information" beginning on page 63.

Authorized Capital Stock

Under the KLA-Tencor amended and restated certificate of incorporation, KLA-Tencor's authorized capital stock consists of 500,000,000 shares of KLA-Tencor common stock, \$0.001 par value per share, and 1,000,000 shares of preferred stock, \$0.001 par value per share.

KLA-Tencor Common Stock

As of May 17, 2006, there were 198,824,477 shares of KLA-Tencor common stock and zero shares of KLA-Tencor preferred stock issued and outstanding. KLA-Tencor common stock is listed on The Nasdaq National Market under the symbol "KLAC".

KLA-Tencor Common Stock Outstanding. The outstanding shares of KLA-Tencor common stock are, and the shares of KLA-Tencor common stock issued under the merger will be, duly authorized, validly issued, fully paid and non-assessable.

Voting Rights. The holders of KLA-Tencor common stock are entitled to one vote per share on all matters to be voted upon by the stockholders, except as required by law. The stockholders do not have a right to take action by written consent nor may they cumulate votes in connection with the election of directors.

Dividend Rights. Subject to preferences that may be applicable to any outstanding preferred stock, the holders of KLA-Tencor common stock are entitled to receive ratably such dividends, if any, as may be declared from time to time by the board of directors out of funds legally available therefor. See the section of this proxy statement/prospectus entitled "Summary Comparative Per Share Market Price and Dividend Information" beginning on page 12 for a discussion of KLA-Tencor's dividend policy.

Rights Upon Liquidation. In the event of a liquidation, dissolution or winding up of KLA-Tencor, the holders of KLA-Tencor common stock are entitled to share ratably in all assets remaining after payment of liabilities, subject to prior rights of preferred stock, if any, then outstanding.

Preemptive Rights. Holders of KLA-Tencor common stock have no preemptive right to purchase, subscribe for or otherwise acquire any unissued or treasury shares or other securities. There are no redemption or sinking fund provisions applicable to the KLA-Tencor common stock.

KLA-Tencor Preferred Stock

Blank Check Preferred Stock. KLA-Tencor has 1,000,000 shares of preferred stock authorized, of which, as of May 17, 2006, no shares were outstanding. Under the amended and restated KLA-Tencor certificate of incorporation, KLA-Tencor's board of directors is authorized, subject to any limitations prescribed by Delaware law, to provide for the issuance of the shares of preferred stock in series, to establish from time to time the number of shares to be included in each such series, and to fix the designation, powers, preferences, and rights of the shares of each such series and any qualifications, limitations or restrictions thereof. The number of authorized shares of preferred stock may be increased or decreased (but not below the number of shares then outstanding) by the affirmative vote of the holders of a majority of the then outstanding shares of KLA-Tencor common stock, unless a vote of the holders of KLA-Tencor preferred stock, or of any series of preferred stock, is also required by the certificate or certificates establishing such series.

Table of Contents

LEGAL MATTERS

Davis Polk & Wardwell, counsel to KLA-Tencor, will pass on the validity of the KLA-Tencor common shares to be issued to ADE stockholders in the merger. It is a condition to the completion of the merger that KLA-Tencor and ADE receive opinions from Davis Polk & Wardwell and Sullivan & Worcester LLP, counsel to ADE, respectively, to the effect that, among other things, the merger will be a reorganization for federal income tax purposes. See the sections of this proxy statement/ prospectus entitled "The Merger Agreement - Conditions to the Merger" beginning on page 49 and "The Proposed Merger - Material U.S. Federal Income Tax Consequences" beginning on page 35.

EXPERTS

The consolidated financial statements of KLA-Tencor and management's assessment of the effectiveness of internal control over financial reporting (which is included in Management's Report on Internal Control over Financial Reporting) incorporated in this proxy statement/prospectus by reference to the Annual Report on Form 10-K for the year ended June 30, 2005 have been so incorporated in reliance on the report of PricewaterhouseCoopers LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

The consolidated financial statements of ADE and management's assessment of the effectiveness of internal control over financial reporting (which is included in Management's Report on Internal Control over Financial Reporting) incorporated in this proxy statement/prospectus by reference to the Annual Report on Form 10-K for the year ended April 30, 2005 have been so incorporated in reliance on the report of PricewaterhouseCoopers LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

KLA-Tencor and ADE file annual, quarterly and special reports, proxy statements and other information with the SEC. You may read and copy any reports, statements or other information filed at the SEC's public reference rooms located at 100 F Street, N.E., Washington D.C. 20549 and at Northwest Atrium Center, 5000 West Madison Street, Suite 1400, Chicago, Illinois 60661-2511, U.S.A. Please call the SEC at 1-800-SEC-0330 for further information on the public reference rooms. KLA-Tencor's and ADE's SEC filings are also available to the public from commercial document retrieval services and at the web site maintained by the SEC at www.sec.gov.

STOCKHOLDER PROPOSALS FOR ADE'S 2006 ANNUAL MEETING

ADE's 2006 Annual Meeting of Stockholders will be held only if the merger is not consummated. If ADE's 2006 Annual Meeting of Stockholders is held, stockholder proposals must be received by ADE no later than April 21, 2006 in order to be considered for inclusion in the Proxy Statement for ADE's 2006 Annual Meeting of Stockholders. A stockholder who intends to present a proposal at ADE's 2006 Annual Meeting of Stockholders and who intends to conduct his or her own proxy solicitation must submit the proposal so it is received by ADE no later than July 5, 2006. Proposals should be sent to the attention of the President at ADE's offices at 80 Wilson Way, Westwood, Massachusetts 02090.

Stockholder nominations for election to the board at the 2006 Annual Meeting of Stockholders must be submitted to ADE by June 23, 2006 and must include (1) the name and address of the stockholder who intends to make the nomination and of the person or persons to be nominated; (2) a representation that the stockholder is a holder of record of stock of ADE entitled to vote at such meeting and intends to appear in person or by proxy at the meeting to nominate the person or persons specified in the notice; (3) a description of all arrangements or understandings between the stockholder and each nominee and any other person or persons (naming such person or persons) pursuant to which the nomination or nominations are to be made by the stockholder; (4) such other information regarding each nominee proposed by such stockholder as would be required to be included in a proxy statement filed pursuant to the proxy rules of the SEC; and (5) the consent of each nominee to serve as a director of ADE if so elected.

Table of Contents**WHERE YOU CAN FIND MORE INFORMATION**

KLA-Tencor has filed a registration statement on Form S-4 to register with the SEC the KLA-Tencor common stock to be issued to ADE common stockholders upon completion of the merger. This proxy statement/ prospectus is a part of that registration statement and constitutes a prospectus of KLA-Tencor in addition to being a proxy statement of ADE for its special meeting. As allowed by SEC rules, this proxy statement/ prospectus does not contain all the information you can find in the registration statement or the exhibits to the registration statement.

The SEC allows the companies to incorporate by reference information into this proxy statement/ prospectus, which means that important information can be disclosed to you by referring you to another document filed separately with the SEC. The information incorporated by reference is deemed to be part of this proxy statement/ prospectus, except for any information superseded by information in, or incorporated by reference in, this proxy statement/ prospectus. This proxy statement/ prospectus incorporates by reference the documents set forth below that have previously been filed with the SEC. These documents contain important information about the companies and their financial performance.

**KLA-Tencor SEC Filings
(File No. 000-9992)**

	Period
Annual Report on Form 10-K	Fiscal year ended June 30, 2005
Quarterly Reports on Form 10-Q	Quarters ended September 30, 2005, December 31, 2005 and March 31, 2006
Current Reports on Form 8-K	Filed on July 28, 2005 (Item 5.02 and corresponding Exhibit 99.1 press release only), August 4, 2005, September 27, 2005, September 29, 2005, November 7, 2005, November 8, 2005, November 17, 2005, January 9, 2006, January 24, 2006, February 22, 2006, February 23, 2006, April 11, 2006, May 10, 2006 and May 11, 2006
Description of KLA-Tencor Common Stock from Registration Statement on Form 8-A	Filed on March 29, 1989

**ADE SEC Filings
(File No. 000-26714)**

	Period
Annual Report on Form 10-K	Fiscal year ended April 30, 2005
Quarterly Reports on Form 10-Q	Quarters ended July 31, 2005, October 31, 2005 and January 31, 2006
Current Reports on Form 8-K	Filed on May 23, 2005, September 23, 2005, October 14, 2005, February 23, 2006 and May 11, 2006

We are also incorporating by reference additional documents that KLA-Tencor and ADE file with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act between the date of this proxy statement/ prospectus and the date of the special meeting. The information incorporated by reference is an important part of this proxy statement/ prospectus. Any statement in a document incorporated by reference into this proxy statement/ prospectus will be deemed to be modified or superseded for purposes of this proxy statement/ prospectus to the extent a statement contained in this or any other subsequently filed document that is incorporated by reference into this proxy statement/ prospectus modifies or supersedes

Table of Contents

such statement. Any statement so modified or superseded will be not deemed, except as so modified or superseded, to constitute a part of this proxy statement/ prospectus.

KLA-Tencor has supplied all information contained or incorporated by reference in this proxy statement/ prospectus relating to KLA-Tencor, and ADE has supplied all information relating to ADE.

You may already have been sent some of the documents incorporated by reference, but you can obtain any of them from us or the SEC. Documents incorporated by reference are available from us without charge, excluding all exhibits, unless we have specifically incorporated by reference an exhibit in this proxy statement/prospectus. Stockholders may obtain these documents incorporated by reference by requesting them in writing or by telephone from the appropriate party at the following address:

KLA-Tencor Corporation
160 Rio Robles
San Jose, California 95134
Phone Number: (408) 875-3000
ADE Corporation
80 Wilson Way
Westwood, Massachusetts 02090
Phone Number: (781) 467-3500
or
The Altman Group, Inc.
1200 Wall Street West
3rd Floor
Lyndhurst, New Jersey 07071
Holders: (800) 581-5204
Banks/Brokers: (201) 806-7300

If you would like to request documents from us, please do so by June 22, 2006 to receive them before the special meeting. We shall send the documents by first-class mail within one business day of receiving your request.

You can also get more information by visiting KLA-Tencor's web site at www.kla-tencor.com and ADE's website at www.ade.com. Website materials are not part of this proxy statement/prospectus.

You should rely only on the information contained or incorporated by reference in this proxy statement/prospectus to vote on the merger proposal. We have not authorized anyone to provide you with information that is different from what is contained in this document. This proxy statement/prospectus is dated May 23, 2006. You should not assume that the information in it is accurate as of any date other than that date, and neither its mailing to stockholders nor the issuance of KLA-Tencor common shares in the merger shall create any implication to the contrary.

Table of Contents

ANNEX A

The merger agreement has been included to provide you with information regarding its terms. It is not intended to provide any other factual information about KLA-Tencor or ADE. The terms and other information in the merger agreement should not be relied upon as disclosure about KLA-Tencor or ADE without consideration of the entirety of KLA-Tencor's and ADE's public disclosure as set forth in their respective public filings with the Securities and Exchange Commission. KLA-Tencor's and ADE's other public disclosure can be found elsewhere in this proxy statement/ prospectus and in the other public filings that KLA-Tencor and ADE makes with the Securities and Exchange Commission, which are available without charge at www.sec.gov.

The merger agreement contains representations and warranties KLA-Tencor and ADE made to each other for purposes of allocating contractual risk among the parties to the agreement. The assertions embodied in those representations and warranties are qualified by information in confidential disclosure schedules that KLA-Tencor and ADE have exchanged in connection with signing the merger agreement. The disclosure schedules contain information that modifies, qualifies and creates exceptions to the representations and warranties set forth in the attached merger agreement. Accordingly, you should not rely on the representations and warranties as characterizations of the actual state of facts, since they are modified by the underlying disclosure schedules and may be subject to standards of materiality that differ from those applicable to investors. Neither KLA-Tencor nor ADE believe that the disclosure schedules contain information that the securities laws require either or both of them to publicly disclose. Moreover, information concerning the subject matter of the representations and warranties may have changed since the date of the agreement, which subsequent information may or may not be fully reflected in KLA-Tencor's or ADE's respective public disclosures.

AGREEMENT AND PLAN OF MERGER
dated as of
February 22, 2006
among
KLA-TENCOR CORPORATION,
ADE CORPORATION
and
SOUTH ACQUISITION CORPORATION

Table of Contents**TABLE OF CONTENTS**

		Page
	<u>ARTICLE 1</u>	
	<u>Definitions</u>	
<u>Section 1.01.</u>	<u>Definitions</u>	A-1
<u>Section 1.02.</u>	<u>Other Definitional and Interpretative Provisions</u>	A-5
	<u>ARTICLE 2</u>	
	<u>The Merger</u>	
<u>Section 2.01.</u>	<u>The Merger</u>	A-5
<u>Section 2.02.</u>	<u>Conversion of Shares</u>	A-6
<u>Section 2.03.</u>	<u>Surrender and Payment</u>	A-6
<u>Section 2.04.</u>	<u>Stock Options</u>	A-7
<u>Section 2.05.</u>	<u>Adjustments</u>	A-8
<u>Section 2.06.</u>	<u>Fractional Shares</u>	A-9
<u>Section 2.07.</u>	<u>Withholding Rights</u>	A-9
<u>Section 2.08.</u>	<u>Lost Certificates</u>	A-9
	<u>ARTICLE 3</u>	
	<u>The Surviving Corporation</u>	
<u>Section 3.01.</u>	<u>Articles of Organization</u>	A-9
<u>Section 3.02.</u>	<u>Bylaws</u>	A-9
<u>Section 3.03.</u>	<u>Directors and Officers</u>	A-9
	<u>ARTICLE 4</u>	
	<u>Representations and Warranties of the Company</u>	
<u>Section 4.01.</u>	<u>Corporate Existence and Power</u>	A-9
<u>Section 4.02.</u>	<u>Corporate Authorization</u>	A-10
<u>Section 4.03.</u>	<u>Governmental Authorization</u>	A-10
<u>Section 4.04.</u>	<u>Non-Contravention</u>	A-10
<u>Section 4.05.</u>	<u>Capitalization</u>	A-10
<u>Section 4.06.</u>	<u>Subsidiaries</u>	A-11
<u>Section 4.07.</u>	<u>SEC Filings and the Sarbanes-Oxley Act</u>	A-11
<u>Section 4.08.</u>	<u>Financial Statements</u>	A-12
<u>Section 4.09.</u>	<u>Disclosure Documents</u>	A-12
<u>Section 4.10.</u>	<u>Absence of Certain Changes</u>	A-13
<u>Section 4.11.</u>	<u>No Undisclosed Material Liabilities</u>	A-14
<u>Section 4.12.</u>	<u>Compliance with Laws and Court Orders</u>	A-14
<u>Section 4.13.</u>	<u>Litigation; Investigations</u>	A-14
<u>Section 4.14.</u>	<u>Agreements, Contracts and Commitments</u>	A-15
<u>Section 4.15.</u>	<u>Finders Fees</u>	A-16
<u>Section 4.16.</u>	<u>Opinion of Financial Advisor</u>	A-16
<u>Section 4.17.</u>	<u>Interested Party Transactions</u>	A-16
<u>Section 4.18.</u>	<u>Intellectual Property</u>	A-16
<u>Section 4.19.</u>	<u>Taxes</u>	A-17
<u>Section 4.20.</u>	<u>Tax Treatment</u>	A-18
<u>Section 4.21.</u>	<u>Properties and Assets</u>	A-18

Section 4.22.

Employee Benefit Plans

A-19

A-i

Table of Contents

		Page
<u>Section 4.23.</u>	<u>Environmental Matters</u>	A-20
<u>Section 4.24.</u>	<u>Antitakeover Statutes</u>	A-21
<u>ARTICLE 5</u>		
<u>Representations and Warranties of Parent and Merger Subsidiary</u>		
<u>Section 5.01.</u>	<u>Corporate Existence and Power</u>	A-21
<u>Section 5.02.</u>	<u>Corporate Authorization</u>	A-21
<u>Section 5.03.</u>	<u>Governmental Authorization</u>	A-21
<u>Section 5.04.</u>	<u>Non-Contravention</u>	A-21
<u>Section 5.05.</u>	<u>SEC Filings and the Sarbanes-Oxley Act</u>	A-22
<u>Section 5.06.</u>	<u>Financial Statements</u>	A-23
<u>Section 5.07.</u>	<u>No Undisclosed Material Liabilities</u>	A-23
<u>Section 5.08.</u>	<u>Disclosure Documents</u>	A-23
<u>Section 5.09.</u>	<u>Finders Fees</u>	A-23
<u>Section 5.10.</u>	<u>Tax Treatment</u>	A-23
<u>Section 5.11.</u>	<u>Ownership of Merger Subsidiary; No Prior Activities</u>	A-23
<u>Section 5.12.</u>	<u>No Stockholder Vote Required</u>	A-24
<u>ARTICLE 6</u>		
<u>Covenants of the Company</u>		
<u>Section 6.01.</u>	<u>Conduct of the Company</u>	A-24
<u>Section 6.02.</u>	<u>Stockholder Meeting; Proxy Material</u>	A-25
<u>Section 6.03.</u>	<u>No Solicitation; Other Offers</u>	A-25
<u>Section 6.04.</u>	<u>Access to Information</u>	A-27
<u>Section 6.05.</u>	<u>Tax Matters</u>	A-27
<u>ARTICLE 7</u>		
<u>Covenants of Parent</u>		
<u>Section 7.01.</u>	<u>Obligations of Merger Subsidiary</u>	A-28
<u>Section 7.02.</u>	<u>Voting of Shares</u>	A-28
<u>Section 7.03.</u>	<u>Director and Officer Liability</u>	A-28
<u>Section 7.04.</u>	<u>Stock Exchange Listing</u>	A-28
<u>Section 7.05.</u>	<u>Blue Sky Laws</u>	A-29
<u>Section 7.06.</u>	<u>Employee Benefits Plans</u>	A-29
<u>ARTICLE 8</u>		
<u>Covenants of Parent and the Company</u>		
<u>Section 8.01.</u>	<u>Reasonable Best Efforts</u>	A-29
<u>Section 8.02.</u>	<u>Certain Filings</u>	A-30
<u>Section 8.03.</u>	<u>Public Announcements</u>	A-31
<u>Section 8.04.</u>	<u>Further Assurances</u>	A-31
<u>Section 8.05.</u>	<u>Notices of Certain Events</u>	A-31
<u>Section 8.06.</u>	<u>Tax-Free Reorganization</u>	A-31
<u>Section 8.07.</u>	<u>Affiliates</u>	A-32
<u>Section 8.08.</u>	<u>Certain Section 16 Matters</u>	A-32

Table of Contents

	Page
<u>ARTICLE 9</u>	
<u>Conditions to the Merger</u>	
<u>Section 9.01.</u>	<u>Conditions to the Obligations of Each Party</u> A-32
<u>Section 9.02.</u>	<u>Conditions to the Obligations of Parent and Merger Subsidiary</u> A-32
<u>Section 9.03.</u>	<u>Conditions to the Obligations of the Company</u> A-33
<u>ARTICLE 10</u>	
<u>Termination</u>	
<u>Section 10.01.</u>	<u>Termination</u> A-34
<u>Section 10.02.</u>	<u>Effect of Termination</u> A-35
<u>ARTICLE 11</u>	
<u>Miscellaneous</u>	
<u>Section 11.01.</u>	<u>Notices</u> A-35
<u>Section 11.02.</u>	<u>Survival of Representations and Warranties</u> A-36
<u>Section 11.03.</u>	<u>Amendments and Waivers</u> A-36
<u>Section 11.04.</u>	<u>Expenses</u> A-36
<u>Section 11.05.</u>	<u>Disclosure Schedule References</u> A-37
<u>Section 11.06.</u>	<u>Binding Effect; Benefit; Assignment</u> A-37
<u>Section 11.07.</u>	<u>Governing Law</u> A-37
<u>Section 11.08.</u>	<u>Jurisdiction</u> A-37
<u>Section 11.09.</u>	<u>WAIVER OF JURY TRIAL</u> A-37
<u>Section 11.10.</u>	<u>Counterparts; Effectiveness</u> A-37
<u>Section 11.11.</u>	<u>Entire Agreement</u> A-38
<u>Section 11.12.</u>	<u>Severability</u> A-38
<u>Section 11.13.</u>	<u>Specific Performance</u> A-38
Schedule A	Company Disclosure Schedule
Exhibit A	Form of Voting Agreement
Exhibit B	Form of Rule 145 Letter
Exhibit C	Form of Parent Tax Representations Letter
Exhibit D	Form of Company Tax Representations Letter

Table of Contents

AGREEMENT AND PLAN OF MERGER

AGREEMENT AND PLAN OF MERGER (this **Agreement**) dated as of February 22, 2006 among KLA-Tencor Corporation, a Delaware corporation (**Parent**), ADE Corporation, a Massachusetts corporation (the **Company**), and South Acquisition Corporation, a Delaware corporation and a wholly-owned subsidiary of Parent (**Merger Subsidiary**).

WHEREAS, upon the terms and subject to the conditions of this Agreement, Parent and the Company will enter into a business combination transaction pursuant to which Merger Subsidiary will merge with and into the Company;

WHEREAS, concurrently with the execution of this Agreement, and as a condition and inducement to Parent's and Merger Subsidiary's willingness to enter into this Agreement, each Person listed on Annex A hereto shall enter into a voting agreement in the form attached hereto as Exhibit A;

NOW, THEREFORE, in consideration of the foregoing and the mutual covenants and agreements herein contained, the parties hereto agree as follows:

ARTICLE 1
Definitions

Section 1.01. *Definitions.* (a) As used herein, the following terms have the following meanings:

Acquisition Proposal means, other than the transactions contemplated by this Agreement, any offer, proposal or inquiry relating to, or any Third Party indication of interest in, (i) any acquisition or purchase, direct or indirect, of 20% or more of the consolidated assets of the Company and its Subsidiaries or 20% or more of any class of equity or voting securities of the Company or any of its Subsidiaries whose assets, individually or in the aggregate, constitute more than 20% of the consolidated assets of the Company, (ii) any tender offer (including a self-tender offer) or exchange offer that, if consummated, would result in such Third Party beneficially owning 20% or more of any class of equity or voting securities of the Company or (iii) a merger, consolidation, share exchange, business combination, reorganization, recapitalization, liquidation, dissolution or other similar transaction involving the Company or any of its Subsidiaries that, if consummated, would result in such Third Party or its stockholders beneficially owning 20% or more of any class of equity or voting securities of the Company or the surviving entity in such transaction.

Affiliate means, with respect to any Person, any other Person directly or indirectly controlling, controlled by, or under common control with such Person.

Applicable Law means, with respect to any Person, any Law that is binding upon or applicable to such Person.

Business Day means a day, other than Saturday, Sunday or other day on which commercial banks in New York, New York are authorized or required by Applicable Law to close.

Closing Date means the date of the Closing.

Code means the Internal Revenue Code of 1986, as amended.

Company Balance Sheet means the consolidated balance sheet of the Company as of April 30, 2005, and the footnotes thereto set forth in the Company 10-K.

Company Balance Sheet Date means April 30, 2005.

Company Common Stock means the common stock, \$0.01 par value per share, of the Company.

Company Disclosure Schedule means the Company Disclosure Schedule attached hereto as Schedule A.

Table of Contents

Company Stock Option Plans means the Company's 2000 Employee Stock Option Plan, 1997 Employee Stock Option Plan and 1995 Stock Option Plan, in each case as amended.

Company 10-K means the Company's annual report on Form 10-K for the fiscal year ended April 30, 2005.

Delaware Law means the General Corporation Law of the State of Delaware.

Environmental Laws means any Applicable Laws or any agreement with any Governmental Authority or other third party, relating to human health and safety, the environment or to Hazardous Substances.

Environmental Permits means all permits, licenses, franchises, certificates, approvals and other similar authorizations of Governmental Authorities relating to or required by Environmental Laws and affecting, or relating to, the business of the Company or any Subsidiary as currently conducted.

ERISA means the Employee Retirement Income Security Act of 1974.

ERISA Affiliate of any entity means any other entity that, together with such entity, would be treated as a single employer under Section 414 of the Code.

Exchange Ratio means 0.64.

GAAP means generally accepted accounting principles in the United States.

Governmental Authority means any transnational, domestic or foreign federal, state or local, governmental authority, department, court, agency or official, including any political subdivision thereof.

Hazardous Substance means any pollutant, contaminant, waste or chemical or any toxic, radioactive, ignitable, corrosive, reactive or otherwise hazardous substance, waste or material, or any substance, waste or material having any constituent elements displaying any of the foregoing characteristics, including any substance, waste or material regulated under any Environmental Law.

HSR Act means the Hart-Scott-Rodino Antitrust Improvements Act of 1976.

Intellectual Property shall mean the rights associated with trademarks, service marks, trade names, and internet domain names, together with registrations and applications related to the foregoing; patents and industrial design registrations or applications (including any continuations, divisionals, continuations-in-part, renewals, reissues, re-examinations and applications for any of the foregoing); rights in works of authorship protected by copyright for E.U. design registrations; copyrights (including any registrations and applications for any of the foregoing); rights in mask works and trade secrets and other confidential information, know-how, proprietary processes, formulae, algorithms, models and methodologies.

International Plan means any employment, severance or similar contract or arrangement (whether or not written) or any plan, policy, fund, program or arrangement or contract providing for severance, insurance coverage (including any self-insured arrangements), workers' compensation, disability benefits, supplemental unemployment benefits, vacation benefits, pension or retirement benefits or for deferred compensation, profit-sharing, bonuses, stock options, stock appreciation rights or other forms of incentive compensation or post-retirement insurance, compensation or benefits that (i) is not an Employee Plan, (ii) is entered into, maintained, administered or contributed to by the Company or any of its Affiliates and (iii) covers any employee or former employee of the Company or any of its Subsidiaries.

Knowledge of the Company means the actual knowledge of the employees of the Company set forth in the Company Disclosure Schedule. The Company employees so listed on the Company Disclosure Schedule are referred to herein as the **Company Senior Employees**.

A-2

Table of Contents

Law means any domestic or foreign federal, state, provincial, local, municipal or other law, statute, code, constitution, treaty, convention, ordinance, rule, regulation, administrative, executive or other order (whether temporary, preliminary or permanent) of any Governmental Authority, judgment, writ, stipulation, award, injunction, decree or arbitration award or finding entered or imposed by any Governmental Authority, in any case that are in force as of the date hereof or that come into force during the term of this Agreement, and as amended unless expressly specified otherwise.

Lien means, with respect to any property or asset, any mortgage, lien, pledge, charge, security interest, encumbrance or other adverse claim of any kind in respect of such property or asset, other than Permitted Liens. For purposes of this Agreement, a Person shall be deemed to own subject to a Lien any property or asset that it has acquired or holds subject to the interest of a vendor or lessor under any conditional sale agreement, capital lease or other title retention agreement relating to such property or asset (unless such interest constitutes a Permitted Lien).

Massachusetts Law means the Massachusetts Business Corporation Act (Massachusetts General Laws Chapter 156D), unless (and solely to the limited extent that) the Business Corporation Law of the Commonwealth of Massachusetts (Massachusetts General Laws Chapter 156B) is otherwise applicable, in which case, it shall mean the Business Corporation Law of the Commonwealth of Massachusetts (Massachusetts General Laws Chapter 156B).

Material Adverse Effect means, with respect to any Person, a material adverse effect on the condition (financial or otherwise), business, assets or results of operations of such Person and its Subsidiaries, taken as a whole; provided, however, that none of the following shall be deemed by itself or by themselves, either alone or in combination, to constitute a Material Adverse Effect on such Person: (i) any change in the market price or trading volume of such Person; (ii) with respect to the Company, any adverse effect resulting from or arising out of the execution, delivery, announcement or performance of its obligations under this Agreement or the announcement, pendency or anticipated consummation of the Merger; (iii) any change arising out of conditions affecting the economy or industry of such Person in general which does not affect such Person in a materially disproportionate manner relative to other participants in the economy or such industry, respectively; or (iv) with respect to the Company, any short-term adverse change in the Company's revenues, gross margins or earnings (including any short-term delay in, or reduction or cancellation of, orders of the Company's products), except for such changes as in the aggregate would be reasonably expected to have (in light of all relevant facts and circumstances) a material adverse impact on the Company's earnings power over a commercially reasonable period of time (which period of time shall not be less than one year).

Nasdaq means the Nasdaq National Market.

1933 Act means the Securities Act of 1933, as amended.

1934 Act means the Securities Exchange Act of 1934, as amended.

Parent Balance Sheet means the consolidated balance sheet of Parent as of June 30, 2005, and the footnotes therein set forth in the Parent 10-K.

Parent Balance Sheet Date means June 30, 2005.

Parent Common Stock means the common stock, \$0.001 par value per share, of Parent.

Parent 10-K means Parent's annual report on Form 10-K for the fiscal year ended June 30, 2005.

Permitted Liens means (i) mechanic s and other similar statutory liens that are not material in nature or amount, (ii) liens for Taxes or other governmental charges not yet due and payable or due but not delinquent or that are being contested in good faith and reflected in financial statements of the Company contained within a Company SEC Document, (iii) liens for which adequate reserves have been established on the books of the Company; *provided* that such reserves are reflected in the

A-3

Table of Contents

Company Balance Sheet, (iv) restrictions on transfers of securities under applicable securities Laws, and (v) liens that do not materially impair the use or operation of the property or assets subject thereto.

Person means an individual, corporation, partnership, limited liability company, association, trust or other entity or organization, including a government or political subdivision or an agency or instrumentality thereof.

Registered Intellectual Property means U.S. and foreign (i) patents and pending patent applications, (ii) trademark registrations (including Internet domain registrations) and pending trademark applications, and (iii) copyright registrations and pending copyright applications.

Sarbanes-Oxley Act means the Sarbanes-Oxley Act of 2002.

SEC means the Securities and Exchange Commission.

Subsidiary means, with respect to any Person, any entity of which securities or other ownership interests having ordinary voting power to elect a majority of the board of directors or other persons performing similar functions are at any time directly or indirectly owned by such Person.

Third Party means any Person, including as defined in Section 13(d) of the 1934 Act, other than Parent or any of its Affiliates.

(b) Each of the following terms is defined in the Section set forth opposite such term:

Term	Section
Adverse Recommendation Change	6.03
Agreement	Preamble
Certificates	2.03
Closing	2.01
Company	Preamble
Company Board Recommendation	4.02
Company ESPP	7.06
Company Material Contracts	4.14
Company Preferred Stock	4.05
Company Proprietary Product	4.18
Company Real Property Leases	4.21
Company Registered Intellectual Property	4.18
Company SEC Documents	4.07
Company Securities	4.05
Company Stockholder Approval	4.02
Company Stockholder Meeting	6.02
Company Stock Option	2.04
Company Subsidiary Securities	4.06
Confidentiality Agreement	6.03
Continuing Employees	7.06
Effective Time	2.01
Employee Plans	4.22
End Date	10.01
Exchange Agent	2.03
Indemnified Person	7.03

Internal Controls

4.07

A-4

Table of Contents

Term	Section
Merger	2.01
Merger Consideration	2.02
Merger Subsidiary	Preamble
Multiemployer Plan	4.22
Parent	Preamble
Parent SEC Documents	5.05
Parent ESPP	7.06
Payment Event	11.04
Registration Statement	4.09
Proxy Statement	4.09
Superior Proposal	6.03
Surviving Corporation	2.01
Tax	4.19
Taxing Authority	4.19
Tax Return	4.19
Tax Sharing Agreements	4.19
368 Reorganization	4.20
Uncertificated Shares	2.03

Section 1.02. *Other Definitional and Interpretative Provisions.* The words hereof, herein and hereunder and words of like import used in this Agreement shall refer to this Agreement as a whole and not to any particular provision of this Agreement. The captions herein are included for convenience of reference only and shall be ignored in the construction or interpretation hereof. References to Articles, Sections, Exhibits and Schedules are to Articles, Sections, Exhibits and Schedules of this Agreement unless otherwise specified. All Exhibits and Schedules annexed hereto or referred to herein are hereby incorporated in and made a part of this Agreement as if set forth in full herein. Any capitalized terms used in any Exhibit or Schedule but not otherwise defined therein, shall have the meaning as defined in this Agreement. Any singular term in this Agreement shall be deemed to include the plural, and any plural term the singular. Whenever the words include, includes or including are used in this Agreement, they shall be deemed to be followed by the words without limitation, whether or not they are in fact followed by those words or words of like import. Writing, written and comparable terms refer to printing, typing and other means of reproducing words (including electronic media) in a visible form. References to any agreement or contract are to that agreement or contract as amended, modified or supplemented from time to time in accordance with the terms hereof and thereof; *provided* that with respect to any agreement or contract listed on any schedules hereto, all material amendments, modifications or supplements must also be listed in the appropriate schedule. References to any Person include the successors and permitted assigns of that Person. References from or through any date mean, unless otherwise specified, from and including or through and including, respectively. References to law, laws or to a particular statute or law shall be deemed also to include any Applicable Law.

ARTICLE 2
The Merger

Section 2.01. *The Merger.* (a) At the Effective Time, Merger Subsidiary shall be merged (the **Merger**) with and into the Company in accordance with Delaware Law and Massachusetts Law, whereupon the separate existence of Merger Subsidiary shall cease, and the Company shall be the surviving corporation (the **Surviving Corporation**).

Table of Contents

(b) As soon as practicable (and in any event not later than two Business Days) after satisfaction or, to the extent permitted hereunder, waiver of all conditions to the Merger set forth in Article 9, other than conditions that by their nature are to be satisfied at the Closing and will in fact be satisfied or waived at the Closing, the Company and Merger Subsidiary shall file a certificate of merger and articles of merger with the Delaware Secretary of State and the Massachusetts Secretary of State, respectively, and make all other filings or recordings required by Delaware Law and Massachusetts Law in connection with the Merger. The Merger shall become effective at such time (the **Effective Time**) as the certificate of merger and the articles of merger are duly filed with the Delaware Secretary of State and the Massachusetts Secretary of State in accordance with Delaware Law and Massachusetts Law.

(c) From and after the Effective Time, the Surviving Corporation shall possess all the rights, powers, privileges and franchises and be subject to all of the obligations, liabilities, restrictions and disabilities of the Company and Merger Subsidiary, all as provided under Delaware Law and Massachusetts Law.

(d) Upon the terms and subject to the conditions set forth herein, the consummation of the Merger (the **Closing**) will take place on the date on which the Effective Time occurs, unless this Agreement has been theretofore terminated pursuant to its terms or unless another time or date is agreed to in writing by the parties hereto. The Closing shall be held at the offices of Sullivan & Worcester LLP, One Post Office Square, Boston, Massachusetts 02109, unless another place is agreed to in writing by the parties hereto.

Section 2.02. *Conversion of Shares.* At the Effective Time:

(a) except as otherwise provided in Sections 2.05 and 2.06, each share of Company Common Stock outstanding immediately prior to the Effective Time shall be converted into the right to receive the number of shares of Parent Common Stock represented by the Exchange Ratio (together with the cash in lieu of fractional shares of Parent Stock as specified in Section 2.06, the **Merger Consideration**);

(b) each share of Company Common Stock held by the Company as treasury stock or owned by Parent or any of its Subsidiaries immediately prior to the Effective Time shall be canceled, and no payment shall be made with respect thereto;

(c) each share of common stock of Merger Subsidiary outstanding immediately prior to the Effective Time shall be converted into and become one share of common stock of the Surviving Corporation with the same rights, powers and privileges as the shares so converted and shall constitute the only outstanding shares of capital stock of the Surviving Corporation; and

(d) the shares of Parent Common Stock to be issued as part of the Merger Consideration will have been duly authorized and, when issued and delivered in accordance with the terms of this Agreement, will have been validly issued and will be fully paid and nonassessable and the issuance thereof will not be subject to any preemptive or other similar right.

Section 2.03. *Surrender and Payment.* (a) Prior to the Effective Time, Parent shall appoint an agent (the **Exchange Agent**) for the purpose of exchanging for the Merger Consideration (i) certificates representing shares of Company Common Stock (the **Certificates**) or (ii) uncertificated shares of Company Common Stock (the **Uncertificated Shares**). Promptly (and in any event within five Business Days) after the Effective Time, Parent shall make available to the Exchange Agent, the Merger Consideration to be paid in respect of the Certificates and the Uncertificated Shares. Promptly (and in any event within five Business Days) after the Effective Time, Parent shall send, or shall cause the Exchange Agent to send, to each holder of shares of Company Common Stock at the Effective Time a letter of transmittal and instructions (which shall specify that the delivery shall be effected, and risk of loss and title shall pass, only upon proper delivery of the Certificates or transfer of the Uncertificated Shares to the Exchange Agent) for use in such exchange.

(b) Each holder of shares of Company Common Stock that have been converted into the right to receive the Merger Consideration shall be entitled to receive, upon (i) surrender to the Exchange Agent of

A-6

Table of Contents

a Certificate, together with a properly completed letter of transmittal, or (ii) receipt of an agent's message by the Exchange Agent (or such other evidence, if any, of transfer as the Exchange Agent may reasonably request) in the case of a book-entry transfer of Uncertificated Shares, the Merger Consideration in respect of the Company Common Stock represented by a Certificate or Uncertificated Share. The shares of Parent Common Stock included in such Merger Consideration, at Parent's option, shall be in uncertificated book-entry form, unless a physical certificate is requested by a holder of shares of Company Common Stock or is otherwise required under Applicable Law. Until so surrendered or transferred, as the case may be, each such Certificate or Uncertificated Share shall represent after the Effective Time for all purposes only the right to receive such Merger Consideration.

(c) If any portion of the Merger Consideration is to be paid to a Person other than the Person in whose name the surrendered Certificate or the transferred Uncertificated Share is registered, it shall be a condition to such payment that (i) either such Certificate shall be properly endorsed or shall otherwise be in proper form for transfer or such Uncertificated Share shall be properly transferred and (ii) the Person requesting such payment shall pay to the Exchange Agent any transfer or other taxes required as a result of such payment to a Person other than the registered holder of such Certificate or Uncertificated Share or establish to the satisfaction of the Exchange Agent that such tax has been paid or is not payable.

(d) After the Effective Time, there shall be no further registration of transfers of shares of Company Common Stock. If, after the Effective Time, Certificates or Uncertificated Shares are presented to the Surviving Corporation, they shall be canceled and exchanged for the Merger Consideration provided for, and in accordance with the procedures set forth, in this Article 2.

(e) Any portion of the Merger Consideration made available to the Exchange Agent pursuant to Section 2.03(a) that remains unclaimed by the holders of shares of Company Common Stock twelve months after the Effective Time shall be returned to Parent, upon demand, and any such holder who has not exchanged shares of Company Common Stock for the Merger Consideration in accordance with this Section 2.03 prior to that time shall thereafter look only to Parent for payment of the Merger Consideration, and any dividends and distributions with respect thereto, in respect of such shares without any interest thereon. Notwithstanding the foregoing, Parent shall not be liable to any holder of shares of Company Common Stock for any amounts paid to a public official pursuant to applicable abandoned property, escheat or similar laws. Any amounts remaining unclaimed by holders of shares of Company Common Stock two years after the Effective Time (or such earlier date, immediately prior to such time when the amounts would otherwise escheat to or become property of any Governmental Authority) shall become, to the extent permitted by Applicable Law, the property of Parent free and clear of any claims or interest of any Person previously entitled thereto.

(f) No dividends or other distributions with respect to securities of Parent constituting part of the Merger Consideration, and no cash payment in lieu of fractional shares as provided in Section 2.06, shall be paid to the holder of any Certificates not surrendered or of any Uncertificated Shares not transferred until such Certificates or Uncertificated Shares are surrendered or transferred, as the case may be, as provided in this Section. Following such surrender or transfer, there shall be paid, without interest, to the Person in whose name the securities of Parent have been registered, (i) at the time of such surrender or transfer, the amount of any cash payable in lieu of fractional shares to which such Person is entitled pursuant to Section 2.06 and the amount of all dividends or other distributions with a record date after the Effective Time previously paid or payable on the date of such surrender with respect to such securities, and (ii) at the appropriate payment date, the amount of dividends or other distributions with a record date after the Effective Time and prior to surrender or transfer and with a payment date subsequent to surrender or transfer payable with respect to such securities.

Section 2.04. *Stock Options.* (a) Subject to Section 2.04(b), as of the Effective Time, each stock option outstanding under any stock option or compensation plan, agreement or arrangement of the Company (each, a **Company Stock Option**) that is outstanding immediately prior to the Effective Time, whether or not then vested or exercisable, shall cease to represent a right to acquire Company Common Stock and shall be converted automatically into an option to purchase shares of Parent Common Stock on

Table of Contents

substantially the same terms and conditions (including vesting schedule) as applied to such Company Stock Option immediately prior to the Effective Time, except that (i) the number of shares of Parent Common Stock subject to each assumed Company Stock Option shall be determined by multiplying (A) the number of shares of Company Common Stock subject to such Company Stock Option by (B) the Exchange Ratio (such product to be rounded down to the nearest whole share); and (ii) the per share exercise price for the shares of Parent Common Stock issuable upon exercise of such assumed Company Stock Option will be equal to the quotient determined by dividing (A) the per share exercise price for the shares of Company Common Stock in respect of which such Company Stock Option was exercisable immediately prior to the Effective Time by (B) the Exchange Ratio.

(b) At or immediately prior to the Effective Time, each Company Stock Option held by a non-employee director or former director of the Company outstanding under any employee stock option or compensation plan or arrangement of the Company, whether or not exercisable or vested, shall be canceled, and the Company shall pay each such holder at or promptly after the Effective Time for each such option an amount in cash determined by multiplying (i) the excess, if any, of (A) the Exchange Ratio multiplied by the closing price per share of Parent Common Stock on the Nasdaq (as reported by Bloomberg Financial markets or such other source as the parties shall agree in writing) on the Business Day immediately prior to the Closing Date over (B) the applicable exercise price of such option by (ii) the number of shares of Company Common Stock such holder could have purchased (assuming full vesting of all options) had such holder exercised such option in full immediately prior to the Effective Time.

(c) Prior to the Effective Time, the Company shall (i) use its commercially reasonable efforts to obtain any consents from holders of options to purchase shares of Company Common Stock granted under the Company's stock option or compensation plans or arrangements and (ii) make any amendments to the terms of such stock option or compensation plans or arrangements that are necessary to give effect to the transactions contemplated by this Section 2.04. Notwithstanding any other provision of this Section 2.04, payment may be withheld in respect of any employee stock option until such necessary consents are obtained.

(d) Parent shall take such actions as are necessary for the assumption of Company Stock Options pursuant to this Section 2.04, including the reservation, issuance and listing of Parent Common Stock as is necessary to effectuate the transactions contemplated by this Section 2.04. Parent shall prepare and file with the SEC a registration statement on an appropriate form, or a post-effective amendment to a registration statement previously filed under the 1933 Act, with respect to the shares of Parent Common Stock subject to such assumed Company Stock Options and, where applicable, shall use its reasonable best efforts to have such registration statement declared effective as soon as practicable following the Effective Time and to maintain the effectiveness of such registration statement covering such assumed Company Stock Options (and to maintain the current status of the prospectus contained therein) for so long as such Company Stock Options remain outstanding. Parent shall take all actions required under the rules and regulations of the Nasdaq with respect to the assumption by it of the Company Stock Options. It is intended that the Company Stock Options assumed by Parent shall qualify following the Effective Time as incentive stock options (as defined in Section 422 of the Code) to the extent the Company Stock Options qualified as incentive stock options immediately prior to the Effective Time and this Section 2.04 shall be construed consistent with such intent.

Section 2.05. *Adjustments.* If, during the period between the date of this Agreement and the Effective Time, there is a reclassification, recapitalization, stock split, split-up or combination, exchange or readjustment of shares of Parent Common Stock or Company Common Stock, or any stock dividend thereon (including any dividend of Parent Common Stock or Company Common Stock or any securities convertible into Parent Common Stock or Company Common Stock) with a record date during such period, the Merger Consideration and any other amounts payable pursuant to this Agreement shall be appropriately adjusted to provide the holders of Company Common Stock the same economic effect as contemplated by this Agreement prior to such event.

Table of Contents

Section 2.06. *Fractional Shares.* No fractional shares of Parent Common Stock shall be issued in the Merger. All fractional shares of Parent Common Stock that a holder of shares of Company Common Stock would otherwise be entitled to receive as a result of the Merger shall be aggregated and if a fractional share results from such aggregation, such holder shall be entitled to receive, in lieu thereof, an amount in cash without interest determined by multiplying (i) the closing price per share of Parent Common Stock on the Nasdaq (as reported by Bloomberg Financial markets or such other source as the parties shall agree in writing) on the Business Day immediately prior to the Closing Date by (ii) the fraction of a share of Parent Common Stock to which such holder would otherwise have been entitled.

Section 2.07. *Withholding Rights.* Each of the Surviving Corporation and Parent shall be entitled to deduct and withhold from the consideration otherwise payable to any Person pursuant to this Article 2 such amounts as it is required to deduct and withhold with respect to the making of such payment under any provision of federal, state, local or foreign tax law. If the Surviving Corporation or Parent, as the case may be, so withholds amounts, such amounts shall be treated for all purposes of this Agreement as having been paid to the holder of the shares of Company Common Stock in respect of which the Surviving Corporation or Parent, as the case may be, made such deduction and withholding.

Section 2.08. *Lost Certificates.* If any Certificate shall have been lost, stolen or destroyed, upon the making of an affidavit of that fact by the Person claiming such Certificate to be lost, stolen or destroyed and, if required by the Surviving Corporation, the posting by such Person of a bond, in such reasonable amount as the Surviving Corporation may direct, as indemnity against any claim that may be made against it with respect to such Certificate, the Exchange Agent will issue, in exchange for such lost, stolen or destroyed Certificate, the Merger Consideration to be paid in respect of the shares of Company Common Stock represented by such Certificate, as contemplated by this Article 2.

ARTICLE 3

The Surviving Corporation

Section 3.01. *Articles of Organization.* The articles of organization of the Company in effect at the Effective Time shall be the articles of organization of the Surviving Corporation until amended in accordance with Applicable Law.

Section 3.02. *Bylaws.* The bylaws of Merger Subsidiary in effect at the Effective Time shall be the bylaws of the Surviving Corporation until amended in accordance with Applicable Law.

Section 3.03. *Directors and Officers.* From and after the Effective Time, until successors are duly elected or appointed and qualified in accordance with Applicable Law, (i) the directors of Merger Subsidiary at the Effective Time shall be the directors of the Surviving Corporation and (ii) the officers of the Company at the Effective Time shall be the officers of the Surviving Corporation.

ARTICLE 4

Representations and Warranties of the Company

Except as expressly set forth in the Company Disclosure Schedule, subject to Section 11.05, the Company represents and warrants to Parent that:

Section 4.01. *Corporate Existence and Power.* The Company is a corporation duly incorporated, validly existing and in good standing under the Laws of The Commonwealth of Massachusetts. The Company has all corporate powers and all governmental licenses, authorizations, permits, consents and approvals required to carry on its business as now conducted, except for those licenses, authorizations, permits, consents and approvals the absence of which would not reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect on the Company. The Company is duly qualified to do business as a foreign corporation and is in good standing in each jurisdiction where such qualification is necessary, except for those jurisdictions where failure to be so qualified would not have,

Table of Contents

individually or in the aggregate, a Material Adverse Effect on the Company. The Company has heretofore delivered or made available (including through the SEC's EDGAR system) to Parent true and complete copies of the articles of organization and bylaws of the Company as currently in effect.

Section 4.02. *Corporate Authorization.* (a) The execution, delivery and performance by the Company of this Agreement and the consummation by the Company of the transactions contemplated hereby are within the Company's corporate powers and, except for the required approval of the Company's stockholders in connection with the consummation of the Merger, have been duly authorized by all necessary corporate action on the part of the Company. The affirmative vote of the holders of two-thirds of the outstanding shares of Company Common Stock is the only vote of the holders of any of the Company's capital stock necessary in connection with the consummation of the Merger (the **Company Stockholder Approval**). This Agreement constitutes a valid and binding agreement of the Company.

(b) At a meeting duly called and held, the Company's Board of Directors has (i) unanimously determined that this Agreement and the transactions contemplated hereby are fair to and in the best interests of the Company's stockholders, (ii) unanimously approved and adopted this Agreement and the transactions contemplated hereby and (iii) unanimously resolved (subject to Section 6.03) to recommend approval and adoption of this Agreement by its stockholders (such recommendation, the **Company Board Recommendation**).

Section 4.03. *Governmental Authorization.* The execution, delivery and performance by the Company of this Agreement and the consummation by the Company of the transactions contemplated hereby require no action by or in respect of, or filing with, any Governmental Authority other than (i) the filing of a certificate of merger and the filing of articles of merger with respect to the Merger with the Delaware Secretary of State and the Massachusetts Secretary of State, respectively, and appropriate documents with the relevant authorities of other states in which the Company is qualified to do business, (ii) compliance with any applicable requirements of the HSR Act and of laws analogous to the HSR Act, (iii) compliance with any applicable requirements of the 1933 Act, the 1934 Act, and any other applicable U.S. state or federal securities laws and (iv) any actions or filings the absence of which would not reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect on the Company or materially to impair the ability of the Company to consummate the transactions contemplated by this Agreement.

Section 4.04. *Non-Contravention.* The execution, delivery and performance by the Company of this Agreement and the consummation of the transactions contemplated hereby do not and will not (i) contravene, conflict with, or result in any violation or breach of any provision of the articles of organization or bylaws of the Company, (ii) assuming compliance with the matters referred to in Section 4.03, contravene, conflict with or result in a violation or breach of any provision of any Applicable Law, (iii) require any consent or other action by any Person under, constitute a default, or an event that, with or without notice or lapse of time or both, would constitute a default, under, or cause or permit the termination, cancellation, acceleration or other change of any right or obligation or the loss of any benefit to which the Company or any of its Subsidiaries is entitled, under any provision of any agreement or other instrument binding upon the Company or any of its Subsidiaries or any license, franchise, permit, certificate, approval or other similar authorization affecting, or relating in any way to, the assets or business of the Company and its Subsidiaries or (iv) result in the creation or imposition of any Lien on any asset of the Company or any of its Subsidiaries, with such exceptions, in the case of each of clauses (iii) and (iv), as would not reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect on the Company (taking into account for these purposes only the adverse effects specified in clause (ii) of the definition of Material Adverse Effect) or materially to impair the ability of the Company to consummate the transactions contemplated by this Agreement.

Section 4.05. *Capitalization.* (a) The authorized capital stock of the Company consists of 25,000,000 shares of Company Common Stock and 1,000,000 shares of preferred stock, \$1.00 par value (the **Company Preferred Stock**). As of February 21, 2006, there were outstanding 14,462,887 shares of Company Common Stock, no shares of Company Preferred Stock and employee stock options to purchase

Table of Contents

an aggregate of 701,784 shares of Company Common Stock (of which options to purchase an aggregate of 406,430 shares of Company Common Stock were exercisable). All outstanding shares of capital stock of the Company have been, and all shares that may be issued pursuant to the Company Stock Option Plans will be, when issued in accordance with the respective terms thereof, duly authorized and validly issued and are fully paid and nonassessable. No Company Subsidiary owns any shares of capital stock of the Company. Section 4.05 of the Company Disclosure Schedule contains a complete and correct list of each outstanding employee stock option to purchase shares of Company Common Stock, including the holder, date of grant, exercise price, vesting schedule and number of shares of Company Common Stock subject thereto.

(b) Except as set forth in this Section 4.05 and for changes since February 21, 2006 resulting from the exercise of employee stock options outstanding on such date, there are no outstanding (i) shares of capital stock or voting securities of the Company, (ii) securities of the Company convertible into or exchangeable for shares of capital stock or voting securities of the Company or (iii) options or other rights to acquire from the Company, or other obligation of the Company to issue, any capital stock, voting securities or securities convertible into or exchangeable for capital stock or voting securities of the Company (the items in clauses (i), (ii), and (iii) being referred to collectively as the **Company Securities**). There are no outstanding obligations of the Company or any of its Subsidiaries to repurchase, redeem or otherwise acquire any of the Company Securities.

Section 4.06. *Subsidiaries.* (a) Each Subsidiary of the Company is a corporation duly incorporated, validly existing and in good standing under the laws of its jurisdiction of incorporation, has all corporate powers and all governmental licenses, authorizations, permits, consents and approvals required to carry on its business as now conducted, except for those licenses, authorizations, permits, consents and approvals the absence of which would not have, individually or in the aggregate, a Material Adverse Effect on the Company. Each such Subsidiary is duly qualified to do business as a foreign corporation and is in good standing in each jurisdiction where such qualification is necessary, except for those jurisdictions where failure to be so qualified would not have, individually or in the aggregate, a Material Adverse Effect on the Company. All active Subsidiaries of the Company and their respective jurisdictions of incorporation are identified in the Company 10-K.

(b) All of the outstanding capital stock of, or other voting securities or ownership interests in, each Subsidiary of the Company, is owned by the Company, directly or indirectly, free and clear of any Lien and free of any other limitation or restriction (including any restriction on the right to vote, sell or otherwise dispose of such capital stock or other voting securities or ownership interests). There are no outstanding (i) securities of the Company or any of its Subsidiaries convertible into or exchangeable for shares of capital stock or other voting securities or ownership interests in any Subsidiary of the Company or (ii) options or other rights to acquire from the Company or any of its Subsidiaries, or other obligation of the Company or any of its Subsidiaries to issue, any capital stock or other voting securities or ownership interests in, or any securities convertible into or exchangeable for any capital stock or other voting securities or ownership interests in, any Subsidiary of the Company (the items in clauses (i) and (ii) being referred to collectively as the **Company Subsidiary Securities**). There are no outstanding obligations of the Company or any of its Subsidiaries to repurchase, redeem or otherwise acquire any of the Company Subsidiary Securities.

Section 4.07. *SEC Filings and the Sarbanes-Oxley Act.* (a) The Company has delivered or made available (including through the SEC's EDGAR system) to Parent (i) the Company's annual report on Form 10-K for its fiscal year ended April 30, 2005, (ii) its quarterly reports on Form 10-Q for its fiscal quarters ended July 31, 2005, and October 31, 2005, (iii) its proxy statement relating to the Company's 2005 annual meeting of stockholders and (iv) all of its other reports, statements, schedules and registration statements filed with the SEC since April 30, 2005 (the documents referred to in this Section 4.07(a), collectively, the **Company SEC Documents**).

(b) As of its filing date, each Company SEC Document complied as to form in all material respects with the applicable requirements of the 1933 Act and the 1934 Act, as the case may be.

Table of Contents

(c) As of its filing date (or, if amended or superseded by a filing prior to the date hereof, on the date of such filing), each Company SEC Document filed pursuant to the 1934 Act did not contain any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements made therein, in the light of the circumstances under which they were made, not misleading. The representations and warranties contained in this Section 4.07(c) will not apply to statements or omissions in the Proxy Statement or any amendment or supplement thereto based upon information furnished to the Company by Parent or Merger Subsidiary in writing specifically for use therein.

(d) Each Company SEC Document that is a registration statement, as amended or supplemented, if applicable (including through incorporation by reference of other Company SEC Documents), filed pursuant to the 1933 Act, as of the date such registration statement or amendment became effective, did not contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein not misleading.

(e) The Company has established and maintains disclosure controls and procedures (as defined in Rule 13a-15 under the 1934 Act). Such disclosure controls and procedures are designed to ensure that material information relating to the Company, including its consolidated Subsidiaries, is made known to the Company's principal executive officer and its principal financial officer by others within those entities, particularly during the periods in which the periodic reports required under the 1934 Act are being prepared. Such disclosure controls and procedures are effective in timely alerting the Company's principal executive officer and principal financial officer to material information required to be included in the Company's periodic reports required under the 1934 Act.

(f) The Company and its Subsidiaries have established and maintained a system of internal control over financial reporting (as defined in Rule 13a-15 under the 1934 Act) (**Internal Controls**). Such Internal Controls are sufficient to provide reasonable assurance regarding the reliability of the Company's financial reporting and the preparation of Company financial statements for external purposes in accordance with GAAP. The Company has disclosed, based on its most recent evaluation of Internal Controls prior to the date hereof, to the Company's auditors and audit committee (i) any significant deficiencies and material weaknesses in the design or operation of Internal Controls which are reasonably likely to adversely affect the Company's ability to record, process, summarize and report financial information and (ii) any fraud, whether or not material, that involves management or other employees who have a significant role in Internal Controls. The Company has made available to Parent a summary of any such disclosure made by management to the Company's auditors and audit committee since May 1, 2002.

(g) There are no outstanding loans or other extensions of credit made by the Company or any of its Subsidiaries to any executive officer (as defined in Rule 3b-7 under the 1934 Act) or director of the Company. The Company has not, since the enactment of the Sarbanes-Oxley Act, taken any action prohibited by Section 402 of the Sarbanes-Oxley Act.

Section 4.08. *Financial Statements.* The audited consolidated financial statements and unaudited consolidated interim financial statements of the Company included in the Company SEC Documents fairly present, in conformity with GAAP applied on a consistent basis (except as may be indicated in the notes thereto), the consolidated financial position of the Company and its consolidated Subsidiaries as of the dates thereof and their consolidated results of operations and cash flows for the periods then ended (subject to normal year-end adjustments and the condensed nature of footnote disclosure in the case of any unaudited interim financial statements).

Section 4.09. *Disclosure Documents.* (a) The information to be supplied by the Company for inclusion in the registration statement on Form S-4 pursuant to which shares of Parent Common Stock issued in connection with the Merger will be registered under the 1933 Act (the **Registration Statement**) shall not, at the time the Registration Statement is declared effective by the SEC, at the time the prospectus contained therein or any amendment or supplement thereto is first mailed to stockholders of the Company, at the time of the Company Stockholder Meeting or at the Effective Time, contain any untrue statement of a material fact or omit to state any material fact necessary in order to

Table of Contents

make the statements in the Registration Statement, in light of the circumstances under which they were made, not misleading.

(b) The proxy statement (the **Proxy Statement**) to be sent to the stockholders of the Company in connection with the Company Stockholder Meeting shall not, at the time the Proxy Statement or any amendment or supplement thereto is first mailed to the stockholders of the Company or at the time of the Company Stockholder Meeting, contain any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements made therein, in the light of the circumstances under which they were made, not misleading. The representations and warranties contained in this Section 4.09(b) will not apply to statements or omissions in the Proxy Statement or any amendment or supplement thereto based upon information furnished to the Company by Parent or Merger Subsidiary in writing specifically for use therein.

Section 4.10. *Absence of Certain Changes.* Since the Company Balance Sheet Date and through the date of this Agreement, the business of the Company and its Subsidiaries has been conducted in the ordinary course consistent with past practices and there has not been:

- (a) any event, change or development that has had or would reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect on the Company;
- (b) any adoption of or proposal to adopt any change to the Company's articles of organization or bylaws;
- (c) any reclassification, recapitalization, stock split, split-up or combination, exchange or readjustment with respect to any shares of capital stock of the Company;
- (d) any declaration, setting aside or payment of any dividend or other distribution with respect to any shares of capital stock of the Company, or any repurchase, redemption or other acquisition by the Company or any of its non-wholly owned Subsidiaries of any outstanding shares of capital stock or other securities of, or other ownership interests in, the Company or any of its non-wholly owned Subsidiaries;
- (e) any amendment of any material term of any outstanding Company Security or any security of its Subsidiaries;
- (f) any merger or consolidation involving the Company or any of its Subsidiaries, or any acquisition by the Company or any of its Subsidiaries of a material amount of stock or assets of any other Person;
- (g) any sale, lease, license or other disposition of any material Subsidiary or any assets, securities or property material to the Company and its Subsidiaries, on a consolidated basis, by the Company or any of its Subsidiaries, except (i) pursuant to existing contracts or commitments and (ii) in the ordinary course consistent with past practice;
- (h) any incurrence, assumption or guarantee by the Company or any of its Subsidiaries of any material indebtedness for borrowed money;
- (i) any creation or other incurrence by the Company or any of its Subsidiaries of any Lien on any asset;
- (j) any making of any loan, advance or capital contribution in excess of \$100,000 to or investment in any Person, other than (i) advances or investments in wholly owned Subsidiaries, and (ii) advances or loans to vendors made in the ordinary course of business consistent with past practice;

(k) any damage, destruction or other casualty loss (whether or not covered by insurance) affecting the business or assets of the Company or any of its Subsidiaries that has had or would reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect on the Company;

A-13

Table of Contents

(l) any transaction or commitment made, or any contract or agreement entered into, by the Company or any of its Subsidiaries that would be required to be identified as a material contract in a report by the Company on Form 8-K, Form 10-Q or Form 10-K under the 1934 Act;

(m) any material recall, field notification or field correction with respect to products manufactured by or on behalf of the Company or any of its Subsidiaries;

(n) any change in any method of accounting or accounting principles or practice by the Company or any of its Subsidiaries, except for any such change required by reason of a concurrent change in GAAP or Regulation S-X under the 1934 Act;

(o) any (i) grant of any severance or termination pay to (or amendment to any existing arrangement with) any director, officer of the Company or any of its Subsidiaries or any Company Senior Employee, (ii) increase in benefits payable under any existing severance or termination pay policies or employment agreements, (iii) entering into any employment, deferred compensation or other similar agreement (or any amendment to any such existing agreement) with any director or officer of the Company or any of its Subsidiaries or any Company Senior Employee, (iv) establishment, adoption or amendment (except as required by Applicable Law) of any collective bargaining, bonus, profit-sharing, thrift, pension, retirement, deferred compensation, compensation, stock option, restricted stock or other benefit plan or arrangement covering any director, officer or employee of the Company or any of its Subsidiaries or (v) increase in compensation, bonus or other benefits payable to any director or officer of the Company or any of its Subsidiaries or any Company Senior Employee;

(p) any labor dispute, other than routine individual grievances, or any activity or proceeding by a labor union or representative thereof to organize any employees of the Company or any of its Subsidiaries, or any lockouts, strikes, slowdowns, work stoppages or threats thereof by or with respect to such employees; or

(q) any material Tax election made or changed, any annual tax accounting period changed, any method of tax accounting adopted or changed, any material amended Tax Returns or claims for material Tax refunds filed, any closing agreement entered into, any material Tax claim, audit or assessment settled, or any right to claim a material Tax refund, offset or other reduction in Tax liability surrendered.

Section 4.11. *No Undisclosed Material Liabilities.* There are no liabilities or obligations of the Company or any of its Subsidiaries of any kind whatsoever, whether accrued, contingent, absolute, determined, determinable or otherwise, other than:

(a) liabilities or obligations disclosed and provided for in the Company Balance Sheet or in the notes thereto,

(b) liabilities or obligations incurred in the ordinary course of business consistent with past practices since the Company Balance Sheet Date that would not reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect on the Company, and

(c) liabilities or obligations incurred in connection with the execution of this Agreement.

Section 4.12. *Compliance with Laws and Court Orders.* Neither the Company nor any of its Subsidiaries is in violation of or has violated any Applicable Law that would, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect on the Company, and to the Knowledge of the Company, neither the Company nor any of its Subsidiaries is under investigation with respect to, or has been threatened to be charged with or given notice of, any violation of any Applicable Law, where a violation thereof would, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect on the Company.

Section 4.13. *Litigation; Investigations.* There is no action, suit or proceeding pending (or investigation of which the Company is aware) against or, to the Knowledge of the Company, threatened

A-14

Table of Contents

against or affecting, the Company, any of its Subsidiaries, any present or former officer, director or employee of the Company or any of its Subsidiaries or any Person for whom the Company or any Subsidiary may be liable or any of their respective properties before any court or arbitrator or before or by any Governmental Authority, that, if determined or resolved adversely in accordance with the plaintiff's demands, would reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect on the Company or that in any manner challenges or seeks to prevent, enjoin, alter or materially delay the Merger or any of the other transactions contemplated hereby. There have not been nor are there currently any internal investigations or inquiries being conducted by the Company, the Company's Board of Directors (or any committee thereof) or any Third Party at the request of any of the foregoing concerning any financial, accounting, tax, conflict of interest, self-dealing, fraudulent or deceptive conduct or other misfeasance or malfeasance issues.

Section 4.14. *Agreements, Contracts and Commitments.* (a) For purposes of this Agreement, the term **Company Material Contracts** shall mean any contract, agreement, lease, license, note, bond, mortgage, indenture, guarantee, other evidence of indebtedness or other instrument, obligation or commitment to which the Company or any of its Subsidiaries is a party or by which any of them or any of their assets are bound, and which:

(i) has a remaining term of more than one year from the date hereof and (A) cannot be unilaterally terminated by the Company at any time, without material penalty, within thirty (30) days of providing notice of termination, and (B) involves the payment or receipt of money in excess of \$100,000 per year;

(ii) involves the payment or receipt of money in excess of \$100,000 in any year, other than purchase orders issued (or received) for the purchase or sale of goods in the ordinary course of business consistent with past practice;

(iii) contains covenants limiting the freedom of the Company or any of its Subsidiaries to sell any products or services of or to any other Person, engage in any line of business or compete with any Person or operate at any location;

(iv) was made with any director or officer of the Company or any Company Senior Employee, or any service, operating or management agreement or arrangement with respect to any of the Company's assets or properties (whether leased or owned), other than those that are terminable by the Company on no more than thirty (30) days notice without liability or financial obligation to the Company;

(v) is a dealer, distributor, joint marketing or development agreement under which the Company has continuing material obligations to jointly market any product, technology or service and which may not be canceled without penalty upon notice of ninety (90) days or less, or any agreement pursuant to which the Company has continuing material obligations to jointly develop any Intellectual Property that will not be owned, in whole or in part, by the Company;

(vi) includes indemnification, guaranty or warranty provisions other than those contained in contracts entered into in the ordinary course of the Company's business;

(vii) is a mortgage, indenture, guarantee, loan or credit agreement, security agreement or other agreement or instrument relating to the borrowing of money or extension of credit;

(viii) is a settlement agreement under which the Company has ongoing obligations; or

(ix) is a Company Real Property Lease.

(b) All of the Company Material Contracts that are required to be described in the Company SEC Reports (or to be filed as exhibits thereto) are so described or filed and are enforceable and in full force and effect (except as such enforceability may be subject to Laws of general application relating to bankruptcy, insolvency and the relief of debtors and rules of Law governing specific performance, injunctive relief or other equitable remedies).

A-15

Table of Contents

(c) Section 4.14 of the Company Disclosure Schedule contains a complete and accurate list of, and true and complete copies have been delivered or made available to Parent with respect to, all Company Material Contracts in effect as of the date hereof other than the Company Material Contracts that are listed as an exhibit to the Company 10-K, a subsequent quarterly report on Form 10-Q or a subsequent current report on Form 8-K.

(d) There is no breach or violation of or default by the Company or any of its Subsidiaries under any of the Company Material Contracts and, to the Knowledge of the Company, no event has occurred with respect to the Company or any of its Subsidiaries which, with notice or lapse of time or both, would constitute a breach, violation or default, or give rise to a right of termination, modification, cancellation, foreclosure, imposition of a Lien, prepayment or acceleration under any of the Company Material Contracts, which breach, violation or default referred to above would reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect on the Company.

Section 4.15. *Finders Fees.* Except for RBC Capital Markets Corporation, a copy of whose engagement agreement has been provided to Parent, there is no investment banker, broker, finder or other intermediary that has been retained by or is authorized to act on behalf of the Company or any of its Subsidiaries who might be entitled to any fee or commission in connection with the transactions contemplated by this Agreement.

Section 4.16. *Opinion of Financial Advisor.* The Company has received the written opinion of RBC Capital Markets Corporation, financial advisor to the Company for the purpose of providing such an opinion in connection with a business combination between the Company and Parent, to the effect that, as of the date of such opinion and subject to the assumptions, qualifications and limitations set forth therein, the Merger Consideration was, as of such date, fair to the Company's stockholders from a financial point of view. A copy of such opinion has been provided to Parent for informational purposes only.

Section 4.17. *Interested Party Transactions.* (a) Neither the Company nor any of its Subsidiaries is a party to any transaction or agreement with any Affiliate, 5% or more stockholder, director or executive officer of the Company and (b) no event has occurred since the date of the Company's last proxy statement to its stockholders that would, in the case of either clause (a) or this clause (b), be required to be reported by the Company pursuant to Item 404 of Regulation S-K promulgated by the SEC.

Section 4.18. *Intellectual Property.* (a) For purposes of this Agreement, the term **Company Registered Intellectual Property** means all Registered Intellectual Property owned by or exclusively licensed to the Company or any of its Subsidiaries.

(b) Schedule 4.18(b) sets forth as of the date hereof a true, complete and correct list of all Company Registered Intellectual Property. All of the Company Registered Intellectual Property is owned solely by the Company or exclusively licensed to the Company (as indicated on Schedule 4.18(b)) and no Registered Intellectual Property that ever was Company Registered Intellectual Property has been disposed of by the Company in the two years preceding the date hereof.

(c) The material Company Registered Intellectual Property is subsisting and has not expired or been cancelled, or abandoned.

(d) There is no pending or, to the Company's Knowledge, threatened, and at no time within the three years prior to the date of this Agreement has there been pending any, material suit, arbitration or other adversarial proceeding before any court, government agency or arbitral tribunal or in any jurisdiction alleging that any activities or conduct of the Company's business infringes or will infringe upon, violate or constitute the unauthorized use of the Intellectual Property of any Third Party or challenging the ownership, validity, enforceability or registrability of any material Intellectual Property owned by the Company.

(e) The Company is not a party to any settlements, covenants not to sue, consents, decrees, stipulations, judgments, or orders resulting from suits, actions or similar legal proceedings which (i) restrict the Company's rights to use any Intellectual Property owned by and material to the business of

Table of Contents

the Company as currently conducted, (ii) restrict the conduct of the business of the Company as currently conducted in order to accommodate any Third Party's Intellectual Property rights, or (iii) permit Third Parties to use any Intellectual Property owned by and material to the business of the Company as currently conducted.

(f) To the Knowledge of the Company, the conduct of the business of the Company as currently conducted does not infringe upon, violate or constitute the unauthorized use of any Intellectual Property rights owned by any Third Party.

(g) The Company has taken reasonable measures to protect the proprietary nature of the Intellectual Property owned by the Company that is material to the business of the Company as currently conducted.

(h) To the Company's Knowledge, no Third Party is misappropriating, infringing, diluting or violating any Intellectual Property owned by the Company that is material to the business of the Company as currently conducted, and no Intellectual Property misappropriation, infringement dilution or violation suits, arbitrations or other adversarial proceedings have been brought before any court, government agency or arbitral tribunal against any Third Party by the Company which remain unresolved.

(i) The Company has not disclosed to any Third Party any material confidential source code for any product currently being marketed, sold, licensed or developed by the Company (each such product, a **Company Proprietary Product**) except for the third party source code escrow arrangements indicated on Schedule 4.18(i), nor is the Company obligated to make the source code for such Company Proprietary Product generally available pursuant to the terms of any open source license (including, but not limited to, the GNU General Public License).

(j) The Company does not have any obligation to pay any Third Party any royalties or other fees in excess of \$500,000 in the aggregate in calendar year 2005 or any annual period thereafter for the use of Intellectual Property and no obligation to pay such royalties or other fees will result from the execution and delivery by the Company of this Agreement and the consummation of the transactions contemplated by this Agreement.

(k) The Company is not in violation of any material license, sublicense, agreement or instrument to which the Company is party or otherwise bound under which the Company derives rights to Intellectual Property that is material to the Company's business as currently conducted, nor will the consummation by the Company of the transactions contemplated hereby result in any loss or impairment of ownership by the Company of, or the right of any of them to use, any Intellectual Property that is material to the business of the Company as currently conducted, nor, to the Company's Knowledge, require the consent of any Governmental Authority or Third Party with respect to any such material Intellectual Property.

(l) To the Knowledge of the Company, the Company is not a party to any agreement under which a Third Party would be entitled to receive or expand a license or any other right to any Intellectual Property of Parent or any of Parent's Affiliates (excluding, for this purpose, the Company) as a result of the consummation of the transactions contemplated by this Agreement.

Section 4.19. *Taxes.* (a) All material Tax Returns required by Applicable Law to be filed with any Taxing Authority by, or on behalf of, the Company or any of its Subsidiaries have been filed when due (after giving effect to applicable extensions or waivers) in accordance with all Applicable Law, and all such Tax Returns are, or shall be at the time of filing, true and complete in all material respects.

(b) The Company and each of its Subsidiaries has paid (or has had paid on its behalf) or has withheld and remitted to the appropriate Taxing Authority all material Taxes due and payable, or, where payment is not yet due, has established (or has had established on its behalf and for its sole benefit and recourse) in accordance with GAAP an adequate accrual for all material Taxes through the end of the last period for which the Company and its Subsidiaries ordinarily record items on their respective books.

(c) The income and franchise Tax Returns of the Company and its Subsidiaries through the Tax year ended 2000 have been examined and closed or are Tax Returns with respect to which the applicable period for assessment under Applicable Law, after giving effect to extensions or waivers, has expired.

Table of Contents

(d) There is no action, suit or proceeding pending (or investigation of which the Company is aware) against or, to the Company's Knowledge, threatened against or with respect to the Company or its Subsidiaries in respect of any Tax or Tax asset.

(e) During the five-year period ending on the date hereof, neither the Company nor any of its Subsidiaries was a distributing corporation or a controlled corporation in a transaction intended to be governed by Section 355 of the Code.

(f) Neither the Company nor any of its Subsidiaries owns an interest in real property in any jurisdiction in which a Tax is imposed, or the value of the interest is reassessed, on the transfer of an interest in real property and which treats the transfer of an interest in an entity that owns an interest in real property as a transfer of the interest in real property.

(g) Schedule 4.19(g) contains a list of all jurisdictions (whether foreign or domestic) in which the Company or any of its Subsidiaries currently files Tax Returns.

(h) **Tax** means (i) any tax, governmental fee or other like assessment or charge of any kind whatsoever (including withholding on amounts paid to or by any Person), together with any interest, penalty, addition to tax or additional amount imposed by any Governmental Authority (a **Taxing Authority**) responsible for the imposition of any such tax (domestic or foreign), and any liability for any of the foregoing as transferee, (ii) in the case of the Company or any of its Subsidiaries, liability for the payment of any amount of the type described in clause (i) as a result of being or having been before the Effective Time a member of an affiliated, consolidated, combined or unitary group, or a party to any agreement or arrangement, as a result of which liability of the Company or any of its Subsidiaries to a Taxing Authority is determined or taken into account with reference to the activities of any other Person (other than the group of which the Company is the parent), and (iii) liability of the Company or any of its Subsidiaries for the payment of any amount as a result of being party to any Tax Sharing Agreement or with respect to the payment of any amount imposed on any person of the type described in (i) or (ii) as a result of any existing express or implied agreement or arrangement (including an indemnification agreement or arrangement). **Tax Return** means any report, return, document, declaration or other information or filing required to be supplied to any Taxing Authority with respect to Taxes, including information returns, any documents with respect to or accompanying payments of estimated Taxes, or with respect to or accompanying requests for the extension of time in which to file any such report, return, document, declaration or other information. **Tax Sharing Agreements** means all existing agreements or arrangements (whether or not written) binding the Company or any of its Subsidiaries that provide for the allocation, apportionment, sharing or assignment of any Tax liability or benefit, or the transfer or assignment of income, revenues, receipts, or gains for the purpose of determining any Person's Tax liability (excluding any indemnification agreement or arrangement pertaining to the sale or lease of assets or subsidiaries).

Section 4.20. *Tax Treatment.* Neither the Company nor any of its Affiliates has taken or agreed to take any action, or is aware of any fact or circumstance, that would prevent the Merger from qualifying as a reorganization within the meaning of Section 368 of the Code (a **368 Reorganization**).

Section 4.21. *Properties and Assets.* (a) The Company has good and valid title to, or a valid leasehold interest in, all the properties and assets which it purports to own or lease (real, tangible, personal and mixed), including all the properties and assets reflected in the Company Balance Sheet (except for personal property sold since the Company Balance Sheet Date in the ordinary course of business consistent with past practice). All properties and assets reflected in the Company Balance Sheet are free and clear of all Liens.

(b) Section 4.21 of the Company Disclosure Schedule sets forth a true, complete and correct list of all real property owned, leased, subleased or licensed by the Company and the location of such premises. All material real property leases, licenses or other occupancy agreements to which the Company is a party (collectively, the **Company Real Property Leases**) are either filed as exhibits to the Company SEC Reports or complete copies thereof have been delivered to or made available to Parent. Section 4.21 of the

Table of Contents

Company Disclosure Schedule lists all Company Real Property Leases other than the Company Real Property Leases that are listed as an exhibit to the Company 10-K or a subsequent quarterly report on Form 10-Q.

(c) (i) All Company Real Property Leases are in full force and effect (except as such enforceability may be subject to Laws of general application relating to bankruptcy, insolvency and the relief of debtors and rules of Law governing specific performance, injunctive relief or other equitable remedies), (ii) there is no existing default by the Company under any of the Company Real Property Leases, except such defaults as have been waived in writing, (iii) no event has occurred with respect to the Company which, with notice or lapse of time or both, would constitute a default of any of the Company Real Property Leases, and (iv) to the Company's Knowledge, there are no defaults of any obligations of any party other than the Company under any Company Real Property Lease, except in the cases of clauses (i) through (iv) for such defaults as would not reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect on the Company.

Section 4.22. *Employee Benefit Plans.* (a) Schedule 4.22 contains a correct and complete list identifying each material employee benefit plan, as defined in Section 3(3) of ERISA, each employment, severance or similar contract, plan, arrangement or policy and each other plan or arrangement (written or oral) providing for compensation, bonuses, profit-sharing, stock option or other stock related rights or other forms of incentive or deferred compensation, vacation benefits, insurance (including any self-insured arrangements), health or medical benefits, employee assistance program, disability or sick leave benefits, workers' compensation, supplemental unemployment benefits, severance benefits and post-employment or retirement benefits (including compensation, pension, health, medical or life insurance benefits) which is maintained, administered or contributed to by the Company or any ERISA Affiliate and covers any employee or former employee of the Company or any of its Subsidiaries, or with respect to which the Company or any of its Subsidiaries has any liability. Copies of such plans (and, if applicable, related trust or funding agreements or insurance policies) and all amendments thereto and written interpretations thereof have been furnished to Parent together with the most recent annual report (Form 5500 including, if applicable, Schedule B thereto) and tax return (Form 990) prepared in connection with any such plan or trust. Such plans are referred to collectively herein as the **Employee Plans**.

(b) Neither the Company nor any ERISA Affiliate nor any predecessor thereof sponsors, maintains or contributes to, or has in the past sponsored, maintained or contributed to, any Employee Plan subject to Title IV of ERISA.

(c) Neither the Company nor any ERISA Affiliate nor any predecessor thereof contributes to, or has in the past contributed to, any multiemployer plan, as defined in Section 3(37) of ERISA (a **Multiemployer Plan**).

(d) Each Employee Plan which is intended to be qualified under Section 401(a) of the Code may rely on an opinion letter issued by the Internal Revenue Service for a prototype plan or has received a favorable determination letter, or has pending or has time remaining in which to file, an application for such determination from the Internal Revenue Service, and the Company is not aware of any reason why any such determination letter should be revoked or not be reissued. The Company has made available to Parent copies of the most recent Internal Revenue Service determination letters with respect to each such Employee Plan. Each Employee Plan has been maintained in material compliance with its terms and with the requirements prescribed by any and all statutes, orders, rules and regulations, including ERISA and the Code, which are applicable to such Employee Plan. No material events have occurred with respect to any Employee Plan that could result in payment or assessment by or against the Company of any material excise taxes under Sections 4972, 4975, 4976, 4977, 4979, 4980B, 4980D, 4980E or 5000 of the Code.

(e) The consummation of the transactions contemplated by this Agreement will not (either alone or together with any other event) entitle any employee or independent contractor of the Company or any of its Subsidiaries to bonus, severance or other pay or accelerate the time of payment or vesting of any

Table of Contents

benefit or trigger any funding (through a grantor trust or otherwise) of compensation or benefits under, increase the amount payable or trigger any other material obligation pursuant to, any Employee Plan.

(f) There is no contract, plan or arrangement (written or otherwise) covering any employee or former employee of the Company or any of its Subsidiaries that, individually or collectively, would entitle any employee or former employee to any severance or other payment solely as a result of the transactions contemplated hereby, or could give rise to the payment of any amount that would not be deductible pursuant to the terms of Section 280G or 162(m) of the Code.

(g) Neither the Company nor any of its Subsidiaries has any liability in respect of post-retirement health, medical or life insurance benefits for retired, former or current employees of the Company or its Subsidiaries except as required to avoid excise tax under Section 4980B of the Code.

(h) Neither the Company nor any of its Subsidiaries is a party to or subject to, or is currently negotiating in connection with entering into, any collective bargaining agreement or other contract or understanding with a labor union or organization.

(i) To the Knowledge of the Company, there is no action, suit, investigation, audit or proceeding pending against, threatened against or involving any Employee Plan before any Governmental Authority.

(j) The Company has provided Parent with a list and copies of each International Plan. Each International Plan has been maintained in substantial compliance with its terms and with the requirements prescribed by any and all applicable statutes, orders, rules and regulations (including any special provisions relating to qualified plans where such Plan was intended so to qualify) and has been maintained in good standing with applicable regulatory authorities. There has been no amendment to, written interpretation of or announcement (whether or not written) by the Company or any of its Subsidiaries relating to, or change in employee participation or coverage under, any International Plan that would increase materially the expense of maintaining such International Plan above the level of expense incurred in respect thereof for the most recent fiscal year ended prior to the date hereof. According to the actuarial assumptions and valuations most recently used for the purpose of funding each International Plan (or, if the same has no such assumptions and valuations or is unfunded, according to actuarial assumptions and valuations in use by the PBGC on the date hereof), as of February 21, 2006, the total amount or value of the funds available under such Plan to pay benefits accrued thereunder or segregated in respect of such accrued benefits, together with any reserve or accrual with respect thereto, exceeded the present value of all benefits (actual or contingent) accrued as of such date of all participants and past participants therein in respect of which the Company or any of its Subsidiaries has or would have after the Effective Time any obligation. From and after the Effective Time, Parent and its Affiliates will get the full benefit of any such funds, accruals or reserves.

Section 4.23. *Environmental Matters.* (a) Except as would not reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect on the Company:

(i) no notice, notification, demand, request for information, citation, summons or order has been received, no complaint has been filed, no penalty has been assessed, and no action, claim, suit, or proceeding is pending (nor is there any investigation of which the Company is aware) or, to the Knowledge of the Company, is threatened by any Governmental Authority or other Person relating to the Company or any Subsidiary and relating to or arising out of any Environmental Law;

(ii) the Company and its Subsidiaries are and have been in compliance with all Environmental Laws and all Environmental Permits; and

(iii) there are no liabilities or obligations of the Company or any of its Subsidiaries of any kind whatsoever, whether accrued, contingent, absolute, determined, determinable or otherwise arising under or relating to any Environmental Law or any Hazardous Substance.

(b) There has been no environmental investigation, study, audit, test, review or other analysis conducted in the past five years of which the Company has Knowledge in relation to the current or prior business of the Company or any of

its Subsidiaries or any property or facility now or previously owned by
A-20

Table of Contents

the Company or any of its Subsidiaries that has not been delivered to Parent at least five Business Days prior to the date hereof.

(c) Neither the Company nor any of its Subsidiaries owns, leases or operates or has, within the past five years, owned, leased or operated any real property in New Jersey or Connecticut.

(d) For purposes of this Section 4.23, the terms **Company** and **Subsidiaries** shall include any entity that is, in whole or in part, a predecessor of the Company or any of its Subsidiaries.

Section 4.24. *Antitakeover Statutes.* The Company has taken all action necessary to exempt the Merger, this Agreement and the transactions contemplated hereby from Massachusetts General Laws Chapter 110D. Neither Massachusetts General Laws Chapters 110D or 110F nor any other antitakeover or similar statute or regulation applies or purports to apply to any such transactions; *provided, however*, that, for purposes hereof, Parent and Merger Subsidiary hereby specifically represent and warrant to the Company that neither of them is an interested stockholder in the Company, as such term is defined in Massachusetts General Laws Chapter 110F. No other control share acquisition, fair price, moratorium or other antitakeover laws enacted under U.S. state or federal laws apply to this Agreement or any of the transactions contemplated hereby.

ARTICLE 5

Representations and Warranties of Parent and Merger Subsidiary

Subject to Section 11.05, Parent and Merger Subsidiary, jointly and severally, represent and warrant to the Company that:

Section 5.01. *Corporate Existence and Power.* Each of Parent and Merger Subsidiary is a corporation duly incorporated, validly existing and in good standing under the laws of its jurisdiction of incorporation and has all corporate powers and all governmental licenses, authorizations, permits, consents and approvals required to carry on its business as now conducted. Parent has heretofore delivered or made available (including through the SEC's EDGAR system) to the Company true and complete copies of the certificate of incorporation and bylaws of Parent and Merger Subsidiary as currently in effect. Since the date of its incorporation, Merger Subsidiary has not engaged in any activities other than in connection with or as contemplated by this Agreement.

Section 5.02. *Corporate Authorization.* The execution, delivery and performance by Parent and Merger Subsidiary of this Agreement and the consummation by Parent and Merger Subsidiary of the transactions contemplated hereby are within the corporate powers of Parent and Merger Subsidiary and have been duly authorized by all necessary corporate action. This Agreement constitutes a valid and binding agreement of each of Parent and Merger Subsidiary. No vote of the holders of Parent's capital stock is necessary in connection with the consummation of the Merger.

Section 5.03. *Governmental Authorization.* The execution, delivery and performance by Parent and Merger Subsidiary of this Agreement and the consummation by Parent and Merger Subsidiary of the transactions contemplated hereby require no action by or in respect of, or filing with, any Governmental Authority, other than (i) the filing of a certificate of merger and the filing of articles of merger with respect to the Merger with the Delaware Secretary of State and the Massachusetts Secretary of State, respectively, and appropriate documents with the relevant authorities of other states in which the Company is qualified to do business, (ii) compliance with any applicable requirements of the HSR Act and of laws analogous to the HSR Act, (iii) compliance with any applicable requirements of the 1933 Act, the 1934 Act and any other U.S. state or federal securities laws and (iv) any actions or filings the absence of which would not reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect on Parent or materially to impair the ability of Parent and Merger Subsidiary to consummate the transactions contemplated by this Agreement.

Section 5.04. *Non-Contravention.* The execution, delivery and performance by Parent and Merger Subsidiary of this Agreement and the consummation by Parent and Merger Subsidiary of the transactions

Table of Contents

contemplated hereby do not and will not (i) contravene, conflict with, or result in any violation or breach of any provision of the certificate of incorporation or bylaws of Parent or Merger Subsidiary, (ii) assuming compliance with the matters referred to in Section 5.03, contravene, conflict with or result in a violation or breach of any provision of any Applicable Law, (iii) require any consent or other action by any Person under, constitute a default, or an event that, with or without notice or lapse of time or both, could become a default, under, or cause or permit the termination, cancellation, acceleration or other change of any right or obligation or the loss of any benefit to which Parent or any of its Subsidiaries is entitled under any provision of any agreement or other instrument binding upon Parent or any of its Subsidiaries or any license, franchise, permit, certificate, approval or other similar authorization affecting, or relating in any way to, the assets or business of Parent and its Subsidiaries or (iv) result in the creation or imposition of any Lien on any asset of Parent or any of its Subsidiaries, with such exceptions, in the case of each of clauses (iii) and (iv), as would not reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect on Parent or materially to impair the ability of Parent and Merger Subsidiary to consummate the transactions contemplated by this Agreement.

Section 5.05. *SEC Filings and the Sarbanes-Oxley Act.* (a) Parent has delivered or made available (including through the SEC's EDGAR system) to the Company (i) its annual report on Form 10-K for its fiscal year ended June 30, 2005, (ii) its quarterly reports on Form 10-Q for its fiscal quarters ended September 30, 2005, and December 31, 2005, (iii) its proxy statement and additional definitive proxy soliciting materials relating to Parent's 2005 annual meeting of stockholders and (iv) all of its other reports, statements, schedules and registration statements filed with the SEC since June 30, 2005 (the documents referred to in this Section 5.05(a), collectively, the **Parent SEC Documents**).

(b) As of its filing date, each Parent SEC Document complied as to form in all material respects with the applicable requirements of the 1933 Act and 1934 Act, as the case may be.

(c) As of its filing date, each Parent SEC Document filed pursuant to the 1934 Act did not contain any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements made therein, in the light of the circumstances under which they were made, not misleading.

(d) Each Parent SEC Document that is a registration statement, as amended or supplemented, if applicable, filed pursuant to the 1933 Act, as of the date such registration statement or amendment became effective, did not contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein not misleading. The representations and warranties contained in this Section 5.05(d) will not apply to statements or omissions in the Registration Statement or any amendment or supplement thereto based upon information furnished to Parent or Merger Subsidiary by the Company in writing specifically for use therein.

(e) Parent has established and maintains disclosure controls and procedures (as defined in Rule 13a-15 under the 1934 Act). Such disclosure controls and procedures are designed to ensure that material information relating to Parent, including its consolidated Subsidiaries, is made known to Parent's principal executive officer and its principal financial officer by others within those entities, particularly during the periods in which the periodic reports required under the 1934 Act are being prepared. Such disclosure controls and procedures are effective in timely alerting Parent's principal executive officer and principal financial officer to material information required to be included in Parent's periodic reports required under the 1934 Act.

(f) Parent and its Subsidiaries have established and maintained a system of Internal Controls. Such Internal Controls are sufficient to provide reasonable assurance regarding the reliability of Parent's financial reporting and the preparation of Parent financial statements for external purposes in accordance with GAAP. Parent has disclosed, based on its most recent evaluation of Internal Controls prior to the date hereof, to Parent's auditors and

audit committee (x) any significant deficiencies and material weaknesses in the design or operation of Internal Controls which are reasonably likely to adversely affect Parent's ability to record, process, summarize and report financial information and

A-22

Table of Contents

(y) any fraud, whether or not material, that involves management or other employees who have a significant role in Internal Controls.

(g) There are no outstanding loans or other extensions of credit made by Parent or any of its Subsidiaries to any executive officer (as defined in Rule 3b-7 under the 1934 Act) or director of Parent. Parent has not, since the enactment of the Sarbanes-Oxley Act, taken any action prohibited by Section 402 of the Sarbanes-Oxley Act.

Section 5.06. *Financial Statements.* The audited consolidated financial statements and unaudited consolidated interim financial statements of Parent included in the Parent SEC Filings fairly present, in conformity with GAAP applied on a consistent basis (except as may be indicated in the notes thereto), the consolidated financial position of Parent and its consolidated Subsidiaries as of the dates thereof and their consolidated results of operations and cash flows for the periods then ended (subject to normal year-end adjustments in the case of any unaudited interim financial statements).

Section 5.07. *No Undisclosed Material Liabilities.* There are no liabilities or obligations of Parent or any of its Subsidiaries of any kind whatsoever, whether accrued, contingent, absolute, determined, determinable or otherwise, other than:

(a) liabilities or obligations disclosed and provided for in the Parent Balance Sheet or in the notes thereto,

(b) liabilities or obligations incurred in the ordinary course of business consistent with past practices since the Parent Balance Sheet Date that would not reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect on Parent, and

(c) liabilities or obligations incurred in connection with the execution of this Agreement.

Section 5.08. *Disclosure Documents.* (a) The Registration Statement shall not, at the time the Registration Statement is declared effective by the SEC, at the time the prospectus contained therein or any amendment or supplement thereto is first mailed to stockholders of the Company, at the time of the Company Stockholder Meeting or at the Effective Time, contain any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements in the Registration Statement, in light of the circumstances under which they were made, not misleading.

(b) The information to be supplied by Parent for inclusion in the Proxy Statement shall not, at the time the Proxy Statement or any amendment or supplement thereto is first mailed to the stockholders of the Company or at the time of the Company Stockholder Meeting, contain any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements made therein, in the light of the circumstances under which they were made, not misleading. The representations and warranties contained in this Section 5.08(b) will not apply to statements or omissions in the Registration Statement or any amendment or supplement thereto based upon information furnished to Parent or Merger Subsidiary by the Company in writing specifically for use therein.

Section 5.09. *Finders Fees.* Except for Credit Suisse First Boston LLC, whose fees will be paid by Parent, there is no investment banker, broker, finder or other intermediary that has been retained by or is authorized to act on behalf of Parent who might be entitled to any fee or commission upon consummation of the transactions contemplated by this Agreement.

Section 5.10. *Tax Treatment.* Neither Parent nor any of its Affiliates has taken or agreed to take any action that would prevent the Merger from qualifying as a 368 Reorganization.

Section 5.11. *Ownership of Merger Subsidiary; No Prior Activities.* Merger Subsidiary is a direct wholly-owned subsidiary of Parent. Merger Subsidiary has engaged in no business activities other than as contemplated by this

Agreement and has conducted its operations only as contemplated by this Agreement.

A-23

Table of Contents

Section 5.12. *No Stockholder Vote Required.* No vote of the stockholders of Parent is necessary to approve this Agreement and the transactions contemplated hereby, including, without limitation, the assumption of the Company Stock Options as contemplated hereby.

ARTICLE 6
Covenants of the Company

The Company agrees that:

Section 6.01. *Conduct of the Company.* From the date hereof until the Effective Time or the earlier termination of this Agreement, the Company and its Subsidiaries shall conduct their business in the ordinary course consistent with past practice and shall use their reasonable best efforts to preserve intact their business organizations and relationships with third parties and to keep available the services of their present officers and employees. Without limiting the generality of the foregoing, from the date hereof until the Effective Time or the earlier termination of this Agreement, except as expressly permitted by this Agreement, the Company shall not, and shall not permit any of its Subsidiaries to:

- (a) enter into any contract, agreement, lease, license, note, bond, mortgage, indenture, guarantee, other evidence of indebtedness or other instrument, obligation or commitment of the type referred to in Section 4.14(a), Section 4.18(j) or Section 4.18(l);
- (b) adopt or propose to adopt any change to the Company's articles of organization or bylaws;
- (c) reclassify, recapitalize, split, combine, exchange or readjust any shares of capital stock of the Company;
- (d) declare, set aside or pay any dividend or other distribution with respect to any shares of capital stock of the Company, or repurchase, redeem or otherwise acquire any outstanding shares of capital stock or other securities of, or other ownership interests in, the Company or any of its Subsidiaries;
- (e) issue, sell, transfer, pledge, redeem, accelerate rights under, dispose of or encumber, or authorize the issuance, sale, transfer, pledge, redemption, acceleration of rights under, disposition or encumbrance of, any shares of its capital stock of any class, or any options, warrants, convertible securities or other rights of any kind to acquire any shares of its capital stock, or any other ownership interest in the Company or any of its Subsidiaries, except in each case (i) for the issuance of shares of Company Common Stock upon the exercise of the Company Stock Options outstanding as of the date of this Agreement in accordance with their terms, (ii) for the issuance of shares of Company Common Stock or rights to purchase Company Common Stock under the Company ESPP and (iii) the grant of Company Stock Options to employees and directors of the Company or its Subsidiaries in the ordinary course of business consistent with past practice in an amount not to exceed (x) an aggregate of 30,000 shares of Company Common Stock prior to June 1, 2006, and (y) an aggregate of 55,000 shares of Company Common Stock thereafter (inclusive of the 30,000 shares of Company Common Stock referred to in clause (x)); *provided* that (A) such Company Stock Options shall have an exercise price per share not less than the fair market value of Company Common Stock on the date of grant and (B) such Company Stock Options shall not be subject to accelerated vesting under any agreement or plan as a result of the consummation of the transactions contemplated by this Agreement or as a result of termination of employment;
- (f) amend any material term of any outstanding security of the Company or any of its Subsidiaries;
- (g) (i) grant any severance or termination pay to (or amend any existing arrangement with) any director, executive officer or employee of the Company or any of its Subsidiaries, except in the ordinary course of business consistent with past practice in connection with actual termination of any such individual in accordance with plans

or policies listed on Schedule 4.22 or as otherwise disclosed

A-24

Table of Contents

on Schedule 4.22, (ii) increase the benefits payable under any existing severance or termination pay policies or employment agreements, (iii) enter into any employment, deferred compensation or other similar agreement (or any amendment to any such existing agreement) with any director, executive officer or employee of the Company or any of its Subsidiaries (other than at-will offer letters with no severance or change of control provisions), (iv) establish, adopt or amend (except as required by Applicable Law) any collective bargaining, bonus, profit-sharing, thrift, pension, retirement, deferred compensation, compensation, stock option, restricted stock or other benefit plan or arrangement covering any director, executive officer or employee of the Company or any of its Subsidiaries, (v) increase the compensation, bonus or other benefits payable to any director or executive officer of the Company or any of its Subsidiaries except for annual bonuses of up to \$1,000,000 in the aggregate payable to executive officers of the Company or (vi) increase the compensation, bonus or other benefits payable to employees of the Company or any of its Subsidiaries that in an aggregate amount for all such employees that if annualized would exceed \$2,000,000 (including, for this purpose, the annual bonus payments described in clause (v)), except that, if the Closing has not occurred by June 1, 2006, the Company may increase the compensation and other benefits (and otherwise grant ordinary course raises) to non-executive employees in the ordinary course consistent with past practice;

(h) enter into any plan or agreement of merger or consolidation involving the Company or any of its Subsidiaries, or involving any acquisition by the Company or any of its Subsidiaries of a material amount of stock or assets of any other Person;

(i) sell or otherwise dispose of any material subsidiary or sell, lease, license or otherwise dispose of any assets, securities or property in each case material to the Company and its Subsidiaries, on a consolidated basis, except (i) pursuant to existing contracts or commitments and (ii) in the ordinary course consistent with past practice;

(j) incur, assume or guarantee any material indebtedness for borrowed money;

(k) create or otherwise incur any Lien on any asset of the Company or any of its Subsidiaries;

(l) make any loan, advance or capital contribution in excess of \$1,000,000 to or investment in any Person;

(m) change any method of accounting or accounting principles or practice by the Company or any of its Subsidiaries, except for any such change required by reason of a concurrent change in GAAP or Regulation S-X under the 1934 Act; or

(n) authorize, agree or commit to do any of the foregoing.

Section 6.02. *Stockholder Meeting; Proxy Material.* The Company shall cause a meeting of its stockholders (the **Company Stockholder Meeting**) to be duly called and held as soon as reasonably practicable for the purpose of voting on the approval and adoption of this Agreement and the Merger. Subject to Section 6.03(b), the Board of Directors of the Company shall recommend approval and adoption of this Agreement and the Merger by the Company's stockholders. In connection with such meeting, the Company shall (i) promptly prepare the Proxy Statement and thereafter mail to its stockholders as promptly as practicable the Proxy Statement and all other proxy materials for such meeting, (ii) subject to Section 6.03(b), use its reasonable best efforts to obtain the Company Stockholder Approval and (iii) otherwise comply with all material legal requirements applicable to such meeting.

Section 6.03. *No Solicitation; Other Offers.* (a) Subject to Section 6.03(b), neither the Company nor any of its Subsidiaries shall, nor shall the Company or any of its Subsidiaries authorize or permit any of its or their officers, directors, employees, investment bankers, attorneys, accountants, consultants or other agents or advisors to, directly or indirectly, (i) solicit, initiate or take any action that could reasonably be expected to facilitate, or encourage the

submission of, any Acquisition Proposal, (ii) enter into or participate in any discussions or negotiations with, furnish any nonpublic information relating to the Company or any of its Subsidiaries or afford access to the business, properties, assets, books or records of

A-25

Table of Contents

the Company or any of its Subsidiaries to, otherwise cooperate in any way with, or knowingly assist, participate in, facilitate or encourage any effort by, any Third Party that a Person acting in good faith would reasonably believe is seeking to make, or has made, an Acquisition Proposal, except to notify such Third Party as to the existence of these provisions, (iii) fail to make when required, withdraw or modify in a manner adverse to Parent the Company Board Recommendation (or recommend an Acquisition Proposal or take any action or make any public statement inconsistent with the Company Board Recommendation) (any of the foregoing in this clause (iii), an **Adverse Recommendation Change**), (iv) grant any Third Party any waiver or release under any standstill or similar agreement with respect to any class of equity securities of the Company or any of its Subsidiaries or (v) enter into any agreement in principle, letter of intent, term sheet or other similar instrument relating to an Acquisition Proposal (except for confidentiality agreements under circumstances permitted by Section 6.03(b)).

(b) Notwithstanding the foregoing, prior to receiving the Company Stockholder Approval, the Board of Directors of the Company, directly or indirectly through advisors, agents or other intermediaries, may (i) engage in negotiations or discussions with any Third Party (or with the representatives of any Third Party) that, subject to the Company's compliance with Section 6.03(a)(i), has made a bona fide written Acquisition Proposal that the Board of Directors of the Company reasonably believes will lead to a Superior Proposal, (ii) thereafter furnish to such Third Party nonpublic information relating to the Company or any of its Subsidiaries pursuant to a confidentiality agreement with terms no less favorable to the Company than those contained in the Confidentiality Agreement dated as of September 23, 2005 between the Company and Parent (the **Confidentiality Agreement**); *provided, however*, that such confidentiality agreement shall not be required to, and shall not, contain any provisions that would prevent the Company from complying with its obligation to provide the required disclosure to Parent pursuant to this Section 6.03 (a copy of which confidentiality agreement shall be provided for informational purposes only to Parent), (iii) following a determination by the Board of Directors of the Company that such Acquisition Proposal is a Superior Proposal, make an Adverse Recommendation Change and/or (iv) take any action that any court of competent jurisdiction orders the Company to take, but in each case referred to in the foregoing clauses (i) through (iii) only if the Board of Directors of the Company determines in good faith by a majority vote, after considering advice from outside legal counsel to the Company (which may be its current outside legal counsel, Sullivan & Worcester LLP), that the failure to take such action would be inconsistent with its fiduciary duties under Applicable Law. Nothing contained herein shall prevent the Board of Directors of the Company from complying with Rule 14e-2(a) or Rule 14d-9 under the 1934 Act with regard to an Acquisition Proposal; *provided* that the Board of Directors of the Company shall not recommend that the Company's stockholders tender shares of capital stock in connection with any tender or exchange offer unless the Board of Directors of the Company determines in good faith by a majority vote, after considering advice from outside legal counsel to the Company (which may be its current outside legal counsel, Sullivan & Worcester LLP), that the failure to take such action would be inconsistent with its fiduciary duties under Applicable Law.

(c) The Board of Directors of the Company shall not take any of the actions referred to in clauses (i) through (iii) or the last sentence of Section 6.03(b) unless the Company shall have delivered to Parent a prior written notice advising Parent that it intends to take such action. In addition, the Company shall notify Parent promptly (but in no event later than 24 hours) after an executive officer or director of the Company first obtains Knowledge of the receipt by the Company (or any of its advisors) of any Acquisition Proposal, any inquiry that would reasonably be expected to lead to an Acquisition Proposal or any request for information relating to the Company or any of its Subsidiaries or for access to the business, properties, assets, books or records of the Company or any of its Subsidiaries from any Third Party that a Person acting in good faith would reasonably believe is seeking to make, or has made, an Acquisition Proposal. The Company shall provide such notice orally and in writing and shall identify the Third Party making, and the material terms and conditions of, any such Acquisition Proposal, indication or request. The Company shall keep Parent reasonably informed, on a current basis, of the status and material details of any such Acquisition Proposal, indication or request. The Company shall, and shall cause its Subsidiaries and the advisors, employees and other agents of the Company and any of its Subsidiaries to, cease immediately and cause to be terminated any and all existing activities, discussions or

Table of Contents

negotiations, if any, with any Third Party conducted prior to the date hereof with respect to any Acquisition Proposal and shall use its reasonable best efforts to cause any such Party (or its agents or advisors) in possession of confidential information about the Company that was furnished by or on behalf of the Company to return or destroy all such information.

Superior Proposal means any bona fide, unsolicited written Acquisition Proposal (with the references to 20% or more contained therein being replaced with 75% or more) on terms that the Board of Directors of the Company determines in good faith by a majority vote, after considering the advice of the Company's financial advisor (which may be RBC Capital Markets Corporation) and taking into account all the terms and conditions of the Acquisition Proposal, including any break-up fees, expense reimbursement provisions and conditions to consummation, are more favorable and provide greater value to all the Company's stockholders than as provided hereunder and for which financing, if a cash transaction (whether in whole or in part), is then fully committed or reasonably determined to be available by the Board of Directors of the Company.

Section 6.04. *Access to Information.* From the date hereof until the Effective Time or the earlier termination of this Agreement, and subject to Applicable Law and the Confidentiality Agreement, the Company shall (i) give to Parent, its counsel, financial advisors, auditors and other authorized representatives reasonable access to the offices, properties, books and records of such party, (ii) furnish to Parent, its counsel, financial advisors, auditors and other authorized representatives such financial and operating data and other information as such Persons may reasonably request and (iii) instruct its employees, counsel, financial advisors, auditors and other authorized representatives to cooperate with Parent in its investigation; *provided*, however, that the Company shall not be required to provide to Parent or its representatives any of the information specified in Section 6.04 of the Company Disclosure Schedule (or access thereto) until the condition set forth in Section 9.01(c) has been satisfied or waived. Any investigation pursuant to this Section shall be conducted in such manner as not to interfere unreasonably with the conduct of the business of the Company. No information or knowledge obtained in any investigation pursuant to this Section shall affect or be deemed to modify any representation or warranty made by any party hereunder. Neither the Company nor any of its Subsidiaries shall be obligated to provide access to, or to disclose, any information to Parent if the Company reasonably determines that such access or disclosure would jeopardize the attorney-client privilege of the Company or any of its Subsidiaries; *provided*, however, that the parties will at Parent's request use reasonable efforts to enter into a joint defense or similar agreement that permits access to such information by Parent while preserving the attorney-client privilege of the Company and its Subsidiaries.

Section 6.05. *Tax Matters.* (a) From the date of this Agreement until the Effective Time or the earlier termination of this Agreement, neither the Company nor any of its Subsidiaries shall make or change any Tax election, change any annual tax accounting period, adopt or change any method of tax accounting, file any amended Tax Returns or claims for Tax refunds, enter into any closing agreement, settle any Tax claim, audit or assessment, surrender any right to claim a Tax refund, offset or other reduction in Tax liability, consent to any extension or waiver of the limitations period applicable to any Tax claim or assessment or take or omit to take any other action, if any such action or omission would have the effect of materially increasing the Tax liability or materially reducing any Tax asset of the Company or any of its Subsidiaries.

(b) The Company and each of its Subsidiaries shall establish or cause to be established in accordance with GAAP on or before the Effective Time an adequate accrual for all Taxes due with respect to any period or portion thereof ending prior to or as of the Effective Time.

Table of Contents

ARTICLE 7
Covenants of Parent

Parent agrees that:

Section 7.01. *Obligations of Merger Subsidiary.* Parent shall take all action necessary to cause Merger Subsidiary to perform its obligations under this Agreement and to consummate the Merger on the terms and conditions set forth in this Agreement.

Section 7.02. *Voting of Shares.* Parent shall vote all shares of Company Common Stock beneficially owned by it or any of its Subsidiaries in favor of adoption of this Agreement at the Company Stockholder Meeting.

Section 7.03. *Director and Officer Liability.* Parent shall cause the Surviving Corporation, and the Surviving Corporation hereby agrees, to do the following:

(a) For six years after the Effective Time, the Surviving Corporation shall indemnify and hold harmless the present and former officers and directors of the Company (each an **Indemnified Person**) in respect of acts or omissions occurring at or prior to the Effective Time to the fullest extent permitted by Massachusetts Law or any other Applicable Law or provided under the Company's articles of organization and bylaws in effect on the date hereof; *provided* that such indemnification shall be subject to any limitation imposed from time to time under Applicable Law.

(b) For six years after the Effective Time, the Surviving Corporation shall provide officers and directors liability insurance in respect of acts or omissions occurring prior to the Effective Time covering each such Indemnified Person currently covered by the Company's officers and directors liability insurance policy on terms with respect to coverage and amount no less favorable than those of such policy in effect on the date hereof; *provided* that, in satisfying its obligation under this Section 7.03(b), the Surviving Corporation shall not be obligated to pay an aggregate premium in excess of 250% of the amount per annum the Company paid in its last full fiscal year, which amount Company has disclosed to Parent prior to the date hereof.

(c) If Parent, the Surviving Corporation or any of its successors or assigns (i) consolidates with or merges into any other Person and shall not be the continuing or surviving corporation or entity of such consolidation or merger, or (ii) transfers or conveys all or substantially all of its properties and assets to any Person, then, and in each such case, to the extent necessary, proper provision shall be made so that the successors and assigns of Parent or the Surviving Corporation, as the case may be, shall assume the obligations set forth in this Section 7.03.

(d) The rights of each Indemnified Person under this Section 7.03 shall be in addition to any rights such Person may have under the articles of organization or bylaws of the Company or any of its Subsidiaries, or under Massachusetts Law or any other Applicable Law or under any agreement of any Indemnified Person with the Company or any of its Subsidiaries. These rights shall survive consummation of the Merger and are intended to benefit, and shall be enforceable by, each Indemnified Person.

(e) The Surviving Corporation shall pay all reasonable costs and expenses, including attorneys' fees, that may be incurred by any indemnified party in enforcing the indemnity and other obligations provided for in this Section 7.03, so long as such indemnified party undertakes in writing to reimburse the Surviving Corporation for such costs and expenses if it is finally determined by a court of competent jurisdiction that such indemnified party was not entitled to be indemnified hereunder.

(f) Parent guarantees as primary obligor, and not as surety, the full and punctual performance of the Surviving Corporation's indemnification obligations under this Section 7.03.

Section 7.04. *Stock Exchange Listing.* Parent shall use its best efforts to cause the shares of Parent Common Stock to be issued in connection with the Merger (including any shares of Parent

A-28

Table of Contents

Common Stock underlying Company Stock Options assumed by Parent under Section 2.04) to be listed on the Nasdaq, subject to official notice of issuance.

Section 7.05. *Blue Sky Laws.* Parent shall take such steps as may be necessary to comply with the securities and blue sky laws of all jurisdictions which are applicable to the issuance of Parent Common Stock in connection with the Merger.

Section 7.06. *Employee Benefits Plans.* (a) For one year after the Effective Time, Parent will cause the employees of the Company and its Subsidiaries who continue employment with Parent after the Effective Time (the **Continuing Employees**) to have benefits (excluding equity compensation) that are substantially similar or more advantageous, in the aggregate, to the benefits provided by Parent or its subsidiaries to employees of Parent or its subsidiaries (and their eligible dependants) serving in comparable positions. Each such Continuing Employee will receive credit for purposes of eligibility to participate and vesting under Parent's plans for years of service with the Company (or any of its Subsidiaries) prior to the Effective Time. Subject to any third party insurer's consent, Parent will cause any and all pre-existing condition limitations, eligibility waiting periods and evidence of insurability requirements under any group health plans of Parent in which such employees and their eligible dependents will participate to be waived (to the extent not applicable under the Company's Plans) and will provide credit for any co-payments and deductibles prior to the Effective Time but in the plan year which includes the Effective Time for purposes of satisfying any applicable deductible, out-of-pocket or similar requirements under any such plans that may apply for such plan year after the Effective Time.

(b) The Company shall terminate its Employee Stock Purchase Plan (the **Company ESPP**) prior to the Effective Time and shall either (i) amend the Company ESPP to cause the exercise of each outstanding purchase right under the Company ESPP no less than five Business Days prior to the Effective Time, with no further purchase period or offering period to commence under the Company ESPP following such date or (ii) cause all unused payroll deductions as of the date of such termination to be returned to participants in accordance with the terms of the Company ESPP. The Company employees who meet the eligibility requirements for participation in Parent's Employee Stock Purchase Plan (**Parent ESPP**) shall be eligible to participate in the Parent ESPP starting with the first offering period of the Parent ESPP that begins after the Effective Time.

ARTICLE 8

Covenants of Parent and the Company

The parties hereto agree that:

Section 8.01. *Reasonable Best Efforts.* (a) Subject to the terms and conditions of this Agreement, the Company and Parent shall use their reasonable best efforts to take, or cause to be taken, all actions and to do, or cause to be done, all things necessary, proper or advisable under Applicable Law to consummate the transactions contemplated by this Agreement, including (i) preparing and filing as promptly as practicable with any Governmental Authority or other third party all documentation to effect all necessary filings, notices, petitions, statements, registrations, submissions of information, applications and other documents ii) obtaining and maintaining all approvals, consents, registrations, permits, authorizations and other confirmations required to be obtained from any Governmental Authority or other third party that are necessary, proper or advisable to consummate the transactions contemplated by this Agreement, (iii) defending any lawsuits or other proceedings challenging this Agreement and (iv) satisfying the conditions to closing set forth under Article 9 hereof. The Company and Parent shall cooperate with each other in connection with the making of all such filings, including providing copies of all such documents to the non-filing party and its advisors prior to filing and, if requested, to accept all reasonable additions, deletions or changes suggested in connection therewith. The Company and Parent shall use their respective reasonable efforts to furnish to each other all information required for any application or other filing to be made pursuant to the rules and regulations of any Applicable Law in connection with the transactions contemplated by this Agreement.

Table of Contents

(b) In furtherance and not in limitation of the foregoing, and subject to the terms hereof, each of Parent and the Company agrees, and shall cause each of their respective Subsidiaries, to cooperate and to use their respective reasonable efforts to make an appropriate filing of a Notification and Report Form pursuant to the HSR Act with respect to the transactions contemplated hereby as promptly as practicable and in any event within 10 Business Days of the date hereof and to supply as promptly as practicable any additional information and documentary material that may be requested pursuant to the HSR Act and to take all other actions necessary to cause the expiration or termination of the applicable waiting periods under the HSR Act as soon as practicable.

(c) Notwithstanding anything to the contrary herein, nothing in this Section 8.01 shall require either Parent or any of its Subsidiaries to: (i) agree to or to effect any divestiture of, or hold separate (including by establishing a trust or otherwise), or agree to restrict its ownership or operation of, any business or assets of the Company or its Subsidiaries or of Parent or its Subsidiaries, or to enter into any settlement or consent decree, or agree to any undertaking, with respect to any business or assets of the Company or its Subsidiaries or of Parent or its Subsidiaries, (ii) enter into, amend or agree to enter into or amend, any contracts or agreements of the Company or its Subsidiaries or of Parent or its Subsidiaries, (iii) otherwise waive, abandon or alter any material rights or obligations of the Company or its Subsidiaries or of Parent or its Subsidiaries or (iv) file or defend any lawsuit, appeal any judgment or contest any injunction issued in a proceeding initiated by a Governmental Authority, except in the case of clauses (i) through (iv) as would not, individually or in the aggregate, have an impact that is both material in comparison to, and adverse to, the benefits that would be reasonably expected to accrue to Parent from the Merger or the consummation of the transactions contemplated hereby.

Section 8.02. *Certain Filings.* (a) The Company and Parent shall cooperate with one another (i) in connection with the preparation of the Registration Statement and the Proxy Statement, (ii) in determining whether any action by or in respect of, or filing with, any Governmental Authority is required, or any actions, consents, approvals or waivers are required to be obtained from parties to any material contracts, in connection with the consummation of the transactions contemplated by this Agreement and (iii) in taking such actions or making any such filings, furnishing information required in connection therewith or with the Registration Statement or the Proxy Statement and seeking timely to obtain any such actions, consents, approvals or waivers.

(b) As promptly as practicable after the execution of this Agreement, Parent and the Company shall prepare the Registration Statement (which shall include the Proxy Statement as part of the prospectus contained therein) and Parent shall file with the SEC the Registration Statement. Parent and the Company shall use their reasonable best efforts to cause the Registration Statement to be declared effective under the 1933 Act and to cause the Proxy Statement to be cleared by the SEC as promptly as practicable after such filings. Each of Parent and the Company will respond to any comments of the SEC as promptly as practicable after receipt thereof. The Company will cause the Proxy Statement to be mailed to its stockholders at the earliest practicable time after the Registration Statement is declared effective under the 1933 Act and the Proxy Statement is cleared by the SEC. Each of Parent and the Company shall provide the other party and its counsel with (i) any comments or other communications, whether written or oral, that such party or its counsel may receive from time to time from the SEC or its staff with respect to the Registration Statement or the Proxy Statement promptly after receipt of those comments or other communications and (ii) a reasonable opportunity to participate in the response to those comments and to provide comments on that response (to which reasonable and good faith consideration shall be given), including by participating in any discussions or meetings with the SEC. Each of Parent and the Company will cause all documents that it is responsible for filing with the SEC or other regulatory authorities under this Section 8.02 to comply in all material respects with all applicable requirements of law and the rules and regulations promulgated thereunder. Whenever any event occurs which is required to be set forth in an amendment or supplement to the Registration Statement or the Proxy Statement or any filing pursuant to Section 8.02(c), Parent or the Company, as the case may be, will promptly inform the other of such occurrence and cooperate in filing with the SEC or its staff or any

Table of Contents

other government officials, and/or mailing to stockholders of the Company, such amendment or supplement.

(c) Parent and the Company shall make all necessary filings with respect to the Merger under the 1933 Act, the 1934 Act, applicable state blue sky laws and the rules and regulations thereunder.

Section 8.03. *Public Announcements.* Parent and the Company shall consult with each other, and shall mutually agree, before issuing any press release, before making any other public statement or scheduling any press conference or conference call with investors or analysts with respect to this Agreement or the transactions contemplated hereby and, except as may be required by Applicable Law or any listing agreement with or rule of any national securities exchange or association, shall not issue any such press release, make any such other public statement or schedule any such press conference or conference call before such consultation and agreement.

Section 8.04. *Further Assurances.* At and after the Effective Time, the officers and directors of the Surviving Corporation shall be authorized to execute and deliver, in the name and on behalf of the Company or Merger Subsidiary, any deeds, bills of sale, assignments or assurances and to take and do, in the name and on behalf of the Company or Merger Subsidiary, any other actions and things to vest, perfect or confirm of record or otherwise in the Surviving Corporation any and all right, title and interest in, to and under any of the rights, properties or assets of the Company acquired or to be acquired by the Surviving Corporation as a result of, or in connection with, the Merger.

Section 8.05. *Notices of Certain Events.* Each of the Company and Parent shall promptly notify the other of:

(a) any notice or other communication from any Person alleging that the consent of such Person is or may be required in connection with the transactions contemplated by this Agreement;

(b) any notice or other communication from any Governmental Authority in connection with the transactions contemplated by this Agreement;

(c) any actions, suits, claims or proceedings commenced with a Governmental Authority or arbitrator (or investigations commenced of which the Company is aware) or, to the Knowledge of the Company, threatened against or otherwise affecting the Company or any of its Subsidiaries or Parent and any of its Subsidiaries, as the case may be, that, if pending on the date of this Agreement, would have been required to have been disclosed pursuant to Sections 4.12, 4.13, 4.19, 4.22, 4.23 or 4.20, as the case may be, or that relate to the consummation of the transactions contemplated by this Agreement;

(d) any inaccuracy of any representation or warranty contained in this Agreement at any time during the term hereof that would reasonably be expected to cause the condition set forth in Section 9.02(a) not to be satisfied; and

(e) any failure of that party to comply with or satisfy any covenant, condition or agreement to be complied with or satisfied by it hereunder;

provided, however, that the delivery of any notice pursuant to this Section 8.05 shall not limit or otherwise affect the remedies available hereunder to the party receiving that notice.

Section 8.06. *Tax-Free Reorganization.* (a) Prior to the Effective Time, each of Parent and the Company shall use its best efforts to cause the Merger to qualify as a 368 Reorganization, and shall not take any action reasonably likely to cause the Merger not so to qualify. Parent shall not take, or cause the Company to take, any action after the Effective Time reasonably likely to cause the Merger not to qualify as a 368 Reorganization.

(b) Each of Parent and the Company shall use its best efforts to obtain the opinions referred to in Sections 9.02(c) and 9.03(b).

Table of Contents

Section 8.07. *Affiliates.* Prior to the Company Stockholder Meeting, the Company shall deliver to Parent a letter identifying all known Persons who may be deemed affiliates of the Company under Rule 145 of the 1933 Act. The Company shall use its reasonable best efforts to obtain prior to the Effective Time a written agreement from each Person who may be so deemed, substantially in the form of Exhibit B hereto.

Section 8.08. *Certain Section 16 Matters.* On or after the date of this Agreement and prior to the Effective Time, each of Parent and the Company shall take actions consistent with all current applicable interpretation and guidance of the SEC to cause any dispositions of Company Common Stock (including derivative securities with respect to Company Common Stock) or any acquisitions of Parent Common Stock (including derivative securities with respect to Parent Common Stock) resulting from the transactions contemplated by this Agreement by each director or officer who is subject to the reporting requirements of Section 16(a) of the 1934 Act to be exempt from the short-swing profit liability rules of Section 16(b) of the 1934 Act pursuant to Rule 16b-3 promulgated thereunder.

ARTICLE 9

Conditions to the Merger

Section 9.01. *Conditions to the Obligations of Each Party.* The obligations of the Company, Parent and Merger Subsidiary to consummate the Merger are subject to the satisfaction of the following conditions:

- (a) the Company Stockholder Approval shall have been obtained in accordance with Massachusetts Law;
- (b) no Applicable Law shall prohibit the consummation of the Merger;
- (c) any applicable waiting period under the HSR Act relating to the Merger shall have expired or been terminated;
- (d) the Registration Statement shall have been declared effective and no stop order suspending the effectiveness of the Registration Statement or shall be in effect and no proceedings for such purpose shall be pending before or threatened by the SEC; and
- (e) the shares of Parent Common Stock to be issued in connection with the Merger (including any shares of Parent Common Stock underlying Company Stock Options assumed by Parent under Section 2.04) shall have been approved for listing on the Nasdaq, subject to official notice of issuance.

Section 9.02. *Conditions to the Obligations of Parent and Merger Subsidiary.* The obligations of Parent and Merger Subsidiary to consummate the Merger are subject to the satisfaction of the following further conditions:

- (a)(i) the Company shall have performed in all material respects all of its covenants hereunder required to be performed by it at or prior to the Effective Time, (ii) the representations and warranties of the Company contained in this Agreement (A) that are not qualified by materiality or Material Adverse Effect shall be true and correct in all material respects (other than representations and warranties made as of a specified date or for a specified period, which shall be true and correct as of such specified date or for such specified period) and (B) that are qualified by materiality or Material Adverse Effect shall, disregarding all such qualifications and exceptions, be true and correct at and as of the Effective Time as if made at and as of such time (other than representations and warranties made as of a specified date or for a specified period, which shall be true and correct as of such specified date or for such specified period), with only such exceptions as have not had and would not reasonably be expected to have over a commercially reasonable period of time (which period of time shall not be less than one year), individually or in the aggregate, a Material Adverse

Table of Contents

Effect on the Company and (iii) Parent shall have received a certificate signed by the Chief Executive Officer of the Company to the foregoing effect;

(b) there shall not have been instituted and be pending any action or proceeding by any Governmental Authority (i) challenging or seeking to make illegal, to delay materially or otherwise directly or indirectly to restrain or prohibit the consummation of the Merger or seeking to obtain material damages relating to the transactions contemplated by the Merger, (ii) seeking to restrain or prohibit Parent, Merger Subsidiaries or any of Parent's other Affiliates (A) ability effectively to exercise full rights of ownership of the Company Common Stock, including the right to vote any shares of Company Common Stock acquired or owned by Parent, Merger Subsidiary or any of Parent's other Affiliates following the Effective Time on all matters properly presented to the Company's stockholders, or (B) ownership or operation (or that of its respective Subsidiaries or Affiliates) of all or any material portion of the business or assets of the Company and its Subsidiaries, taken as a whole, or of Parent and its Subsidiaries, taken as a whole, or (iii) seeking to compel Parent or any of its Subsidiaries or Affiliates to dispose of or hold separate all or any material portion of the business or assets of the Company and its Subsidiaries, taken as a whole, or of Parent and its Subsidiaries, taken as a whole;

(c) Parent shall have received an opinion of Davis Polk & Wardwell in form and substance reasonably satisfactory to Parent, on the basis of certain facts, representations and assumptions set forth in such opinion, dated the Effective Time, to the effect that the Merger will be treated for federal income tax purposes as a reorganization qualifying under the provision of Section 368(a) of the Code and that each of Parent, Merger Subsidiary and the Company will be a party to the reorganization within the meaning of Section 368(a) of the Code. In rendering such opinion, such counsel shall be entitled to rely upon representations of officers of Parent and the Company substantially in the form of Exhibits C and D hereto; and

(d) there shall not have occurred or otherwise arisen before and be continuing as of the Effective Time any event, change or development which, individually or in the aggregate, has had or would reasonably be expected to have a Material Adverse Effect on the Company.

Section 9.03. *Conditions to the Obligations of the Company.* The obligations of the Company to consummate the Merger are subject to the satisfaction of the following further conditions:

(a)(i) each of Parent and Merger Subsidiary shall have performed in all material respects all of its covenants hereunder required to be performed by it at or prior to the Effective Time, (ii) the representations and warranties of Parent and Merger Subsidiary contained in this Agreement (A) that are not qualified by materiality or Material Adverse Effect shall be true and correct in all material respects (other than representations and warranties made as of a specified date, which shall be true and correct as of such specified date) and (B) that are qualified by materiality or Material Adverse Effect shall, disregarding all such qualifications and exceptions, be true and correct at and as of the Effective Time as if made at and as of such time (other than representations and warranties made as of a specified date, which shall be true and correct as of such specified date), with only such exceptions as have not had and would not reasonably be expected to have over a commercially reasonable period of time (which period of time shall not be less than one year), individually or in the aggregate, a Material Adverse Effect on Parent and (iii) the Company shall have received a certificate signed by an executive officer of Parent to the foregoing effect; and

(b) the Company shall have received an opinion of Sullivan & Worcester LLP in form and substance reasonably satisfactory to the Company, on the basis of certain facts, representations and assumptions set forth in such opinion, dated the Effective Time, to the effect that the Merger will be treated for federal income tax purposes as a reorganization qualifying under the provisions of Section 368(a) of the Code and that each of Parent, Merger Subsidiary and the Company will be a party to the reorganization within the meaning of Section 368(b) of the Code. In rendering such opinion, such counsel shall be entitled to rely upon representations of officers of

Parent and the Company substantially in the form of Exhibit C and D hereto.

A-33

Table of Contents

ARTICLE 10
Termination

Section 10.01. *Termination.* This Agreement may be terminated and the Merger may be abandoned at any time prior to the Effective Time (notwithstanding any approval of this Agreement by the stockholders of the Company):

(a) by mutual written agreement of the Company and Parent;

(b) by either the Company or Parent, if:

(i) the Merger has not been consummated on or before the date that is 75 days after the date on which the SEC declares the Registration Statement effective under the 1933 Act (as such date may be extended pursuant to clause (A) of this Section 10.01(b)(i), the **End Date**); *provided* that (A) if on the End Date any of the conditions set forth in Section 9.01(b) (by virtue of any Applicable Law relating to antitrust or competition matters), Section 9.01(c) or Section 9.02(b) (by virtue of an action or proceeding relating to antitrust or competition matters) has not been satisfied or waived but in each case all other conditions to the Closing have been satisfied or waived or could be satisfied on the date of such termination, then the End Date shall be automatically extended to November 22, 2006, if such date is later than the End Date prior to such extension, and (B) the right to terminate this Agreement pursuant to this Section 10.01(b)(i) shall not be available to any party whose breach of any provision of this Agreement applicable to it has been the cause of, or resulted in, the failure of the Merger to be consummated by such time;

(ii) there shall be any Applicable Law that (A) makes consummation of the Merger illegal or otherwise prohibited or (B) enjoins the Company or Parent from consummating the Merger and such injunction shall have become final and nonappealable; or

(iii) at the Company Stockholder Meeting (including any adjournment or postponement thereof), the Company Stockholder Approval shall not have been obtained;

(c) by Parent, if:

(i) as permitted by Section 6.03, an Adverse Recommendation Change shall have occurred;

(ii) the Company shall have entered into, or publicly announced its intention to enter into, a definitive agreement or an agreement in principle with respect to a Superior Proposal;

(iii) a breach of any representation or warranty or failure to perform any covenant or agreement on the part of the Company set forth in this Agreement shall have occurred that would cause the condition set forth in Section 9.02(a) not to be satisfied, and such condition is incapable of being satisfied by the End Date; or

(iv) the Company shall have willfully and materially breached its obligations under Sections 6.02 and 6.03; or

(d) by the Company, if:

(i) at any time prior to receiving the Company Stockholder Approval, the Board of Directors of the Company authorizes the Company, subject to complying with the terms of this Agreement, to terminate this Agreement in order to enter into a binding, definitive agreement with respect to a Superior Proposal; *provided* that the Company shall have paid any amounts due pursuant to Section 11.04(b) in accordance with the terms, and at the times, specified therein; and *provided further* that (A) the Company shall have provided Parent with written notice of its intent to terminate this Agreement pursuant to this Section 10.01(d)(i) at least three Business Days in advance of such termination, which written notice shall include the most current version of such agreement and a reasonably detailed summary of any other material terms and conditions relating thereto and (B) Parent does not make, within three Business Days of receipt of such

Table of Contents

written notice, an offer that the Board of Directors of the Company determines, in good faith after consultation with its financial advisors (which may be RBC Capital Markets Corporation) and taking into account all the terms and conditions of such offer (including any break-up fees, expense reimbursement provisions and conditions to consummation), would, if consummated, result in a transaction at least as favorable to the Company's stockholders as the transaction set forth in the Company's written notice delivered pursuant to clause (A) above, it being understood that the Company shall not enter into any such binding, definitive agreement during such three Business Day period. The Company agrees to notify Parent promptly if its intention to enter into any such agreement referred to in Section 10.01(d)(i)(A) shall change at any time after giving such notification; or

(ii) a breach of any representation or warranty or failure to perform any covenant or agreement on the part of Parent or Merger Subsidiary set forth in this Agreement shall have occurred that would cause the condition set forth in Section 9.03(a) not to be satisfied, and such condition is incapable of being satisfied by the End Date.

The party desiring to terminate this Agreement pursuant to this Section 10.01 (other than pursuant to Section 10.01(a)) shall give written notice of such termination to the other party.

Section 10.02. *Effect of Termination.* If this Agreement is terminated pursuant to Section 10.01, this Agreement shall become void and of no effect without liability of any party (or any stockholder, director, officer, employee, agent, consultant or representative of such party) to the other party hereto; *provided* that, if such termination shall result from the willful (i) failure of either party to fulfill a condition to the performance of the obligations of the other party or (ii) failure of either party to perform a covenant hereof, such party shall be fully liable for any and all liabilities and damages incurred or suffered by the other party as a result of such failure. The provisions of this Section 10.02 and Sections 11.04, 11.07, 11.08 and 11.09 (and the Confidentiality Agreement, subject to the terms thereof) shall survive any termination hereof pursuant to Section 10.01.

ARTICLE 11
Miscellaneous

Section 11.01. *Notices.* All notices, requests and other communications to any party hereunder shall be in writing (including facsimile transmission) and shall be given,

if to Parent or Merger Subsidiary, to:

KLA-Tencor Corporation
160 Rio Robles
San Jose, California 95134
Attention: General Counsel
Facsimile No.: (408) 875-2002

with a copy to:

Davis Polk & Wardwell
1600 El Camino Real
Menlo Park, California 94025
Attention: William M. Kelly, Esq.
William H. Aaronson, Esq.
Facsimile No.: (650) 752-2111

Table of Contents

if to the Company, to:

ADE Corporation
80 Wilson Way
Westwood, Massachusetts 02090
Attention: Chief Financial Officer
Facsimile No.: (781) 467-0500

with a copy to:

Sullivan & Worcester LLP
One Post Office Square
Boston, Massachusetts 02109
Attention: William A. Levine, Esq.
Facsimile No.: (617) 338-2880

or to such other address or facsimile number as such party may hereafter specify for the purpose by notice to the other parties hereto. All such notices, requests and other communications shall be deemed received on the date of receipt by the recipient thereof if received prior to 5:00 p.m. on a Business Day in the place of receipt. Otherwise, any such notice, request or communication shall be deemed to have been received on the next succeeding Business Day in the place of receipt.

Section 11.02. *Survival of Representations and Warranties.* The representations and warranties contained herein and in any certificate or other writing delivered pursuant hereto shall not survive the Effective Time.

Section 11.03. *Amendments and Waivers.* (a) Any provision of this Agreement may be amended or waived prior to the Effective Time if, but only if, such amendment or waiver is in writing and is signed, in the case of an amendment, by each party to this Agreement or, in the case of a waiver, by each party against whom the waiver is to be effective; *provided that*, after the Company Stockholder Approval without their further approval, no such amendment or waiver shall reduce the amount or change the kind of consideration to be received in exchange for the Company Common Stock.

(b) No failure or delay by any party in exercising any right, power or privilege hereunder shall operate as a waiver thereof nor shall any single or partial exercise thereof preclude any other or further exercise thereof or the exercise of any other right, power or privilege. The rights and remedies herein provided shall be cumulative and not exclusive of any rights or remedies provided by Applicable Law.

Section 11.04. *Expenses.* (a) Except as otherwise provided herein, all costs and expenses incurred in connection with this Agreement shall be paid by the party incurring such cost or expense.

(b) If a Payment Event (as hereinafter defined) occurs, the Company shall pay Parent (by wire transfer of immediately available funds), if, pursuant to clause (X) or clause (Y) of the definition thereof, simultaneously with the occurrence of such Payment Event or, if pursuant to clause (Z) of the definition thereof, within two Business Days following such Payment Event, a fee of \$15,000,000.

Payment Event means (X) the termination of this Agreement by Parent pursuant to Section 10.01(c)(i), 10.01(c)(ii) or 10.01(c)(iv), (Y) the termination of this Agreement by the Company pursuant to Section 10.01(d)(i) or (Z) the termination of this Agreement pursuant to Section 10.01(b)(i) or 10.01(b)(iii); but only in the case of clause (Z) of this definition if (A) prior to the Company Stockholder Meeting, or the End Date, as the case may be, an Acquisition Proposal shall have been made, and (B) within 12 months following the date of such termination: (1) the Company merges with or into, or is acquired, directly or indirectly, by merger or otherwise by, a Third Party; (2) a Third Party, directly or indirectly, acquires more than 50% of the total assets of the Company and its Subsidiaries,

taken as a whole; (3) a Third Party, directly or indirectly, acquires more than 50% of the outstanding shares of Company Common Stock; or (4) the Company adopts or implements a plan of liquidation, recapitalization or share repurchase relating to more than 50% of the outstanding shares of

A-36

Table of Contents

Company Common Stock or an extraordinary dividend relating to more than 50% of such outstanding shares or 50% of the assets of the Company and its Subsidiaries, taken as a whole.

(c) The Company acknowledges that the agreements contained in this Section 11.04 are an integral part of the transactions contemplated by this Agreement and that, without these agreements, Parent and Merger Subsidiary would not enter into this Agreement. Accordingly, if the Company fails promptly to pay any amount due to Parent pursuant to this Section 11.04, it shall also pay any reasonable costs and expenses incurred by Parent or Merger Subsidiary in connection with a legal action to enforce this Agreement that results in a judgment against the Company for such amount.

Section 11.05. *Disclosure Schedule References.* The parties hereto agree that any reference in a particular Section of the Company Disclosure Schedule shall be deemed to be an exception to (or, as applicable, a disclosure for purposes of) the representations and warranties (or covenants, as applicable) of the Company that are contained in (i) the corresponding Section of this Agreement and (ii) each other Section of this Agreement with respect to which it is reasonably clear from a reading of the exception or disclosure that such exception or disclosure is applicable to the representations and warranties contained in such other Section.

Section 11.06. *Binding Effect; Benefit; Assignment.* (a) The provisions of this Agreement shall be binding upon and, except as provided in Section 7.03, shall inure to the benefit of the parties hereto and their respective successors and assigns. Except as provided in Section 7.03, no provision of this Agreement is intended to confer any rights, benefits, remedies, obligations or liabilities hereunder upon any Person other than the parties hereto and their respective successors and assigns.

(b) No party may assign, delegate or otherwise transfer any of its rights or obligations under this Agreement without the consent of each other party hereto, except that Parent or Merger Subsidiary may transfer or assign its rights and obligations under this Agreement, in whole or from time to time in part, to (i) one or more of their Affiliates at any time and (ii) after the Effective Time, to any Person; *provided* that such transfer or assignment shall not relieve Parent or Merger Subsidiary of its obligations hereunder or enlarge, alter or change any obligation of any other party hereto or due to Parent or Merger Subsidiary.

Section 11.07. *Governing Law.* This Agreement shall be governed by and construed in accordance with the laws of the State of Delaware, without regard to the conflicts of law rules of such state.

Section 11.08. *Jurisdiction.* The parties hereto agree that any suit, action or proceeding seeking to enforce any provision of, or based on any matter arising out of or in connection with, this Agreement or the transactions contemplated hereby shall be brought in any federal court located in the State of Delaware or any Delaware state court, and each of the parties hereby irrevocably consents to the jurisdiction of such courts (and of the appropriate appellate courts therefrom) in any such suit, action or proceeding and irrevocably waives, to the fullest extent permitted by law, any objection that it may now or hereafter have to the laying of the venue of any such suit, action or proceeding in any such court or that any such suit, action or proceeding brought in any such court has been brought in an inconvenient forum. Process in any such suit, action or proceeding may be served on any party anywhere in the world, whether within or without the jurisdiction of any such court. Without limiting the foregoing, each party agrees that service of process on such party as provided in Section 11.01 shall be deemed effective service of process on such party.

Section 11.09. *WAIVER OF JURY TRIAL.* EACH OF THE PARTIES HERETO HEREBY IRREVOCABLY WAIVES ANY AND ALL RIGHT TO TRIAL BY JURY IN ANY LEGAL PROCEEDING ARISING OUT OF OR RELATED TO THIS AGREEMENT OR THE TRANSACTIONS CONTEMPLATED HEREBY.

Section 11.10. *Counterparts; Effectiveness.* This Agreement may be signed in any number of counterparts, each of which shall be an original, with the same effect as if the signatures thereto and hereto were upon the same instrument.

This Agreement shall become effective when each party hereto shall have received a counterpart hereof signed by all of the other parties hereto. Until and unless each party has received a counterpart hereof signed by the other party hereto, this Agreement shall have no

A-37

Table of Contents

effect and no party shall have any right or obligation hereunder (whether by virtue of any other oral or written agreement or other communication).

Section 11.11. *Entire Agreement.* This Agreement and the Confidentiality Agreement constitute the entire agreement between the parties with respect to the subject matter of this Agreement and supersede all prior agreements and understandings, both oral and written, between the parties with respect to the subject matter of this Agreement.

Section 11.12. *Severability.* If any term, provision, covenant or restriction of this Agreement is held by a court of competent jurisdiction or other Governmental Authority to be invalid, void or unenforceable, the remainder of the terms, provisions, covenants and restrictions of this Agreement shall remain in full force and effect and shall in no way be affected, impaired or invalidated so long as the economic or legal substance of the transactions contemplated hereby is not affected in any manner materially adverse to any party. Upon such a determination, the parties shall negotiate in good faith to modify this Agreement so as to effect the original intent of the parties as closely as possible in an acceptable manner in order that the transactions contemplated hereby be consummated as originally contemplated to the fullest extent possible.

Section 11.13. *Specific Performance.* The parties hereto agree that irreparable damage would occur if any provision of this Agreement were not performed in accordance with the terms hereof and that the parties shall be entitled to an injunction or injunctions to prevent breaches of this Agreement or to enforce specifically the performance of the terms and provisions hereof in any federal court located in the State of Delaware or any Delaware state court, in addition to any other remedy to which they are entitled at law or in equity.

Table of Contents

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed by their respective authorized officers as of the day and year first above written.

KLA-TENCOR CORPORATION

By: /s/ Stuart J. Nichols

Name: Stuart J. Nichols

Title: Vice President and General Counsel

ADE CORPORATION

By: /s/ Brian C. James

Name: Brian C. James

Title: Executive Vice President, Treasurer and Chief Financial
Officer

SOUTH ACQUISITION CORPORATION

By: /s/ Jeffrey L. Hall

Name: Jeffrey L. Hall

Title: President

A-39

Table of Contents

Pursuant to Item 601(b)(2) of Regulation S-K, the following schedules and exhibits to the Merger Agreement have been omitted from this Annex A/Exhibit 2(a):

Company Disclosure Schedule

- Schedule 4.01 Corporate Existence and Power
- Schedule 4.04 Non-Contravention
- Schedule 4.05 Capitalization
- Schedule 4.06 Subsidiaries
- Schedule 4.10 Absence of Certain Changes
- Schedule 4.13 Litigation; Investigations
- Schedule 4.14 Agreements; Contracts and Commitments
- Schedule 4.17 Interested Party Transactions
- Schedule 4.18 Intellectual Property
- Schedule 4.19 Taxes
- Schedule 4.21 Properties and Assets
- Schedule 4.22 Employee Benefit Plans
- Schedule 4.23 Environmental Matters
- Schedule 6.04 Access to Information
- Schedule of Company Senior Employees

Schedules referenced in the Merger Agreement that are not listed above contain no information and have accordingly been omitted from the above list.

Exhibits

- Exhibit A Form of Voting Agreement (incorporated by reference to KLA-Tencor's Current Report on Form 8-K filed with the Securities and Exchange Commission on February 23, 2006)
- Exhibit B Form of Rule 145 Letter
- Exhibit C Form of Parent Tax Representations Letter
- Exhibit D Form of Company Tax Representations Letter

Table of Contents

ANNEX B

February 21, 2006
The Board of Directors
ADE Corporation
80 Wilson Way
Westwood, MA 02090
Members of the Board:

You have requested our opinion as to the fairness, from a financial point of view, to the stockholders of ADE Corporation, a Massachusetts corporation (the Company), of the Merger Consideration (as defined below) provided for under the terms of the proposed Agreement and Plan of Merger (the Agreement), by and among KLA-Tencor Corporation, a Delaware corporation (Parent), South Acquisition Corporation (Merger Sub), a Delaware corporation and wholly-owned subsidiary of Parent, and the Company. Capitalized terms used herein shall have the meanings used in the Agreement unless otherwise defined herein.

The Agreement provides, among other things, for the merger of Merger Sub with and into the Company (the Merger), pursuant to which each share of Company Common Stock outstanding immediately prior to the Effective Time will be converted into the right to receive 0.64 of a share of Parent Common Stock (the Exchange Ratio) (together with cash in lieu of fractional shares of Parent Common Stock, the Merger Consideration). Company Stock Options will be converted into options to purchase shares of Parent Common Stock based on the Exchange Ratio. The Merger is intended to, and we have assumed for purposes of this opinion letter that it will, qualify as a reorganization within the meaning of Section 368 of the Internal Revenue Code of 1986, as amended. The terms and conditions of the Merger are set forth more fully in the Agreement.

RBC Capital Markets Corporation (RBC), as part of its investment banking services, is regularly engaged in the valuation of businesses and their securities in connection with mergers and acquisitions, corporate restructurings, underwritings, secondary distributions of listed and unlisted securities, private placements, and valuations for corporate and other purposes.

We have been engaged to render a fairness opinion to the Company in connection with a business combination between the Company and Parent and will be entitled to receive a fee upon delivery thereof, without regard to whether our opinion is accepted or the Merger is consummated, and we will receive a further fee for our services if the Merger is consummated. In addition, the Company has agreed to indemnify us for certain liabilities that may arise out of our engagement. In the ordinary course of business, RBC may act as a market maker and broker in the publicly-traded securities of the Company and Parent and receive customary compensation, and may also actively trade securities of the Company and/or Parent for our own account and the accounts of our customers, and, accordingly, RBC and its affiliates, may hold a long or short position in such securities.

For the purposes of rendering our opinion, we have undertaken such review and inquiries as we deemed necessary or appropriate under the circumstances, including the following: (i) we reviewed the financial terms of the draft Agreement dated February 20, 2006 and received by us on February 21, 2006 (the Latest Draft Agreement); (ii) we reviewed and analyzed certain publicly available financial and other data with respect to the Company and Parent and certain other relevant historical operating data relating to the Company and Parent made available to us from published sources and from the internal

Table of Contents

records of the Company and Parent; (iii) we conducted discussions with members of the senior managements of the Company and Parent with respect to the business prospects and financial outlook of the Company and Parent; (iv) we reviewed historical financial information relating to the Company and Parent and First Call and Thomson One Analytics consensus estimates regarding the potential future performance of the Company and Parent as standalone entities; (v) we reviewed the reported prices and trading activity for Company Common Stock and Parent Common Stock, including their trading relative to one another; (vi) we reviewed the potential impact of the Merger on Parent's future financial results; and (vii) we performed other studies and analyses as we deemed appropriate.

In arriving at our opinion, we performed the following analyses in addition to the review, inquiries, and analyses referred to in the preceding paragraph: (i) we compared selected market valuation metrics of the Company and other comparable publicly-traded companies with the financial metrics implied by the Merger Consideration; (ii) we compared the financial metrics of selected precedent transactions with the financial metrics implied by the Merger Consideration; and (iii) we reviewed the premiums paid on selected precedent transactions versus the premiums implied by the Merger Consideration.

Several analytical methodologies have been employed and no one method of analysis should be regarded as critical to the overall conclusion we have reached. Each analytical technique has inherent strengths and weaknesses, and the nature of the available information may further affect the value of particular techniques. The overall conclusions we have reached are based on all the analysis and factors presented, taken as a whole, and also on application of our own experience and judgment. Such conclusions may involve significant elements of subjective judgment and qualitative analysis. We therefore give no opinion as to the value or merit standing alone of any one or more parts of the analyses.

In rendering our opinion, we have assumed and relied upon the accuracy and completeness of the financial, legal, tax, operating and other information provided to us by the Company and Parent (including, without limitation, the financial statements and related notes thereto of the Company and Parent), and have not assumed responsibility for independently verifying and have not independently verified such information. For all forward looking projections we have relied on First Call and Thomson One Analytics consensus estimates and have assumed they correspond to the best judgments of the managements of the Company and Parent.

In rendering our opinion, we have not assumed any responsibility to perform, and have not performed, an independent evaluation or appraisal of any of the assets or liabilities of the Company or Parent, and we have not been furnished with any such valuations or appraisals. We have not assumed any obligation to conduct, and have not conducted, any physical inspection of the property or facilities of the Company or Parent. We have not investigated, and make no assumption regarding, any litigation or other claims affecting the Company or Parent.

We have assumed, in all respects material to our analysis, that all conditions to the consummation of the Merger will be satisfied without waiver thereof. We have assumed that the executed version of the Agreement will not differ, in any respect material to our opinion, from the Latest Draft Agreement.

Our opinion speaks only as of the date hereof, is based on the conditions as they exist and information which we have been supplied as of the date hereof, and is without regard to any market, economic, financial, legal, or other circumstances or event of any kind or nature which may exist or occur after such date. We have not undertaken to reaffirm or revise this opinion or otherwise comment upon events occurring after the date hereof and do not have an obligation to update, revise or reaffirm this opinion. We are not expressing any opinion herein as to the prices at which Parent Common Stock has traded or will trade following the announcement or consummation of the Merger.

The opinion expressed herein is provided for the information and assistance of the Board of Directors of the Company in connection with the Merger. We express no opinion and make no recommendation to any stockholder of the Company as to how such stockholder should vote with respect to the Merger. All advice and opinions (written and oral) rendered by RBC are intended for the use and benefit of the Board of Directors of the Company. Such advice or opinions may not be reproduced, summarized, excerpted

Table of Contents

from or referred to in any public document or given to any other person without the prior written consent of RBC. If required by applicable law, such opinion may be included in any disclosure document filed by the Company with the SEC with respect to the proposed Transaction; provided however, that such opinion must be reproduced in full and that any description of or reference to RBC be in a form reasonably acceptable to RBC and its counsel (which acceptance will not be unreasonably withheld, delayed or conditioned). RBC shall have no responsibility for the form or content of any such disclosure document, other than the opinion itself.

Our opinion does not address the merits of the underlying decision by the Company to engage in the Merger or the relative merits of the Merger compared to any alternative business strategy or transaction in which the Company might engage.

Our opinion addresses solely the fairness of the Merger Consideration, from a financial point of view, to the holders of Company Common Stock. Our opinion does not in any way address other terms or arrangements of the Merger or the Agreement, including, without limitation, the financial or other terms of any voting or employment agreement.

Based on our experience as investment bankers and subject to the foregoing, including the various assumptions and limitations set forth herein, it is our opinion that, as of the date hereof, the Merger Consideration is fair, from a financial point of view, to the stockholders of the Company.

Very truly yours,

/s/ RBC CAPITAL MARKETS CORPORATION

Table of Contents

**PART II
INFORMATION NOT REQUIRED IN PROSPECTUS**

Item 20. *Indemnification of Directors and Officers.*

Exculpation and Indemnification of KLA-Tencor Directors and Officers. As permitted by Section 102(b)(7) of the Delaware General Corporation Law, the KLA-Tencor Amended and Restated Certificate of Incorporation includes a provision that eliminates the personal liability of each of its directors for monetary damages for breach of such director's fiduciary duty as a director, except for liability: (a) for any breach of the director's duty of loyalty to KLA-Tencor or its stockholders; (b) for acts of omissions not in good faith or which involve intentional misconduct or a knowing violation of the law; (c) under Section 174 of the Delaware General Corporation Law; or (d) for any transaction from which the director derived an improper personal benefit.

In addition, as permitted by Section 145 of the Delaware General Corporation Law, the Bylaws of KLA-Tencor provide that KLA-Tencor is required to indemnify its directors, officers and employees, and persons serving in such capacities in other business enterprises at KLA-Tencor's request, to the fullest extent permitted by Delaware law; provided that, except in certain cases, KLA-Tencor will indemnify such person seeking indemnity in connection with a proceeding initiated by such person only if such proceeding was authorized by the KLA-Tencor board of directors. The directors' liability will be further limited to the extent permitted by any future amendments to the Delaware General Corporation Law, but only to the extent that such amendment permits KLA-Tencor to provide broader indemnification rights than as permitted by such law prior to such amendment. In addition, the rights conferred in the bylaws are not exclusive and KLA-Tencor is authorized to enter into indemnification agreements with such directors, officers and employees. KLA-Tencor is required to maintain director and officer liability insurance to the extent it determines that such insurance is reasonably available. KLA-Tencor may not retroactively amend the bylaw provisions in a way that is adverse to such directors or officers.

KLA-Tencor has entered into indemnification agreements with its directors and officers containing provisions which provide for the indemnification of such director or officer, as applicable, to the fullest extent permitted by Delaware law.

Merger Agreement Provisions Relating to ADE Directors and Officers. The merger agreement provides that, for six years after the effective time of the merger, KLA-Tencor will indemnify and hold harmless each person who was a director or officer of ADE at or prior to the date of the merger agreement from their acts or omissions in those capacities occurring at or prior to the effective time to the fullest extent permitted under applicable law or provided under ADE's certificate of incorporation and bylaws in effect at such time. The merger agreement also provides that, for six years from the effective time of the merger, KLA-Tencor will provide directors' and officers' liability insurance covering acts or omissions occurring prior to the effective time by each person currently covered by ADE's directors' and officers' liability insurance policy. The terms of this insurance policy must be no less favorable than those of the ADE policy in effect at the effective time, except that KLA-Tencor will be obligated to pay an aggregate premium for such insurance only up to 250% of the annual premiums that ADE paid for such insurance in its last full fiscal year.

Table of Contents**Item 21. Exhibits and Financial Statement Schedules.**

(a) List of Exhibits

Exhibit Number	Description
2(a)	Agreement and Plan of Merger dated as of February 22, 2006 among KLA-Tencor Corporation, ADE Corporation and South Acquisition Corporation (included as Annex A to the Proxy Statement/ Prospectus contained in this Registration Statement).
2(b)	Form of Voting Agreement dated as of February 22, 2006 (incorporated by reference to KLA-Tencor's Current Report on Form 8-K filed with the Securities and Exchange Commission on February 23, 2006).
3(a)	Amended and Restated Certificate of Incorporation of KLA-Tencor Corporation (incorporated by reference to KLA-Tencor's Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on May 14, 1997).
3(b)	Certificate of Amendment of Amended and Restated Certificate of Incorporation of KLA-Tencor Corporation (incorporated by reference to KLA-Tencor's Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on February 14, 2001).
3(c)	Bylaws, as amended November 17, 1998, of KLA-Tencor Corporation (incorporated by reference to KLA-Tencor's Registration Statement on Form S-8 filed with the Securities and Exchange Commission on December 4, 1998).
5	Opinion of Davis Polk & Wardwell regarding the validity of the securities being registered.
8(a)	Opinion of Davis Polk & Wardwell regarding certain federal income tax consequences relating to the merger.
8(b)	Opinion of Sullivan & Worcester LLP regarding certain federal income tax consequences relating to the merger.
21	Subsidiaries of KLA-Tencor Corporation (incorporated by reference to the Registrant's Annual Report on 10-K filed with the Securities and Exchange Commission on September 2, 2005).
23(a)	Consent of PricewaterhouseCoopers LLP.
23(b)	Consent of PricewaterhouseCoopers LLP.
23(c)	Consent of Davis Polk & Wardwell (included in the opinion filed as Exhibit 5 to this Registration Statement).
23(d)	Consent of Davis Polk & Wardwell (included in the opinion filed as Exhibit 8(a) to this Registration Statement).
23(e)	Consent of Sullivan & Worcester LLP (included in the opinion filed as Exhibit 8(b) to this Registration Statement).
24	Power of Attorney (included on signature page to this registration statement filed on March 17, 2006).
99(a)	Form of ADE Proxy Card.
99(b)	Consent of RBC Capital Markets Corporation (incorporated by reference to this registration statement filed on March 17, 2006).

(b) Not applicable.

(c) The opinion of RBC Capital Markets Corporation is included as Annex B to the proxy statement/ prospectus contained in this Registration Statement.

Table of Contents

Item 22. Undertakings.

(a) The undersigned Registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20 percent change in the maximum aggregate offering price set forth in the Calculation of Registration Fee table in the effective registration statement;

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(4) That prior to any public reoffering of the securities registered hereunder through use of a prospectus which is a part of this registration statement, by any person or party who is deemed to be an underwriter within the meaning of Rule 145(c), such reoffering prospectus will contain the information called for by the applicable registration form with respect to reofferings by persons who may be deemed underwriters, in addition to the information called for by the other items of the applicable form.

(5) That every prospectus (i) that is filed pursuant to paragraph (1) immediately preceding, or (ii) that purports to meet the requirements of Section 10(a)(3) of the Securities Act of 1933, as amended, and is used in connection with an offering of securities subject to Rule 415, will be filed as a part of an amendment to the registration statement and will not be used until such amendment is effective, and that, for purposes of determining any liability under the Securities Act of 1933, as amended, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(6) That, for purposes of determining any liability under the Securities Act of 1933, as amended, each filing of the Registrant's annual report pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934, as amended) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(7) To respond to requests for information that is incorporated by reference into the proxy statement/prospectus pursuant to Item 4, 10(b), 11 or 13 of this form, within one business day of

Table of Contents

receipt of such request, and to send the incorporated documents by first class mail or other equally prompt means. This includes information contained in documents filed subsequent to the effective date of the registration statement through the date of responding to the request.

(8) To supply by means of a post-effective amendment all information concerning a transaction, and the company being acquired involved therein, that was not the subject of and included in the registration statement when it became effective.

(9) That, for purposes of determining liability under the Securities Act of 1933 to any purchaser, each prospectus filed pursuant to Rule 424(b) as part of this registration statement shall be deemed to be part of and included in this registration statement as of the date it is first used after effectiveness; provided, however, that no statement made in this registration statement or prospectus that is part of this registration statement or made in a document incorporated or deemed incorporated by reference into this registration statement or prospectus that is part of this registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in this registration statement or prospectus that was part of this registration statement or made in any such document immediately prior to such date of first use.

(10) That, for purposes of determining liability of the undersigned registrant under the Securities Act of 1933 to any purchaser in the initial distribution of the securities, in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

(i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;

(ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;

(iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and

(iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

(11) To furnish supplementally to the staff of the Securities and Exchange Commission, upon request, a copy of any schedule omitted from an agreement filed as an exhibit to this registration statement.

(b) Insofar as indemnification for liabilities arising under the Securities Act of 1933, as amended, may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

Table of Contents**SIGNATURES**

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of San Jose, State of California, on May 18, 2006.

KLA-TENCOR CORPORATION

By: /s/ Stuart J. Nichols

Name: Stuart J. Nichols

Title: Vice President and General Counsel

Pursuant to the requirements of the Securities Act of 1933, as amended, this Registration Statement has been signed below by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
*	Chairman of the Board and Director	May 18, 2006
Kenneth Levy		
*	Chief Executive Officer and Director (Principal Executive Officer)	May 18, 2006
Richard P. Wallace		
*	Director	May 18, 2006
Edward W. Barnholt		
	Director	
H. Raymond Bingham		
*	Director	May 18, 2006
Robert T. Bond		
*	Director	May 18, 2006
Stephen P. Kaufman		
	Director	
David C. Wang		
*	Director	May 18, 2006
Jon D. Tompkins		
*	Director	May 18, 2006

Lida Urbanek

* The undersigned, by signing his name hereto, does sign and execute this registration statement pursuant to the powers of attorney executed by the above-named directors of the registrant, which have been filed with the Securities and Exchange Commission on behalf of such directors.

By: /s/ Stuart J. Nichols

May 18, 2006

Stuart J. Nichols

II-5

Table of Contents**EXHIBIT INDEX**

Exhibit Number	Description
2(a)	Agreement and Plan of Merger dated as of February 22, 2006 among KLA-Tencor Corporation, ADE Corporation and South Acquisition Corporation (included as Annex A to the Proxy Statement/ Prospectus contained in this Registration Statement).
2(b)	Form of Voting Agreement dated as of February 22, 2006 (incorporated by reference to KLA-Tencor's Current Report on Form 8-K filed with the Securities and Exchange Commission on February 23, 2006).
3(a)	Amended and Restated Certificate of Incorporation of KLA-Tencor Corporation (incorporated by reference to KLA-Tencor's Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on May 14, 1997).
3(b)	Certificate of Amendment of Amended and Restated Certificate of Incorporation of KLA-Tencor Corporation (incorporated by reference to KLA-Tencor's Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on February 14, 2001).
3(c)	Bylaws, as amended November 17, 1998, of KLA-Tencor Corporation (incorporated by reference to KLA-Tencor's Registration Statement on Form S-8 filed with the Securities and Exchange Commission on December 4, 1998).
5	Opinion of Davis Polk & Wardwell regarding the validity of the securities being registered.
8(a)	Opinion of Davis Polk & Wardwell regarding certain federal income tax consequences relating to the merger.
8(b)	Opinion of Sullivan & Worcester LLP regarding certain federal income tax consequences relating to the merger.
21	Subsidiaries of KLA-Tencor Corporation (incorporated by reference to the Registrant's Annual Report on 10-K filed with the Securities and Exchange Commission on September 2, 2005).
23(a)	Consent of PricewaterhouseCoopers LLP.
23(b)	Consent of PricewaterhouseCoopers LLP.
23(c)	Consent of Davis Polk & Wardwell (included in the opinion filed as Exhibit 5 to this Registration Statement).
23(d)	Consent of Davis Polk & Wardwell (included in the opinion filed as Exhibit 8(a) to this Registration Statement).
23(e)	Consent of Sullivan & Worcester LLP (included in the opinion filed as Exhibit 8(b) to this Registration Statement).
24	Power of Attorney (included on signature page to this registration statement filed on March 17, 2006).
99(a)	Form of ADE Proxy Card.
99(b)	Consent of RBC Capital Markets Corporation (incorporated by reference to this registration statement filed on March 17, 2006).