

If this form relates to the registration of a class of securities pursuant to Section 12(b) of the Exchange Act and is effective pursuant to General Instruction A.(c) or (e), check the following box:

If this form relates to the registration of a class of securities pursuant to Section 12(g) of the Exchange Act and is effective pursuant to General Instruction A.(d) or (e), check the following box:

If this form relates to the registration of a class of securities concurrently with a Regulation A offering, check the following box:

Securities Act registration statement or Regulation A offering statement file number to which this form relates: N/A (if applicable)

Securities to be registered pursuant to Section 12(g) of the Act:

None

(Title of Class)

EXPLANATORY NOTE

This Amendment No. 2 to Form 8-A (“Amendment No. 2”) amends the Registration Statement on Form 8-A filed by Image Sensing Systems, Inc. (the “Company”) with the Securities and Exchange Commission on June 6, 2013.

Item 1. Description of Securities to be Registered.

Second Amendment to Rights Agreement

The Company and Continental Stock Transfer & Trust Company, as rights agent (the “Rights Agent”), entered into a Second Amendment to Rights Agreement dated as of March 12, 2018 (the “Amendment”) to the Rights Agreement between the Company and the Rights Agent dated as of June 6, 2013 (the “Original Rights Agreement”). Effective on August 23, 2016, the Company’s Board of Directors authorized and adopted the First Amendment to Rights Agreement (the “First Amendment”), which was approved by the Company’s shareholders at the regular meeting of shareholders held on May 11, 2017. The Original Rights Agreement, as amended by the First Amendment and the Amendment, is referred to in this Amendment No. 2 as the “Amendment.”

The following is a summary of the terms of the Rights Agreement. The summary does not purport to be complete and is qualified in its entirety by reference to full text of the Amendment attached as Exhibit 4.1 to the Company’s Current Report on Form 8-K filed with the Securities and Exchange Commission on March 12, 2018 and incorporated herein by reference; the full text of the First Amendment, which was attached as Exhibit 4.1 to the Current Report on Form 8-K filed by the Company on August 23, 2016 and is incorporated herein by reference; the full text of the Original Rights Agreement, which was attached as Exhibit 4.1 to the Current Report on Form 8-K filed by the Company on June 6, 2013 and is incorporated herein by reference; and the full text of the Certificate of Designation amending the Articles of Incorporation of the Company setting forth the terms of the Preferred Shares, which was attached as Exhibit 3.1 to the Current Report on Form 8-K filed by the Company on June 6, 2013 and is incorporated herein by reference. In addition, all capitalized terms used but not defined in this Amendment have the meanings ascribed to them in the Rights Agreement.

The Amendment extends the expiration date of the Rights Agreement from June 6, 2018 to June 5, 2020 and is subject to the approval of the Company’s shareholders. The Company plans to submit the Amendment to the Company’s shareholders for approval at the Company’s regular meeting of shareholders to be held in 2018.

Exercise of Rights. On or after the Distribution Date, each Right would initially entitle the holder to purchase one one-thousandth of a share of the Company's Series A Junior Participating Preferred Stock, par value \$0.01 per share (the "Preferred Stock"), for a purchase price of \$25.00 (subject to adjustment) (the "Exercise Price").

Definition of Acquiring Person. An "Acquiring Person" is a person or group that, together with affiliates and associates of such person or group, acquires beneficial ownership of 4.99% or more of the Company's common stock, other than (i) an "Exempt Person"; (ii) any shareholder that, as of the time of the first public announcement of adoption of the First Amendment, beneficially owns 4.99% or more of the Company's common stock (unless and until such person thereafter acquires any additional shares of common stock, subject to certain exceptions); (iii) a person who becomes an Acquiring Person solely as a result of the Company repurchasing shares of its common stock; and (iv) certain shareholders who inadvertently buy shares in excess of 4.99% of the shares of common stock and who thereafter reduce the percentage of the shares they own below 4.99%. An Exempt Person is defined as the Company, its subsidiaries and their respective employee benefit plans; and any person that the Board has affirmatively determined, in its sole discretion, prior to the Distribution Date, in light of the intent and purposes of the Rights Agreement or other circumstances facing the Company, shall not be deemed an Acquiring Person.

Exchange. After a person or group becomes an Acquiring Person, but before an Acquiring Person beneficially owns 50% of the outstanding shares of the Company's common stock, the Board may extinguish the Rights (except for Rights that have previously been voided as set forth above), in whole or in part, by exchanging two shares of common stock or an equivalent security for each Right. In certain circumstances, the Company may elect to exchange the Rights for cash or other securities of the Company having a value approximately equal to two shares of common stock.

Expiration. The Rights expire on the earliest of (i) 5:00 p.m., Eastern time, on June 6, 2018 (unless such date is extended because the Amendment is approved by the Company's shareholders at the regular meeting of shareholders to be held in 2018); (ii) the time at which the Rights are redeemed or exchanged under the Rights Agreement; (iii) the repeal of Section 382 of the Code or any successor statute or any other change if the Board determines that the Rights Agreement is no longer necessary or desirable for the preservation of the Tax Benefits; or (iv) the time at which the Board determines that the Tax Benefits are fully utilized or no longer available. If the Company's shareholders approve the Amendment at the regular meeting of the shareholders to be held in 2018, the Rights will expire at the earliest of 5:00 p.m., Eastern time, on June 5, 2020 (unless such date is extended) and the occurrence of the other events set forth in clauses (ii) through (iv) of the foregoing sentence.

Item 2. Exhibits.

3.1 Certificate of Designation amending the Articles of Incorporation of Image Sensing Systems, Inc. as filed with the Minnesota Secretary of State on June 6, 2013 (incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K filed by Image Sensing Systems, Inc. on June 6, 2013) (File No. 0-26056).

4.1 Second Amendment to Rights Agreement dated as of March 12, 2018, by and between Image Sensing Systems, Inc. and Continental Stock Transfer & Trust Company, as rights agent, incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K dated March 12, 2018 (File No. 0-26056).

4.2 First Amendment to Rights Agreement dated as of August 23, 2016, by and between Image Sensing Systems, Inc. and Continental Stock Transfer & Trust Company, as rights agent, incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K dated August 23, 2016 (File No. 0-26056).

4.3 Rights Agreement dated as of June 6, 2013 by and between Image Sensing Systems, Inc. and Continental Stock Transfer & Trust Company, as rights agent, incorporated by reference to Exhibit 4.1 to the Current Report on Form 8-K filed by Image Sensing Systems, Inc. on June 6, 2013 (File No. 0-26056).

SIGNATURE

Pursuant to the requirements of Section 12 of the Securities Exchange Act of 1934, the registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereto duly authorized.

Image Sensing Systems, Inc.

Dated: March 12, 2018 By: /s/ Chad A. Stelzig_____

Name: Chad A. Stelzig

Title: President and Chief Executive Officer

EXHIBIT INDEX

Exhibit

Number Description

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