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

**FORM S-8
REGISTRATION STATEMENT**
*UNDER
THE SECURITIES ACT OF 1933*

MERCURY SYSTEMS, INC.
(Exact Name of Registrant as Specified in its Charter)

Massachusetts
(State of Incorporation)

04-2741391
(I.R.S. Employer Identification Number)

**50 Minuteman Road
Andover, Massachusetts 01810
(978) 256-1300**
(Address of Principal Executive Offices)

**MERCURY SYSTEMS, INC.
Amended and Restated 2005 Stock Incentive Plan**
(Full Title of the Plan)

Christopher C. Cambria
Senior Vice President, General Counsel, and Secretary
Mercury Systems, Inc.
50 Minuteman Road
Andover, Massachusetts 01810
(978) 256-1300
(Name, Address and Telephone Number, Including Area Code, of Agent for Service)

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer," and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

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

CALCULATION OF REGISTRATION FEE

Title of Securities to be Registered	Amount to be Registered (1)	Proposed Maximum Offering Price Per Share (2)	Proposed Maximum Aggregate Offering Price (2)	Amount of Registration Fee (2)
Common Stock	1,100,000	\$37.84	\$41,624,000	\$4,824.22

- (1) In addition, pursuant to Rule 416(a) under the Securities Act of 1933, as amended (the "Securities Act"), this registration statement also covers an indeterminate number of additional shares of Common Stock to be offered or sold as a result of the anti-dilution provisions of the employee benefit plan described herein, including to prevent dilution resulting from any reorganization, recapitalization, reclassification, stock dividend, stock split, or other similar change.
- (2) Calculated in accordance with Rule 457(c) and (h) under the Securities Act solely for the purpose of determining the amount of the registration fee, based on the average of the high and low prices of our Common Stock on the NASDAQ Global Select Market on May 1, 2017.

EXPLANATORY NOTE

This registration statement is being filed solely for the purpose of registering 1,100,000 additional shares of common stock, par value \$0.01 per share (“Common Stock”), of Mercury Systems, Inc. (the “Company”) to be offered to participants under the Company’s Amended and Restated 2005 Stock Incentive Plan (the “2005 Plan”), originally adopted in 2005. The number of shares of Common Stock reserved and available for issuance under the 2005 Plan includes 15,366,547 shares which were previously registered with the Securities and Exchange Commission (the “Commission”) on Form S-8 (File Nos. 333-129929 filed on November 23, 2005, 333-139019 filed on November 30, 2006, 333-149046 filed on February 4, 2008, 333-156364 filed on December 19, 2008, 333-163705 filed on December 14, 2009, 333-172775 filed on March 11, 2011, 333-177771 filed on November 4, 2011, 333-184756 filed on November 5, 2012, 333-192161 filed on November 7, 2013, 333-199917 filed on November 6, 2014, 333-209383 filed on February 4, 2016, and 333-212672 filed on July 25, 2016) (collectively, the “Prior Registration Statement”). The 1,100,000 shares registered hereby have been included in the shares reserved for issuance under the 2005 Plan as a result of the shareholder approval obtained at the 2016 Annual Meeting of Shareholders.

Pursuant to General Instruction E of Form S-8, the contents of the Prior Registration Statement are incorporated herein by reference, except as otherwise noted below.

PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

ITEM 3. INCORPORATION OF DOCUMENTS BY REFERENCE.

The following documents are incorporated herein by reference:

- (a) The Company’s annual report on Form 10-K for the fiscal year ended June 30, 2016, as filed with the Commission on August 16, 2016;
- (b) The Company’s quarterly reports on Form 10-Q for the fiscal quarter ended September 30, 2016, as filed with the Commission on November 3, 2016, for the fiscal quarter ended December 31, 2016, as filed with the Commission on February 9, 2017, and for the fiscal quarter ended March 31, 2017, as filed with the Commission on May 4, 2017;
- (c) The Company’s current reports on Form 8-K filed with the Commission on October 24, 2016, January 20, 2017, January 27, 2017, and February 1, 2017; and
- (d) The description of the Company’s Common Stock contained in the Company’s registration statement on Form 8-A dated January 7, 1998, as filed with the Commission pursuant to Section 12 of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), including any amendment thereto or report filed for the purpose of updating such description.

All documents subsequently filed by the Company pursuant to Sections 13(a), 13(c), 14, and 15(d) of the Exchange Act, prior to the filing of a post-effective amendment which indicates that all securities offered hereby have been sold or that deregisters all securities then remaining unsold, shall be deemed to be incorporated by reference herein and to be a part hereof from the date of the filing of such documents.

ITEM 5. INTERESTS OF NAMED EXPERTS AND COUNSEL.

The validity of the Common Stock offered under this registration statement will be passed upon for the Company by Morgan, Lewis & Bockius LLP, Boston, Massachusetts. Morgan, Lewis & Bockius LLP does not have a substantial interest, direct or indirect, in the Company.

ITEM 8. EXHIBITS.

Exhibit	Description
4.1	Articles of Organization (incorporated herein by reference to Exhibit 3.1.1 of the Company's annual report on Form 10-K for the fiscal year ended June 30, 2009)
4.2	Articles of Amendment (incorporated herein by reference to Exhibit 3.1.2 of the Company's annual report on Form 10-K for the fiscal year ended June 30, 2010)
4.3	Articles of Amendment (incorporated herein by reference to Exhibit 1 of the Company's registration statement on Form 8-A, as filed with the Commission on December 15, 2005)
4.4	Articles of Amendment (incorporated herein by reference to Exhibit 3.1 of the Company's current report on Form 8-K filed on November 13, 2012)
4.5	Articles of Amendment (incorporated herein by reference to Exhibit 3.1 of the Company's current report on Form 8-K filed on June 30, 2015)
4.6	By-laws, amended and restated effective January 17, 2017 (incorporated herein by reference to Exhibit 3.1 of the Company's current report on Form 8-K filed with the Commission on January 20, 2017)
4.7	Mercury Systems, Inc. Amended and Restated 2005 Stock Incentive Plan (incorporated herein by reference to Appendix A of the Company's Definitive Proxy Statement filed with the Commission on September 20, 2016)
5.1*	Opinion of Morgan, Lewis & Bockius LLP
23.1*	Consent of KPMG LLP
23.2	Consent of Morgan, Lewis & Bockius LLP (contained in the opinion filed as Exhibit 5.1 to this registration statement)
24.1	Power of Attorney (included in signature page to this registration statement)
*	Filed herewith

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the town of Andover, the Commonwealth of Massachusetts on this 5th day of May, 2017.

MERCURY SYSTEMS, INC.

By: /s/ Gerald M. Haines II

Gerald M. Haines II

Executive Vice President, Chief Financial Officer,
and Treasurer

Power of Attorney

KNOW ALL MEN BY THESE PRESENTS that each person whose signature appears below constitutes and appoints Mark Aslett, Gerald M. Haines II, and Christopher C. Cambria as his true and lawful attorneys-in-fact and agents, each acting alone, with full powers of substitution and resubstitution, for him or in his name, place and stead, in any and all capacities to sign any and all amendments or post-effective amendments to this registration statement (or any registration statement for the same offering that is to be effective upon filing pursuant to Rule 462(b) under the Securities Act of 1933), and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, each acting alone, full power and authority to do and perform each and every act and thing requisite or necessary to be done in and about the premises, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, each acting alone, or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Mark Aslett Mark Aslett	President, Chief Executive Officer, and Director (Principal Executive Officer)	May 5, 2017
/s/ Gerald M. Haines II Gerald M. Haines II	Executive Vice President, Chief Financial Officer, and Treasurer (Principal Financial Officer)	May 5, 2017
/s/ Charles A. Speicher Charles A. Speicher	Vice President, Controller, Chief Accounting Officer, and Assistant Treasurer (Principal Accounting Officer)	May 5, 2017
/s/ Vincent Vitto Vincent Vitto	Chairman of the Board of Directors	May 5, 2017
/s/ James K. Bass James K. Bass	Director	May 5, 2017
/s/ Michael A. Daniels Michael A. Daniels	Director	May 5, 2017
/s/ George K. Muellner George K. Muellner	Director	May 5, 2017
/s/ Mark S. Newman Mark S. Newman	Director	May 5, 2017
/s/ William K. O'Brien William K. O'Brien	Director	May 5, 2017

EXHIBIT INDEX

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*	Filed herewith

May 5, 2017

Mercury Systems, Inc.
50 Minuteman Road
Andover, Massachusetts 01810

Re: Registration Statement on Form S-8

Ladies and Gentlemen:

This opinion is furnished in connection with the registration, pursuant to a Registration Statement on Form S-8 under the Securities Act of 1933, as amended (the "Securities Act"), to be filed with the Securities and Exchange Commission on or about May 5, 2017 (the "Registration Statement"), of an aggregate of 1,100,000 shares (the "Shares") of common stock, par value \$0.01 per share (the "Common Stock"), of Mercury Systems, Inc., a Massachusetts corporation (the "Company"), which are or will be issuable to officers, employees, non-employee directors and consultants of the Company and its subsidiaries upon the exercise of options granted pursuant to the Company's Amended and Restated 2005 Stock Incentive Plan, as amended (the "2005 Plan"), or which the Company may issue pursuant to awards of stock appreciation rights, restricted stock or deferred stock under the 2005 Plan.

We have acted as counsel to the Company in connection with the foregoing registration of the Shares. We have examined and relied upon originals or copies of such records, instruments, certificates, memoranda, and other documents as we have deemed necessary or advisable for purposes of this opinion and have assumed, without independent inquiry, the accuracy of those documents. In that examination, we have assumed the genuineness of all signatures, the conformity to the originals of all documents reviewed by us as copies and the authenticity and completeness of all original documents reviewed by us in original or copy form. We have further assumed that all options granted or to be granted pursuant to the 2005 Plan were or will be validly granted in accordance with the terms of the 2005 Plan, that all Shares to be issued upon exercise of such options will be issued in accordance with the terms of such options and the 2005 Plan, and that all Shares sold or granted as a stock appreciation right, restricted stock award or deferred stock award will be sold or granted in accordance with the terms of the 2005 Plan.

This opinion is limited solely to the substantive laws of the Commonwealth of Massachusetts.

Based upon and subject to the foregoing, we are of the opinion that, upon the issuance and the delivery of the Shares in accordance with the terms of the 2005 Plan, the Shares will be validly issued, fully paid, and nonassessable.

We hereby consent to the inclusion of this opinion as Exhibit 5.1 to the Registration Statement. 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. In rendering the opinions set forth above, we are opinion only to the specific legal issues expressly set forth therein, and no opinion shall be inferred as to any other matter or matters.

Very truly yours,
/S/ MORGAN, LEWIS & BOCKIUS LLP
MORGAN, LEWIS & BOCKIUS LLP

Consent of Independent Registered Public Accounting Firm

The Board of Directors
Mercury Systems, Inc.:

We consent to the use of our report dated August 16, 2016, with respect to the consolidated balance sheets of Mercury Systems, Inc. and subsidiaries as of June 30, 2016 and 2015, and the related consolidated statements of operations and comprehensive income (loss), shareholders' equity, and cash flows for each of the years in the three-year period ended June 30, 2016, and the related financial statement schedule II, and the effectiveness of internal control over financial reporting as of June 30, 2016, incorporated herein by reference.

Our report dated August 16, 2016 on the effectiveness of internal control over financial reporting as of June 30, 2016 contains an explanatory paragraph that states that management excluded from its assessment of the effectiveness of Mercury Systems, Inc. and subsidiaries' internal control over financial reporting as of June 30, 2016, the Carve-Out Business' internal control over financial reporting associated with total consolidated assets of 46 percent (of which 37 percent represented goodwill and intangible assets included within the scope of the assessment) and total consolidated revenues of 6 percent included in the consolidated financial statements of Mercury Systems, Inc. and subsidiaries as of and for the year ended June 30, 2016. Our audit of internal control over financial reporting of Mercury Systems, Inc. and subsidiaries also excluded an evaluation of the internal control over financial reporting of the Carve-Out Business.

/s/ KPMG LLP

Boston, Massachusetts
May 5, 2017