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

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**POST-EFFECTIVE AMENDMENT NO. 1  
TO  
FORM S-3  
REGISTRATION STATEMENT  
UNDER  
THE SECURITIES ACT OF 1933**

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**OSI SYSTEMS, INC.**

(Exact Name of Registrant as Specified in Its Charter)

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**Delaware**  
(State or Jurisdiction of  
Incorporation or Organization)

12525 Chadron Avenue  
Hawthorne, California 90250  
(310) 978-0516  
(Address, Including Zip Code, and  
Telephone Number, Including Area Code,  
of Registrant's Principal Executive  
Offices)

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33-0238801  
(IRS Employer  
Identification Number)

**Deepak Chopra**  
President and Chief Executive Officer  
12525 Chadron Avenue  
Hawthorne, California 90250  
(310) 978-0516  
(Name, Address, Including Zip Code, and Telephone Number,  
Including Area Code, of Agent for Service)

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**Approximate Date of Commencement of Proposed Sale to the Public:** From time to time after the effective date of this Registration Statement.

If the only securities being registered on this form are being offered pursuant to dividend or interest reinvestment plans, please check the following box.

If any of the securities being registered on this form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933 ("Securities Act"), other than securities offered only in connection with dividend or interest reinvestment plans, 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 earlier effective Registration Statement for the same offering.

If this form is a post-effective amendment filed pursuant to Rule 462(c) 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 registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box.

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box.

Indicated by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in rule 12b-2 of the Exchange Act (Check one):

Large accelerated filer  Accelerated filer   
Non-accelerated filer  (Do not check if a smaller reporting company) Smaller reporting company

**CALCULATION OF REGISTRATION FEE**

Title of Each Class of Securities to be Registered	Amount to be Registered (1)	Proposed Maximum Offering Price Per Share (1)	Proposed Maximum Aggregate Offering Price (1)	Amount of Registration Fee (1)
Common Stock, \$.001 par value per share	N/A	N/A	N/A	N/A

(1) The Registrant is not registering additional securities. Registration fees were originally paid by the Registrant's predecessor-in-interest upon filing of the original registration statements on Form S-3 (File Nos. 333-119704 and 333-148937). Consequently, no additional registration fees are required with respect to the filing of this Post-Effective Amendment No. 1.

## EXPLANATORY NOTE

On March 5, 2010, OSI Systems, Inc. changed its state of incorporation from California to Delaware. This reincorporation was effectuated by merging the company with and into a wholly owned Delaware subsidiary established for such purpose, following approval by the requisite vote of shareholders at the company's Annual Meeting of Shareholders on March 5, 2010. OSI Systems, Inc., a Delaware corporation ("OSI Delaware," the "Company" or the "Registrant"), is deemed to be the successor issuer of OSI Systems, Inc., a California corporation ("OSI California"), under Rule 12g-3 of the Securities Exchange Act of 1934, as amended ("Exchange Act").

OSI Delaware as the successor issuer of OSI California is filing this Post-Effective Amendment No. 1 to registration statements on Form S-3, File Nos. 333-119704 and 333-148937 (the "Registration Statements"), pursuant to Rule 414 promulgated under the Securities Act of 1933, as amended (the "Securities Act"), solely to update the Registration Statements as a result of the Registrant's reincorporation in the State of Delaware from the State of California (the "Reincorporation").

In accordance with paragraph (d) of Rule 414 of the Securities Act, except as modified by this Post-Effective Amendment No. 1 the Registrant, as successor issuer to OSI California pursuant to Rule 12g-3 promulgated under the Exchange Act, hereby expressly adopts the Registration Statements as its own registration statements for all purposes of the Securities Act and the Exchange Act, as updated by subsequent filings under the Exchange Act, including, but not limited to, OSI California's most recent annual report on Form 10-K and OSI Delaware's description of the common stock as set forth on Form 8-A/A filed with the Securities and Exchange Commission ("SEC") on March 8, 2010. The applicable registration fees were paid at the time of the original filings of the Registration Statements.

**PART II**

**INFORMATION NOT REQUIRED IN PROSPECTUS**

**Item 14. Other Expenses of Issuance and Distribution**

Not applicable.

**Item 15. Indemnification of Directors and Officers**

The Registrant's Certificate of Incorporation provides that, to the fullest extent permitted by law, a director of the Registrant shall not be personally liable to the Registrant or its stockholders for monetary damages for breach of fiduciary duty as a director. The Registrant's Certificate of Incorporation eliminates the personal liability of directors to the fullest extent permitted by the Delaware General Corporation Law and, together with the Registrant's Bylaws, provides that the Registrant shall indemnify and hold harmless, to the fullest extent permitted by applicable law as it presently exists or may hereafter be amended, any person who was or is made or is threatened to be made a party or is otherwise involved in any action, suit or proceeding, whether civil, criminal, administrative or investigative, by reason of the fact that such person, or a person for whom such person is the legal representative, is or was a director or officer of the Registrant or, while a director or officer of the Registrant, is or was serving at the request of the Registrant as a director, officer, employee or agent of another corporation or of a partnership, joint venture, trust, enterprise or nonprofit entity, including service with respect to employee benefit plans, against all liability and loss suffered and expenses (including attorneys' fees) reasonably incurred by such person. The Registrant has also obtained liability insurance for its officers and directors and has assumed indemnification agreements that its predecessor OSI California had entered into with its directors and officers.

**Item 16. Exhibits**

<u>Exhibit No.</u>	<u>Description</u>
5.1	Opinion of Loeb & Loeb LLP
23.1	Consent of Loeb & Loeb LLP (included in Exhibit 5.1)
23.2	Consent of Moss Adams LLP
24.1	Power of Attorney (included on signature page)

**Item 17. 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;
  - (ii) To reflect in the prospectus any facts or events arising after the effective date of this 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;
  - (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;

provided however, that paragraphs (a)(1)(i), (a)(1)(ii) and (a)(1)(iii) of this section do not apply if the registration statement is on Form S-3 or Form F-3 and the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the Registrant pursuant to section 13 or section 15(d) of the Exchange Act that are incorporated by reference in the Registration Statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the Registration Statement.

- (2) That, for the purpose of determining any liability under the Securities Act, 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.
- (b) The undersigned Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the Registrant's annual report pursuant to section 13(a) or section 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Exchange Act) that is incorporated by reference in this Registration Statement shall be deemed to be a new registration statement relating to the securities offered herein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

**SIGNATURES**

Pursuant to the requirements of the Securities Act, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this Post-Effective Amendment to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Hawthorne, State of California, on March 9, 2010.

OSI Systems, Inc.

By:                                 /S/ ALAN EDRICK                                  
**Alan Edrick**  
**Chief Financial Officer**

## SIGNATURES AND POWER OF ATTORNEY

We, the undersigned directors and/or officers of OSI Systems, Inc. hereby severally constitute and appoint Alan Edrick, Chief Financial Officer, and Victor Sze, General Counsel, and each of them individually, with full powers of substitution and resubstitution, our true and lawful attorneys, with full powers to them and each of them to sign for us, in our names and in the capacities indicated below, the Post-Effective Amendment to Registration Statements on Form S-3 filed with the SEC, and any and all amendments to said Registration Statements (including post-effective amendments), and to file or cause to be filed the same, with all exhibits thereto and other documents in connection therewith, with the SEC, granting unto said attorneys, and each of them, full power and authority to do and perform each and purposes as each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as each of them might or could do in person, and hereby ratify and confirm all that said attorneys, and each of them, or their substitute or substitutes, shall do or cause to be done by virtue of this Power of Attorney.

Pursuant to the requirements of the Securities Act, this Post-Effective Amendment to Registration Statement has been signed below by the following persons in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ DEEPAK CHOPRA</u> Deepak Chopra	President, Chief Executive Officer (Principal Executive Officer) and Chairman of the Board	March 9, 2010
<u>/s/ ALAN EDRICK</u> Alan Edrick	Chief Financial Officer (Principal Financial and Accounting Officer)	March 9, 2010
<u>/s/ AJAY MEHRA</u> Ajay Mehra	Executive Vice President, President of Rapiscan Systems, and Director	March 9, 2010
<u>/s/ STEVEN C. GOOD</u> Steven C. Good	Director	March 9, 2010
<u>/s/ MEYER LUSKIN</u> Meyer Luskin	Director	March 9, 2010
<u>/s/ LESLIE E. BIDER</u> Leslie E. Bider	Director	March 9, 2010
<u>/s/ DAVID T. FEINBERG</u> David T. Feinberg	Director	March 9, 2010

## INDEX TO EXHIBITS

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March 9, 2010

OSI Systems, Inc.  
12525 Chadron Avenue  
Hawthorne, California 90250

Re: Post-Effective Amendment No. 1 to Form S-3

Ladies and Gentlemen:

This opinion letter is furnished to you in connection with your filing of a Post-Effective Amendment No. 1 to registration statements on Form S-3, File Nos. 333-119704 and 333-148937 (as amended, the "Registration Statements"), pursuant to the Securities Act of 1933, as amended (the "Securities Act"), on or about the date hereof relating to the registration of up to 2,077,347 shares of Common Stock, \$0.001 par value per share (the "Shares"), of OSI Systems, Inc., a Delaware corporation (the "Company").

We have reviewed such documents and made such examination of law as we have deemed appropriate to give the opinions expressed below. We have relied, without independent verification, on certificates of public officials and, as to matters of fact material to the opinion set forth below, on certificates of officers of the Company.

The opinion expressed below is limited to the Delaware General Corporation Law (which includes applicable provisions of the Delaware Constitution and reported judicial decisions interpreting the Delaware General Corporation Law and the Delaware Constitution).

Based on the foregoing, we are of the opinion that the issuance of the Shares has been duly authorized and, upon issuance and delivery against payment therefor in accordance with the terms of the Warrants, that the Shares will be validly issued, fully paid and non-assessable.

We hereby consent to the inclusion of this opinion as Exhibit 5.1 to the Registration Statements. In giving our consent, we do not admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations thereunder.

Very truly yours,

/s/ LOEB & LOEB LLP  
LOEB & LOEB LLP

**CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

We consent to the incorporation by reference in this Post-Effective Amendment No. 1 to Registration Statement Nos. 333-119704 and 333-148937 of our reports dated August 28, 2009, relating to the financial statements and financial statement schedule of OSI Systems, Inc., and the effectiveness of internal controls over financial reporting, appearing in the Annual Report on Form 10-K of OSI Systems, Inc. for the year ended June 30, 2009.

/s/ Moss Adams LLP  
Los Angeles, California  
March 9, 2010