UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 8-K

CURRENT REPORT

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

Date of Report (Date of earliest event reported) April 5, 2011

Image Sensing Systems, Inc.

(Exact name of registrant as specified in its charter)

Minnesota000-2605641-1519168(State or other jurisdiction of incorporation)(Commission (IRS Employer Identification No.)

500 Spruce Tree Centre, 1600 University Avenue West, St. Paul, Minnesota
(Address of principal executive offices)

55104
(Zip Code)

Registrant s telephone number, including area code (651) 603-7700

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

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instructions A.2. below):
Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Section 5 Corporate Governance and Management

Item 5.02. Departure of Directors or Principal Officers; Election of Directors; Appointment of Principal Officers; Compensatory Arrangements of Certain Officers.

(d) On April 5, 2011, Image Sensing Systems, Inc. (the Company) appointed Michael C. Doyle to its Board or Directors, increasing the size of the Board to seven members. The Board intends to nominate Mr. Doyle for election by the shareholders at the annual meeting of the Company s shareholders to be held in May 2011. He was not appointed to serve on any Committees of the Board.

Mr. Doyle will be compensated as a non-employee director in accordance with the Company s non-employee director compensation policy. Under the policy, for 2011, he will receive a \$12,000 annual retainer, \$1,000 for each regular Board meeting attended, and \$500 for each special Board meeting attended. In addition, as a non-employee director, in connection with his initial appointment to the Board, on April 5, 2011, Mr. Doyle was granted a non-incentive stock option to purchase 18,000 shares of the Company s common stock for \$13.50 per share, which is equal to the closing price of the Company s common stock on April 4, 2011 as quoted on The NASDAQ Capital Market. The option becomes exercisable in three equal installments on each of the first, second and third anniversary of the date of grant and has a ten year term. The grant was made under the Company s 2005 Stock Incentive Plan.

Mr. Doyle is the Chairman of the Board and Chief Executive Officer and owns, directly or indirectly, substantially all of the equity interest of Econolite Group, Inc., a traffic control equipment manufacturer and distributor and the parent company to Econolite Control Products, Inc. (Econolite). The Company has granted to Econolite the exclusive right to manufacture, market and distribute the Company s Autoscope® system in North America, Latin and the Caribbean under the Manufacturing, Distributing and Technology License Agreement dated June 11, 1991 by and between the Company and Econolite, as amended (the Econolite Agreement), which expires in 2028. Under the Econolite Agreement, Econolite pays the Company a royalty on the revenue derived from its sales of the Company s Autoscope system. During the year ended December 31, 2010, Econolite paid \$12.5 million in royalties to the Company, which represented 40% of the Company s 2010 revenue. The description of the Econolite Agreement in this Current Report on Form 8-K does not purport to be complete and is qualified in its entirety by reference to the Econolite Agreement, which is incorporated by reference herein as provided below.

Section 9 Financial Statements and Exhibits

Item 9.01. Financial Statements and Exhibits.

(c) <i>Exhibits</i> . The following documents are hereby filed or incorporated by reference as exhibits to this Current Report on Form 8-K, as indicated:
Exhibit No.
10.1 Manufacturing, Distributing and Technology License Agreement dated June 11, 1991 by and between the Company and Econolite, incorporated by reference to Exhibit 10.1 to the Company s Registration Statement on Form SB-2 (Registration No. 33-90298C) filed on March 14, 1995, as amended.
10.2 Modification to Manufacturing, Distributing and Technology License Agreement dated September 1, 2000 by and between the Company and Econolite, incorporated by reference to Exhibit 10.12 to the Company s Annual Report on Form 10-K for the year ended December 31, 2007.
10.3 Extension and Second Modification to License Agreement dated July 13, 2001 by and between the Company and Econolite, incorporated by reference to Exhibit 10.12 to the Company s Annual Report on Form 10-KSB for the year ended December 31, 2001.
10.4 Extension and Third Modification to Manufacturing Distributing and Technology License Agreement dated July 3, 2008 by and between the Company and Econolite, incorporated by reference to Exhibit 10.1 to the Company s Current Report on Form 8-K dated July 3, 2008.
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99.1 Press Release dated April 7, 2011 (filed herewith).

99.2 Extension of Modification to Manufacturing, Distributing and Technology License Agreement dated May 31, 2002 by and between the Company and Econolite, incorporated by reference to Exhibit 99.2 to the Company s Annual Report on Form 10-K for the year ended December 31, 2007.

SIGNATURES

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

Image Sensing Systems, Inc.

Date: April 7, 2011

By /s/ Gregrory R. L. Smith

Chief Financial Officer and Treasurer (Principal Financial Officer and Principal Accounting Officer)

Exhibit Index

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