

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

AMENDMENT NO. 2

**To
FORM S-1
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933**

MOSYS, INC.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

3674
(Primary Standard Industrial
Classification Code Number)

77-0291941
(I.R.S. Employer
Identification No.)

**2309 Bering Drive
San Jose, California 95131
(408) 418-7500**

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Daniel Lewis
Chief Executive Officer and President
MoSys, Inc.
2309 Bering Drive
San Jose, CA 95131
(408) 418-7500

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies of all communications to:

Alan B. Kalin
Pillsbury Winthrop Shaw Pittman LLP
2550 Hanover Street
Palo Alto, CA 94304
(650) 233-4048

Approximate date of commencement of proposed sale to the public:

From time to time after this registration statement is declared effective.

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, 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, please 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(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 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.

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

Large accelerated filer

Accelerated filer

Non-accelerated filer

Smaller reporting company

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act.

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CALCULATION OF REGISTRATION FEE

Title of each class of securities to be registered	Proposed maximum aggregate offering price(1)	Amount of registration fee
Common Units consisting of: (4)	\$2,400,000	
(i) common stock, par value \$0.001 per share(2)		
(ii) warrants to purchase shares of common stock(2)(3)		
Pre-funded Units consisting of: (4)	\$9,600,000	
(i) pre-funded warrants to purchase shares of common stock		
(ii) warrants to purchase shares of common stock(2)(3)		
Shares of common stock issuable upon exercise of warrants(2)	\$12,000,000	
Shares of common stock issuable upon exercise of pre-funded warrants(2)(3)		
Total	\$24,000,000	\$2,895.00(5)

- (1) Estimated solely for the purpose of calculating the registration fee in accordance with Rule 457(o) under the Securities Act of 1933, as amended.
- (2) Pursuant to Rule 416 under the Securities Act, the securities being registered hereunder include such indeterminate number of additional shares of common stock as may be issued after the date hereof as a result of stock splits, stock dividends or similar transactions.
- (3) No additional registration fee is payable pursuant to Rule 457(i) under the Securities Act of 1933, as amended.
- (4) The proposed maximum aggregate offering price of the common units proposed to be sold in the offering will be adjusted up or down on a dollar-for-dollar basis based on the offering price of any pre-funded units offered and sold in the offering, and the proposed maximum aggregate offering price of the pre-funded units to be sold in the offering will be adjusted up or down on a dollar-for-dollar basis based on the offering price of any common units sold in the offering. Accordingly, the proposed maximum aggregate offering price of the common units and pre-funded units (including the shares of common stock issuable upon exercise of the pre-funded warrants included in the pre-funded units), if any, is \$24,000,000.
- (5) The registrant paid filing fees totaling \$2,895.00 prior to this filing.

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 Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

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The information in this prospectus is not complete and may be changed. We may not sell these securities pursuant to this prospectus until the registration statement filed with the Securities Exchange Commission is effective. This prospectus is not an offer to sell these securities and is not soliciting offers to buy these securities in any jurisdiction where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED SEPTEMBER 28, 2018

PROSPECTUS

**Up to 3,133,159 Common Units (each Common Unit contains one Share of Common Stock and one Warrant to purchase one Share of Common Stock and
and
Up to 12,549,019 Pre-Funded Units (each Pre-Funded Unit contains one Pre-funded Warrant to purchase one Share of Common Stock, and one Warrant to purchase one Share of Common Stock)
and
Shares of Common Stock Underlying the Warrants and
Shares of Common Stock Underlying the Pre-funded Warrants**



We are offering 3,133,159 common units, each common unit consisting of one share of our common stock and one warrant to purchase one share of our common stock. Each warrant contained in a common unit will have an exercise price equal to \$ _____ per share. The warrants contained in the common units will be exercisable immediately and will expire on the five-year anniversary of the original issuance date. We are also offering the shares of our common stock that are issuable from time to time upon exercise of the warrants and pre-funded warrants contained in the common units.

We are also offering to each purchaser whose purchase of common units in this offering would otherwise result in the purchaser, together with its affiliates and certain related parties, beneficially owning more than 4.99% of our outstanding common stock immediately following the consummation of this offering, 12,549,019 pre-funded units (each pre-funded unit consisting of one pre-funded warrant to purchase one share of our common stock and one warrant to purchase one share of our common stock) in lieu of common units that would otherwise result in a purchaser's beneficial ownership exceeding 4.99% of our outstanding common stock (or at the election of the purchaser, 9.99%). Each pre-funded warrant contained in a pre-funded unit includes a fixed portion that will be exercisable for one share of our common stock. The purchase price of each pre-funded unit is equal to the price per common unit being sold to the public in this offering, minus \$0.001, and the exercise price of the fixed portion of each pre-funded warrant included in the pre-funded unit is \$0.001 per share. All pre-funded warrants expire when exercised in full.

This offering also relates to the shares of common stock issuable upon exercise of any pre-funded warrants contained in the pre-funded units and the common units sold in this offering. Because we will issue a warrant as part of each common unit or pre-funded unit, the number of warrants sold in this offering will not change as a result of a change in the mix of the common units and pre-funded units sold. Each such warrant will have an exercise price equal to \$ _____ per share and will be exercisable immediately and will expire on the five-year anniversary of the original issuance date. We are also offering the shares of our common stock that are issuable from time to time upon exercise of the warrants that are contained in the pre-funded units and the common units.

The common units and the pre-funded units will not be issued or certificated. The shares of common stock or pre-funded warrants, as the case may be, and the warrants can only be purchased together in this offering but the securities contained in the common units or pre-funded units will be issued separately. The common units and the pre-funded units may be referred to collectively as the "units."

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Our common stock is currently listed on the Nasdaq Capital Market (“Nasdaq”) under the symbol “MOSY.” On September 27, 2018, the last reported sale price of our common stock on Nasdaq was \$0.766 per share. All unit, share and warrant numbers of the securities being offered included in this prospectus are based on an assumed public offering price of \$0.766 per common unit and \$0.765 per pre-funded unit, which price may be at a discount to the current market price.

You should read carefully this prospectus and any applicable free writing prospectus, together with the additional information described in this prospectus under the headings “Incorporation of Certain Information by Reference” and “Where You Can Find More Information,” before you invest in any of our securities.

Investing in our securities involves risks. You should carefully read and consider the “[Risk Factors](#)” beginning on page 10 of this prospectus before investing. You should also consider the risk factors described or referred to in any documents incorporated by reference in this prospectus before investing in these securities.

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 prospectus. Any representation to the contrary is a criminal offense.

We have retained Roth Capital Partners, LLC and The Benchmark Company, LLC to act as our placement agents in connection with this offering. The placement agents have agreed to use their reasonable best efforts to solicit offers to purchase the securities in this offering. The placement agents have no obligation to buy any of the securities from us or to arrange for the purchase or sale of any specific number or dollar amount of the securities. There is no required minimum number of securities that must be sold as a condition to completion of this offering. Because there is no minimum offering amount required as a condition to the closing of this offering, the actual offering amount, placement agent fees and proceeds to us are not presently determinable and may be substantially less than the maximum amounts set forth above. We may sell fewer than all of the securities offered hereby, which may significantly reduce the amount of proceeds received by us, and investors in this offering will not receive a refund in the event that we do not sell an amount of securities sufficient to pursue the business goals outlined in this prospectus. In addition, because there is no escrow account and no minimum offering amount in this offering, investors could be in a position where they have invested in our company, but we are unable to fulfill our objectives due to a lack of interest in this offering. Also, any proceeds from the sale of securities offered by us will be available for our immediate use, despite uncertainty about whether we would be able to use such funds to effectively implement our business plan.

	<u>Per Common Unit</u>	<u>Per Pre-funded Unit</u>	<u>Total</u>
Public offering price			
Placement agent fees (1)			
Proceeds to us (before expenses)			

(1) We have agreed to reimburse the placement agents for certain out-of-pocket expenses. For additional information about the compensation paid to the placement agents, see “Plan of Distribution” on page 38.

Delivery of the securities offered hereby is expected to be made on or about _____, 2018.

Lead Placement Agent

Roth Capital Partners

Co-Placement Agent

The Benchmark Company

The date of this prospectus is _____, 2018.

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In this prospectus, “MoSys,” the “Company,” “we,” “us,” and “our” refer to MoSys, Inc. and its subsidiaries.

You should rely only on information contained or incorporated by reference in this prospectus. We have not authorized any person to provide you with information that differs from what is contained or incorporated by reference in this prospectus. If any person does provide you with information that differs from what is contained or incorporated by reference in this prospectus, you should not rely on it. This prospectus is not an offer to sell or the solicitation of an offer to buy any securities other than the securities to which it relates, or an offer of solicitation in any jurisdiction where offers or sales are not permitted. The information contained in this prospectus is accurate only as of the date of this prospectus, even though this prospectus may be delivered or shares may be sold under this prospectus on a later date.

ABOUT THIS PROSPECTUS

You should rely only on the information contained in this prospectus and in the documents incorporated by reference herein or any amendment hereto or any free writing prospectus prepared by us or on our behalf. We have not authorized any other person to provide you with different information. We are not making an offer to sell our common stock in any jurisdiction in which the offer or sale is not permitted. The information contained in this prospectus, the documents incorporated by reference or any free writing prospectus is accurate only as of its date, regardless of the time of delivery of this prospectus or any free writing prospectus or of any sale of the common stock.

Neither we, nor any of our officers, directors, agents or representatives make any representation to you about the legality of an investment in our common stock. You should not interpret the contents of this prospectus to be legal, business, investment or tax advice. You should consult with your own advisors for that type of advice and consult with them about the legal, tax, business, financial and other issues that you should consider before investing in our common stock.

Unless the context indicates otherwise, all references in this prospectus to “MoSys,” “we,” “us,” “our company” and “our” refer to MoSys, Inc. and its consolidated subsidiaries.

FORWARD-LOOKING STATEMENTS

Some of the statements in this prospectus constitute forward-looking statements. These statements involve known and unknown risks, uncertainties, and other factors that may cause our or our industry’s actual results, levels of activity, performance, or achievements to be materially different from any future results, levels of activity, performance, or achievements expressed or implied by such forward-looking statements. These factors include, among others, those incorporated by reference under “Risk Factors” below.

In some cases, you can identify forward-looking statements by terms such as “may,” “will,” “should,” “expects,” “plans,” “anticipates,” “believes,” “estimates,” “predicts,” “potential,” or “continue” or similar terms.

Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future results, levels of activity, performance, or achievements. Our actual results could differ materially from those expressed or implied by these forward-looking statements as a result of various factors, including the risk factors under the section titled “Risk Factors” and a variety of other factors, including, without limitation, statements about our future business operations and results, the market for our technology, our strategy and competition.

Moreover, neither we nor any other person assumes responsibility for the accuracy and completeness of these statements. We undertake no obligation to update or revise any of the forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law. In light of these risks, uncertainties and assumptions, the forward-looking events discussed or incorporated by reference in this prospectus may not occur.

PROSPECTUS SUMMARY

The following summary highlights information contained elsewhere or incorporated by reference in this prospectus. This summary does not contain all of the information you should consider before investing in the securities. Before making an investment decision, you should read the entire prospectus carefully, including the matters discussed under the heading “Risk Factors” in this prospectus.

Our Company

We are a fabless semiconductor company focused on the development and sale of integrated circuits, or ICs, for the high-speed cloud networking, communications, security appliance, video, test and monitoring, and data center markets. Our solutions deliver time-to-market, performance, power, area and economic benefits for system original equipment manufacturers, or OEMs. Our principal product line and source of substantially all of our revenue is the Bandwidth Engine® product family. Bandwidth Engine ICs combine our proprietary 1T-SRAM® high-density embedded memory, integrated macro functions and high-speed serial interface, or SerDes I/O, with our intelligent access technology and a highly efficient interface protocol. Historically, our primary business was the design, development, marketing, sale and support of differentiated intellectual property, or IP, including embedded memory and high-speed parallel and SerDes I/O used in advanced systems-on-chips, or SoCs.

Our future success and ability to achieve and maintain profitability are dependent on the marketing and sales of our Bandwidth Engine IC products into networking, communications and other markets requiring high-bandwidth memory access. While we expect to experience revenue growth in 2018, we were recently informed by a large customer that it will be phasing out our Bandwidth Engine IC products over the next 24 months. The customer informed us that its decision was not attributable to any dissatisfaction with the Company’s products or performance. We expect to fulfill the customer’s remaining commitments and complete shipments of our Bandwidth Engine IC products to this customer in the first half of 2019. The loss of future business with this customer is expected to result in a material reduction in our revenue outlook beginning in the fourth quarter of 2018.

We had net income of \$0.7 million for the six-month period ended June 30, 2018, and incurred a net loss of \$8.4 million for the six-month period ended June 30, 2017. We had an accumulated deficit of \$223.8 million as of June 30, 2018. In addition, we incurred net losses of approximately \$10.7 million and \$32 million for the years ended December 31, 2017 and 2016, respectively. These and prior year losses have resulted in significant negative cash flows for almost a decade and have required us to raise substantial amounts of additional capital during this period. To date, we have primarily financed our operations through multiple offerings of common stock to investors and affiliates and an issuance of convertible notes, as well as asset-sale transactions.

The address and phone number of our principal executive offices are MoSys, Inc., 2309 Bering Drive, San Jose, CA 95131, (408) 418-7500.

Our Strategy

Our primary business objective is to be a profitable IP-rich fabless semiconductor company offering ICs that deliver unparalleled memory bandwidth and access rate performance for high-performance data processing in cloud networking, communications, security appliances, video, test and monitoring, and data center systems.

Our Business

Bandwidth Engine

The Bandwidth Engine is a memory-dominated IC that has been designed to be a high-performance companion IC to packet processors. While the Bandwidth Engine primarily functions as a memory device with a high-performance and high-efficiency interface, it also can accelerate certain processing operations by serving as a co-processor element. Our Bandwidth Engine ICs combine: (1) our proprietary high-density, high-speed, low latency embedded memory, (2) our SerDes I/O, (3) an open-standard interface protocol and (4) intelligent access technology. We believe an IC combining our 1T-SRAM memory and serial interface with logic and other intelligence functions provides a system-level solution and significantly improves overall system performance at lower cost, size and power consumption. Our Bandwidth Engine ICs can provide up to 4.5 billion memory accesses per second (and more in some applications), which is more than twice the performance of current memory-based solutions. They also can enable customers’ system designers to significantly narrow the gap between processor and memory IC performance by designing Bandwidth Engine ICs onto the networking system line cards and modifying systems at the line-card level to replace traditional

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memory solutions with Bandwidth Engine ICs. When compared with existing commercially available solutions, our Bandwidth Engine ICs may:

- provide up to four times the performance;
- reduce power by approximately 50%;
- reduce cost by greater than 50%; and
- result in a dramatic reduction in IC pin counts on the line card.

Our first-generation Bandwidth Engine IC products contain 576 megabytes, or MB, of memory and use a serial interface with up to 16 lanes operating at up to 10.3 Gbps per lane. In 2017, we announced the end-of-life of these products and expect to complete fulfillment of last-time customer orders by June 30, 2019.

Our second-generation Bandwidth Engine IC products contain 576 MB of memory and use our SerDes I/O with up to 16 lanes operating at up to 15 Gbps per lane. In addition to a speed improvement of up to 50% over our first-generation products, the second-generation architecture enables multiple family-member parts with added specialized features. We have been shipping Bandwidth Engine 2 IC products since 2013, and expect these products to be our primary revenue source for the foreseeable future.

Our third-generation Bandwidth Engine IC products contain 1152 MB of memory and use a SerDes interface with up to 16 lanes operating at up to 30 Gbps per lane. Bandwidth Engine 3 targets support for packet-processing applications with up to five billion memory single word accesses per second, as well as a burst mode to enable full duplex buffering up to 400 Gbps for ingress, egress and oversubscription applications. These devices provide benefits of size, power, and pin count reductions, as well as cost savings for our customers. We do not anticipate significant revenues from these products until the second half of 2019, or later.

Programmable Search Engine (PSE)

We brought our PSE IC products to market in 2016 to further leverage our proven serial interface technology and high-density integrated memory with processor engine architecture to enable high-speed customizable search, security, and data analysis functions for networking, security, and data center applications. Our PSE architecture features 32 search-optimized processor engines, data flow schedulers, and over a terabit of internal access bandwidth. The device leverages our GigaChip Interface communication protocol, or GCI, and high-density integrated memory (1152 Mb of 1T-SRAM embedded memory).

IP Licensing and Distribution

Historically, we have offered our memory and interface technologies on a worldwide basis to semiconductor companies, electronic product manufacturers, foundries, intellectual property companies and design companies through product development, technology licensing and joint marketing relationships. We licensed our technology to semiconductor companies who incorporated our technology into ICs that they sold to their customers. As a result of the change in our corporate strategy, since 2012, our licensing activities have primarily been limited to collecting royalties on existing agreements, and we expect this trend to continue. Royalty and other revenue represented 12% of our total revenues for the six-months ended June 30, 2018. Royalty and other revenue generated from our existing license agreements represented 11%, 24%, and 45% of our total revenue for the years ended December 31, 2017, 2016, and 2015, respectively. Licensing and royalty revenues have been declining since 2010, and we expect continued decline of royalty revenues in 2018.

SUMMARY OF THE OFFERING

Common units offered by us:	Up to 3,133,159 common units, each consisting of (i) one share of our common stock and (ii) a warrant to purchase one share of common stock.
Pre-funded units offered by us:	We are also offering to each purchaser whose purchase of common units in this offering would otherwise result in the purchaser, together with its affiliates and certain related parties, beneficially owning more than 4.99% of our outstanding common stock immediately following the consummation of this offering, 12,549,019 pre-funded units (each pre-funded unit consisting of one pre-funded warrant to purchase one share of our common stock and one warrant to purchase one share of our common stock) in lieu of common units that would otherwise result in the purchaser's beneficial ownership exceeding 4.99% of our outstanding common stock (or, at the election of the purchaser, 9.99%). The purchase price of each pre-funded unit is equal to the price at which the common units are being sold to the public in this offering, minus \$0.001, and the exercise price of each pre-funded warrant included in each pre-funded unit is \$0.001 per share. Because we will issue a warrant as part of each common unit or pre-funded unit, the number of warrants sold in this offering will not change as a result of a change in the mix of the common units and pre-funded units sold. This offering also relates to the shares of common stock issuable upon exercise of any pre-funded warrants sold in this offering.
Common Unit Offering price:	The purchase price for a common unit is \$0.766.
Pre-funded Unit Offering price:	The purchase price for a pre-funded unit is \$0.765.
Description of warrants:	The warrants will be exercisable beginning on the closing date and expire on the five-year anniversary of the closing date at an initial exercise price per share equal to \$ subject to appropriate adjustment in the event of recapitalization events, share dividends, share splits, share combinations, reclassifications, reorganizations or similar events affecting our common stock. In addition, the warrant exercise price will be adjusted for dilutive issuances during the term of the warrant, except for certain exempt issuances described elsewhere in this prospectus under "Description of Securities We are Offering," subject to a floor of % of the original exercise price of the warrants. This prospectus also relates to the offering of the shares of common stock issuable upon exercise of the warrants.

Description of pre-funded warrants:	The pre-funded warrants will be exercisable beginning on the closing date and expire when exercised in full at an initial exercise price per share equal to \$0.001, subject to appropriate adjustment in the event of recapitalization events, share dividends, share splits, share combinations, reclassifications, reorganizations or similar events affecting our common stock. This prospectus also relates to the offering of the shares of common stock issuable upon exercise of the pre-funded warrants.
Repayment and Modification of 10% Senior Secured Convertible Notes	We have entered into a Memorandum of Understanding for Modification of our 10% Senior Secured Convertible Notes (the "MOU") with the purchasers' agent and the holder of a majority-in-interest of such notes under the 10% Senior Secured Convertible Note Purchase Agreement, dated March 14, 2016 (the "Purchase Agreement"), as amended. The MOU provides that the total indebtedness of \$10,036,141 of senior secured convertible notes currently due August 15, 2019 with interest at the annual rate of 8% (the "Notes") will be restructured with gross proceeds of \$ being used to repay all or a portion of such indebtedness. The holders of the Notes will purchase in the offering an amount of the common units and pre-funded units being offered pursuant to this prospectus with a total purchase price of \$ and the Purchase Agreement and the Notes will be amended effective as of the date of this offering to provide that the remaining balance of any indebtedness subject to the Notes will be due August 15, 2023 and the conversion price of the Notes will be reduced from \$4.25 to \$ per share of common stock. See "Modification of Senior Secured Convertible Notes" on page 9 for additional information.
Shares of common stock outstanding before this offering:	8,273,886

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Shares of common stock outstanding after completion of this offering:	11,407,045 shares (assuming a combined public offering price of \$0.766 per common unit, the last reported sale price of our common stock on Nasdaq on September 27, 2018).
Use of Proceeds:	We expect to use the net proceeds received from this offering for working capital and general corporate purposes and to repay debt and payables, including \$ of the total indebtedness we owe under the Notes. See the section titled "Use of Proceeds" on page 22 of this prospectus for additional information.
No listing of warrants:	We do not intend to apply for listing of the warrants or the pre-funded warrants on any securities exchange or trading system.
NASDAQ Capital Market trading symbol for our common stock:	MOSY
Risk Factors:	Investing in our securities involves a high degree of risk and purchasers of our securities may lose their entire investment. See "Risk Factors" on page 10 below and the other information included elsewhere in this prospectus for a discussion of factors you should carefully consider before deciding to invest in our securities.

The number of shares of our common stock to be outstanding immediately before and after this offering is based on 8,273,886 shares outstanding as of August 31, 2018, and excludes, as of such date:

- 2,361,445 shares of common stock issuable upon conversion of the Senior Secured Convertible Notes due August 15, 2019 (calculated prior to the modification of the Notes as described in the MOU);
- 99,051 shares of common stock issuable upon exercise of outstanding exercisable stock options with a weighted average exercise price of approximately \$9.57 per share;
- 240,232 shares of common stock issuable upon exercise of outstanding stock options that are not exercisable;
- 167,505 shares of common stock issuable upon vesting of restricted stock units;
- 214,271 shares of common stock available for future issuance under our equity incentive plans;
- 147,024 shares of common stock available for sale under our employee stock purchase plan;
- 662,500 shares of common stock issuable upon exercise of warrants dated July 6, 2017 at \$2.35 per share; and
- 28,231,197 shares of our common stock issuable upon exercise of the warrants and/or pre-funded warrants offered hereby.

Unless otherwise indicated, the information in this prospectus assumes no exercise of the warrants offered hereby. The total number of shares of our common stock shown above to be outstanding immediately after this offering may be higher or lower than shown above depending on relative investor demand for each kind of unit.

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Our use of adjusted EBITDA has limitations as an analytical tool, and you should not consider it in isolation or as a substitute for analysis of our results as reported under GAAP. Some of these limitations are:

- Adjusted EBITDA does not reflect changes in, or cash requirements for, our working capital needs;
- Adjusted EBITDA does not reflect the significant interest expense or the cash requirements necessary to service interest or principal payments on our indebtedness;
- Adjusted EBITDA does not reflect income tax payments that may represent a reduction in cash available to us;
- Although depreciation and amortization are non-cash charges, the assets being depreciated and amortized may have to be replaced in the future, and adjusted EBITDA does not reflect cash capital expenditure requirements or contractual commitments for such replacements or for new capital expenditure requirements;
- Adjusted EBITDA does not include the potentially dilutive impact of stock-based compensation and asset impairments;
- Adjusted EBITDA does not reflect the timing of customers' product purchase prepayments;
- Adjusted EBITDA does not include past restructuring and impairment charges; and
- Other companies, including companies in our industry, may calculate adjusted EBITDA differently or not at all, which reduces its usefulness as a comparative measure.

Because of these limitations, you should consider adjusted EBITDA alongside other financial performance measures, including various cash flow metrics, net income (loss) attributable to us and our financial results presented in accordance with GAAP.

The following table reconciles our net income (loss) to adjusted EBITDA:

	<u>Six-months ended</u>		<u>Years ended</u>	
	<u>June 30,</u> <u>2018</u>	<u>June 30,</u> <u>2017</u>	<u>December 31,</u> <u>2017</u>	<u>December 31,</u> <u>2016</u>
(In thousands; unaudited)				
Reconciliation of GAAP net income (loss) and adjusted EBITDA:				
GAAP net income (loss)	\$ 663	\$(8,399)	\$ (10,668)	\$ (32,048)
Stock-based compensation expense	252	356	719	2,155
Restructuring and impairment charges	—	1,002	1,321	10,534
Amortization of intangible assets	55	56	112	111
Non-GAAP net income (loss)	970	(6,985)	(8,516)	(19,248)
EBITDA adjustments:				
Depreciation and amortization	340	389	747	998
Interest expense	427	447	927	687
Provision (benefit) for income taxes	2	12	(233)	45
Adjusted EBITDA	<u>\$ 1,739</u>	<u>\$(6,137)</u>	<u>\$ (7,075)</u>	<u>\$ (17,518)</u>

Modification of Senior Secured Convertible Notes

On September 13, 2018, we entered into a Memorandum of Understanding for Modification of 10% Senior Secured Convertible Notes (the “MOU”) with the purchasers’ agent and the holder of a majority-in-interest of such notes under the 10% Senior Secured Convertible Note Purchase Agreement, dated March 14, 2016 (the “Purchase Agreement”), pursuant to which the Company originally issued \$8,000,000 principal amount of 10% Senior Secured Convertible Notes initially due August 15, 2018 (the “Notes”).

Under the terms of an amendment to the Purchase Agreement, and each of the Notes dated February 18, 2018, the maturity date of the Notes was extended to August 15, 2019 and the annual interest rate was reduced to 8% per annum, among other modifications.

The MOU includes the following principal changes to the Notes and the Purchase Agreement:

- all indebtedness subject to the Notes will be restructured effective as of the closing date of the offering;
- if the gross proceeds to be received by the Company on the closing date of the offering excluding securities to be purchased by the holders of the Notes, referred to as the base offering amount, are at least \$6,000,000, then, at the closing of the Offering, (a) we will use proceeds of the Offering equal to the base offering amount to repay a portion of indebtedness subject to the Notes and; the holders of the Notes will be purchasing at the closing of the offering an amount of the common units and/or pre-funded units being offered by us with a total purchase price equal to one-half of the base offering amount (but not in excess of 50% of the total amount of indebtedness subject to the Notes); and
- simultaneously with the offering, and subject to repayment of indebtedness in accordance with the MOU:
 - the Agreement and the Notes will be amended to provide that the remaining balance of any indebtedness subject to the Notes will be due August 15, 2023;
 - the conversion price of the Notes will be reduced from \$4.25 per share to 115% of the price of a common stock unit sold in the Offering, if Nasdaq Listing Rule 5635(d) is applicable to the amendment specified in this paragraph 3, the greater of (x) market value on the date of such amendment and (y) book value per share of common stock, as such italicized terms are defined for purposes of such Listing Rule; and

The agreements to implement the foregoing terms for the modification of the Purchase Agreement and the Notes will provide that in no event can the total number of shares of common stock beneficially owned by a holder, or group of holders, of the Notes, exceed 19.9% of the number of shares of our common stock outstanding prior to the transactions described above, unless stockholder approval is obtained for such excess holding.

RISK FACTORS

An investment in our securities is risky. Prior to making a decision about investing in our securities, you should carefully consider the specific risks discussed in this prospectus or otherwise incorporated by reference in this prospectus. The risks and uncertainties described in our SEC filings are not the only ones facing us. Additional risks and uncertainties not presently known to us, or that we currently see as immaterial, may also harm our business. If any of the risks or uncertainties described in this prospectus or our SEC filings or any such additional risks and uncertainties actually occur, our business, results of operations, cash flows and financial condition could be materially and adversely affected. In that case, the trading price of our common stock could decline, and you might lose part or all of your investment.

Risks Related to this Offering

This is a best efforts offering, no minimum amount of securities is required to be sold, and we may not raise the amount of capital we believe is required for our business.

We have retained Roth Capital Partners, LLC and The Benchmark Company, LLC to act as our placement agents in connection with this offering. The placement agents have agreed to use their reasonable best efforts to solicit offers to purchase the securities in this offering. The placement agents have no obligation to buy any of the securities from us or to arrange for the purchase or sale of any specific number or dollar amount of the securities. There is no required minimum number of securities that must be sold as a condition to completion of this offering. Because there is no minimum offering amount required as a condition to the closing of this offering, the actual offering amount, placement agent fees and proceeds to us are not presently determinable and may be substantially less than the maximum amounts set forth above. We may sell fewer than all of the securities offered hereby, which may significantly reduce the amount of proceeds received by us, and investors in this offering will not receive a refund in the event that we do not sell an amount of securities sufficient to pursue the business goals outlined in this prospectus. Thus, we may not raise the amount of capital we believe is required for our business and may need to raise additional funds, which may not be available or available on terms acceptable to us. Despite this, any proceeds from the sale of securities offered by us will be available for our immediate use, and because there is no escrow account and no minimum offering amount in this offering, investors could be in a position where they have invested in us, but we are unable to fulfill our objectives due to a lack of interest in this offering.

An investment in the common units and pre-funded units is extremely speculative and there can be no assurance of any return on any such investment.

An investment in the common units and pre-funded units is extremely speculative and there is no assurance that investors will obtain any return on their investment. Investors will be subject to substantial risks involved in an investment in us, including the risk of losing their entire investment.

Our management has broad discretion as to the use of the net proceeds from this offering.

We cannot specify with certainty the particular uses of the net proceeds we will receive from this offering, and these uses may vary from our current plans. Our management will have discretion in the application of the net proceeds, including for working capital, general corporate purposes and repayment of indebtedness as described in "Use of Proceeds." Accordingly, you will have to rely upon the judgment of our management with respect to the use of the proceeds. Our management may spend a portion or all of the net proceeds from this offering in ways that holders of our common stock may not desire or that may not yield a significant return or any return at all. The failure by our management to apply these funds effectively could harm our business. Pending their use, we may also invest the net proceeds from this offering in a manner that does not produce income or that loses value.

You will experience immediate and substantial dilution in the net tangible book deficit per share of the common stock included in the common units or issuable upon exercise of the warrants or pre-funded warrants in this offering.

Since the effective price per share of common stock included in the common units or issuable upon exercise of the warrants or the pre-funded warrants being offered is substantially higher than the net tangible book deficit per share of our common stock outstanding prior to this offering, you will suffer immediate and substantial dilution in the net tangible book deficit of the common stock included in the common units or issuable upon the exercise of the warrants or the pre-funded warrants issued in this offering. See the section titled "Dilution" below for a more detailed discussion of the dilution you will incur if you purchase units in this offering. The exercise price of the warrants included with the common units and the pre-funded units issued in this offering will be lowered in the event of certain dilutive issuances of common stock or common stock derivatives by us during the term of the warrants, which would result in the shares subject to those warrants being issued for substantially less than the current price of our common stock.

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Holders of our warrants will have no rights as a common stockholder until they acquire our common stock.

Until you acquire shares of our common stock upon exercise of your warrants, you will have no rights with respect to shares of our common stock issuable upon exercise of your warrants. Upon exercise of your warrants, you will be entitled to exercise the rights of a common stockholder only as to matters for which the record date occurs after the exercise date.

A large number of shares issued in this offering may be sold in the market following this offering, which may depress the market price of our common stock.

A large number of shares issued in this offering may be sold in the market following this offering, which may depress the market price of our common stock. Sales of a substantial number of shares of our common stock in the public market following this offering could cause the market price of our common stock to decline. If there are more shares of common stock offered for sale than buyers are willing to purchase, then the market price of our common stock may decline to a market price at which buyers are willing to purchase the offered shares of common stock and sellers remain willing to sell the shares. All of the shares of common stock issued in the offering will be freely tradable without restriction or further registration under the Securities Act of 1933, as amended.

The warrants issued in this offering may not have any value but could entitle the holders to a disproportionate share of the proceeds of a change of control or other acquisition transaction.

Each warrant will have an exercise price equal to \$ _____ and will expire on the five-year anniversary of the date they first become exercisable. In the event our common stock price does not exceed the exercise price of the warrants during the period when the warrants are exercisable, the warrants may not have any value. Each of these warrants has a put feature that allows the holder to put the warrants back to us for cash and/or consideration equal to the Black-Scholes value upon a change of control or fundamental transaction. The Black-Scholes value of these warrants is determined taking into account a number of factors, including, (i) an underlying price per share equal to the price per share of common stock offered in the transaction (or if higher, the volume weighted average price, or VWAP, immediately before the signing or the announcement of the acquisition agreement, (ii) the remaining warrant term at the time of the transaction, (iii) a maximum volatility of 100%, and (iv) an applicable risk-free interest rate. At lower acquisition values, e.g., below the exercise price of the warrants, the warrant holders could get a disproportionate amount of the transaction consideration to the material detriment of our stockholders that do not own such warrants.

There is no public market for the warrants or the pre-funded warrants to purchase shares of our common stock included in the common units and the pre-funded units being offered by us in this offering.

There is no established public trading market for the warrants or the pre-funded warrants included in the common units and the pre-funded units being offered in this offering, and we do not expect a market to develop. In addition, we do not intend to apply to list the warrants or the pre-funded warrants on any national securities exchange or other nationally recognized trading system, including the Nasdaq Capital Market. Without an active market, the liquidity of the warrants and the pre-funded warrants will be limited.

Our ability to utilize our net operating loss carryforwards may be limited as a result of an “ownership change,” as defined in Section 382 of the Internal Revenue Code of 1986, as amended, triggered by this offering.

As of December 31, 2017, we had approximately \$196 million of net operating loss (“NOL”) carryforwards for U.S. federal tax purposes. Under U.S. federal income tax law, we generally can use our NOL carryforwards (and certain related tax credits) to offset ordinary taxable income, thereby reducing our U.S. federal income tax liability, for up to 20 years from the year in which the losses were generated, after which time they will expire. Our California NOL carryforwards (and certain related tax credits) generally may be used to offset future state taxable income for 20 years from the year in which the losses are generated, depending on the state, after which time they will expire. The rate at which we can utilize our NOL carryforwards is limited (which could result in NOL carryforwards expiring prior to their use) each time we experience an “ownership change,” as determined under Section 382 of the Internal Revenue Code. A Section 382 ownership change generally occurs if a shareholder or a group of shareholders who are deemed to own at least 5% of our common stock increase their ownership by more than 50 percentage points over their lowest ownership percentage within a rolling three-year period. If an ownership change occurs, Section 382 generally would impose an annual limit on the amount of post-ownership change taxable income that may be offset with pre-ownership change NOL carryforwards equal to the product of the total value of our outstanding equity immediately prior to the ownership change (reduced by certain items specified in Section 382) and the U.S. federal long-term tax-exempt interest rate in effect at the time of the ownership change. A number of special and complex rules apply in calculating this Section 382 limitation. While the complexity of Section 382 makes it difficult to determine whether and when an ownership change has occurred, we believe that an additional ownership change may occur upon the consummation of this offering. In addition, our ability to use our NOL carryforwards will be limited to the extent we fail to generate enough taxable income in the future before they expire. Existing and future Section 382 limitations and our inability to generate enough taxable income in the future could result in a substantial portion of our NOL carryforwards expiring before they are used. We have recorded a full valuation allowance for our deferred tax assets. In addition, under recent federal tax legislation, effective for losses arising in taxable years beginning after December 31, 2017, the deduction for NOLs is limited to 80 percent of taxable income, NOLs can no longer be carried back, and NOLs can be carried forward indefinitely.

Risks Related to our Business

We have a history of losses and we will need to raise additional capital in the future.

We recorded operating income of approximately \$1.1 million for the six-month period ended June 30, 2018, and we recorded an operating loss of approximately \$10.0 million for the year ended December 31, 2017. As of June 30, 2018, we had an accumulated deficit of approximately \$224 million. These and prior-year losses have resulted in significant negative cash flows and have required us to raise substantial amounts of additional capital during this period. To remain competitive and expand our product offerings to customers, we will need to increase revenues substantially beyond levels that we have attained in the past in order to generate sustainable operating profit and sufficient cash flows to continue doing business without raising additional capital from time to time. Given our history of fluctuating revenues and operating losses, the expected loss of a large IC customer, which will significantly reduce our revenue outlook, expected reduction in royalty revenues and challenges we face in securing and retaining customers for our IC products, we cannot be certain that we will be able to continue to achieve and maintain profitability on either a quarterly or annual basis in the future.

We currently lack the funds to repay the convertible notes due in August 2019, which raises doubt about our ability to continue as a going concern

In March 2016, we entered into a 10% Senior Secured Convertible Note Purchase Agreement and issued \$8 million aggregate principal amount of 10% Senior Secured Convertible Notes due August 15, 2018 (the “Notes”) to the purchasers of the Notes. Accrued interest is payable semi-annually in cash or in kind through the issuance of identical new Notes, or with a combination of the two, at our option. The terms of the Notes were amended pursuant to a written amendment effective as of February 18, 2018. The amendment extended the maturity date of the Notes to August 15, 2019. The principal amount of the Notes is convertible into our common stock, as is the accrued and unpaid interest on the Notes. We have the option of paying the interest in-kind by converting it into additional note principal. Through August 2018, we have made the required interest payments in-kind through the issuance of additional notes totaling approximately \$2.0 million.

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The February 2018 amendment also: (i) reduced the conversion rate of the Notes from one share of our common stock for each \$8.50 of outstanding debt to one share of our common stock for each \$4.25 of outstanding debt under the Notes, (ii) reduced the interest rate to 8%, and (iii) reduced the redemption purchase price in the event of certain transactions like an acquisition from 120% to 100% of the total amount of debt to be redeemed. The Notes are secured by substantially all of our assets.

However, as described under “Modification of Senior Secured Convertible Notes” above, we have entered into a MOU with the holders of the Notes and their agent to provide for repayment of a substantial portion of the Notes and a modification of the terms of the Notes to expand the due date for the remaining amount of the indebtedness to August 15, 2023, and a reduction in the conversion rate to one share of our common stock for each \$ of the remaining outstanding debt. If we fail to pay the Notes, including accrued interest, in full when due, the holders of the Notes, acting through their agent, will be entitled to pursue all of their remedies as secured creditors, including taking possession of the collateral securing the Notes and effecting a private sale of some or all of our assets securing the Notes. After the holders of the Notes take such actions, we may not have enough assets to make payments owed to other creditors, to continue operating our business, or distribute any funds to stockholders. Our inability to repay the convertible notes raises doubt about our ability to continue as a going concern.

Our failure to raise additional capital or generate the significant capital necessary to expand our operations and invest in new products could reduce our ability to compete and could harm our business.

We intend to continue spending substantial amounts to grow our business. Despite the extension of the repayment date for the Notes, as of the date of the prospectus, we still will need to obtain additional financing to pursue our business strategy, develop new products, respond to competition and market opportunities and acquire complementary businesses or technologies, in addition to repaying the Notes. There can be no assurance that such additional capital, whether in the form of debt or equity financing, will be sufficient or available and, if available, that such capital will be offered on terms and conditions acceptable to us.

If we were to raise additional capital through sales of our equity securities, our stockholders would suffer dilution of their equity ownership. If we engage in a subsequent debt financing, we may be required to accept terms that restrict our ability to incur additional indebtedness, prohibit us from paying dividends, repurchasing our stock or making investments, and force us to maintain specified liquidity or other ratios, any of which could harm our business, operating results and financial condition. If we need additional capital and cannot raise it on acceptable terms, we may not be able to, among other things:

- Develop or enhance our products;
- Continue to expand our product development and sales and marketing organizations;
- Acquire complementary technologies, products or businesses;
- Expand operations, in the United States or internationally;
- Hire, train and retain employees; or
- Respond to competitive pressures or unanticipated working capital requirements.

Our failure to do any of these things could seriously harm our ability to execute our business strategy and may force us to curtail our research and development plans or existing operations.

Our success depends upon the acceptance of our integrated circuits, or ICs, by equipment suppliers to the cloud networking, security and other systems markets.

The future prospects of our business depend on the adoption and acceptance by our target markets, which include cloud networking, communications, security appliances, video, test and monitoring, and data center. Our prospective customers may be unwilling to adopt and design-in our ICs due to the uncertainties and risks surrounding designing a new IC into their systems and relying on a supplier that has a limited history of manufacturing such ICs. In addition, our Bandwidth Engine IC products require our customers and their other IC suppliers to implement our proprietary GCI chip-to-chip communication protocol, which they may be unwilling to do. In the past, we have experienced reluctance to adopt the GCI interface from potential customers. We have determined and negotiated prices with a few customers for our ICs but to date still have limited experience with the cost of making and selling these products. Thus, currently, we do not know whether we will be able to generate adequate profit from making and selling these products.

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An important part of our strategy to gain market acceptance is to penetrate new markets by targeting market leaders to accept our IC solutions. This strategy is designed to encourage other participants in those markets to follow these leaders in adopting our solutions. If a high-profile industry participant adopts our ICs for one or more of its products but fails to achieve success with those products, or is unable to successfully implement our ICs, other industry participants' perception of our solutions could be harmed. Any such event could reduce the amount of future sales of our IC products.

Future revenue growth depends on our winning designs with existing and new customers, retaining current customers, and having those customers design our solutions into their product offerings and successfully selling and marketing such products. If we do not continue to win designs in the short term, our product revenue in the following years will not grow.

We sell our ICs to OEM customers that include our ICs in their products. Our technology is generally incorporated into products at the design stage, which we refer to as a design win, and which we define as the point at which a customer has made a commitment to build a board against a fixed schematic for his system, and this board will utilize our ICs. As a result, our future revenue depends on our OEM customers designing our ICs into their products, and on those products being produced in volume and successfully commercialized. If we fail to retain our current customers or convince our current or prospective customers to include our ICs in their products and fail to achieve a consistent number of design wins, our results of operations and business will be harmed. In addition, if a current or prospective customer designs a competitor's offering into its product, it becomes significantly more difficult for us to sell our IC solutions to that customer because changing suppliers involves significant cost, time, effort and risk for the OEM. Even if a customer designs one of our ICs into its product, we cannot be assured that the OEM's product will be commercially successful over time or at all or that we will receive or continue to receive any revenue from that customer. Furthermore, the customer product for which we obtain a design win may be canceled before the product enters production or before or after it is introduced into the market. Because of our extended sales cycle, our revenue in future years is highly dependent on design wins we are awarded today. Our lack of capital and uncertainty about our future technology roadmap also may limit our success in achieving additional design wins, as discussed under, "We may experience difficulties in transitioning to new wafer fabrication process technologies or in achieving higher levels of design integration, which may result in reduced manufacturing yields, delays in product deliveries and increased costs."

The design-win process is generally a lengthy, expensive and competitive process, with no guarantee of revenue, and, if we fail to generate sufficient revenue to offset our expenses, our business and operating results would suffer.

Achieving a design win is typically a lengthy, expensive and competitive process because our customers generally take a considerable amount of time to evaluate our ICs. In the markets we serve, the time from initial customer engagement to design win to production volume shipments can range from two to three years, though it may take longer for new customers or markets we intend to address. In order to win designs, we are required to both incur design and development costs and dedicate substantial engineering resources in pursuit of a single customer opportunity. Even though we incur these costs, we may not prevail in the competitive selection process, and, even if we do achieve a design win, we may never generate sufficient, or any, revenue to offset our development expenditures. Our customers have the option to decide whether or not to put our solutions into production after initially designing our products in the specification. The customer can make changes to its product after a design win has been awarded to us, which can have the effect of canceling a previous design win. This occurred in 2018 when a large customer decided to phase out its use of our products. The delays inherent in our protracted sales cycle increase the risk that a customer will decide to cancel, curtail, reduce or delay its product plans, causing us to lose anticipated revenue. In addition, any change, delay or cancellation of a customer's plans could harm our financial results, as we may have incurred significant expense while generating no revenue.

If our foundries do not achieve satisfactory yields or quality, our cost of goods sold will increase, our operating margins will decline, and our reputation and customer relationships could be harmed.

We depend not only on sufficient foundry manufacturing capacity and wafer prices, but also on good production yields (the number of good die per wafer) and timely wafer delivery to meet customer demand and maintain profit margins. The fabrication of our products is a complex and technically demanding process. Minor deviations in the manufacturing process can cause substantial decreases in yields, and in some cases, cause production to be suspended. Our foundry, Taiwan Semiconductor Manufacturing Company, or TSMC, from time to time, experiences manufacturing defects and reduced manufacturing yields. Changes in manufacturing processes or the inadvertent use of defective or contaminated materials by our foundries could result in lower than anticipated manufacturing yields, which would harm our revenue or increase our costs. For example, in the past, our foundry produced ICs and met its process specification

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range but did not meet our customer's specifications causing us to write off a portion of our production lot. Many of these problems are difficult to detect at an early stage of the manufacturing process and may be time consuming and expensive to correct. Poor yields from our foundry, or defects, integration issues or other performance problems in our ICs, could cause us significant customer relations and business reputation problems, harm our operating results and give rise to financial or other damages to our customers. Our customers might consequently seek damages from us for their losses. A product liability claim brought against us, even if unsuccessful, would likely be time consuming and costly to defend.

We may experience difficulties in transitioning to new wafer fabrication process technologies or in achieving higher levels of design integration, which may result in reduced manufacturing yields, delays in product deliveries and increased costs.

We aim to use the most advanced manufacturing process technology appropriate for our solutions that is available from TSMC. As a result, we periodically evaluate the benefits of migrating our solutions to other technologies in order to improve performance and reduce costs. These ongoing efforts require us from time to time to modify the manufacturing processes for our products and to redesign some products, which in turn may result in delays in product deliveries. We are dependent on TSMC to support the production of wafers for future versions of our ICs, as TSMC is our sole foundry. Such production may require changes to TSMC's existing process technology. If TSMC elects to not alter their process technology to support future versions of our ICs, we would need to identify a new foundry.

In addition, our 1T-SRAM technology used in our Bandwidth Engine and PSE products is not available at process nodes below 40 nanometers. To date, we have not developed any memory products below the 40-nanometer process node. To continue the product roadmap for our Bandwidth Engine and PSE products, we will need to identify a new foundry and/or no longer use our 1T-SRAM technology. We do not consider this to adversely affect our current product offerings, but we expect to face difficulties, delays and increased expense as we transition our products to new processes, and potentially to new foundries for future products. For example, we believe our next generation of products will need to be designed using a FinFET process, which will require us to incur significantly high development costs for mask tooling and computer-aided design software. We currently lack the funds to pay for such development costs. Moreover, an inability to continue our product roadmap can adversely affect, and has in the past affected our efforts to win new customers, secure additional design wins and significantly grow our future revenues.

Because the manufacturing of integrated circuits is extremely complex, the process of qualifying a new foundry is a lengthy process and there can be no assurance that we will be able to find and qualify replacement suppliers without materially adversely affecting our business, financial condition, results of operations and prospects for future growth. We cannot assure you that we will be able to maintain our relationship with our current foundry or develop relationships with new foundries. If we or TSMC experience significant delays in transitioning to smaller geometries or fail to efficiently implement transitions, we could experience reduced manufacturing yields, delays in product deliveries and increased costs, any of which could harm our relationships with our customers and our operating results.

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Our main objective is the development and sale of our products to networking communications and data center systems providers and their subsystem and component vendors, and, if demand for these products does not grow, we may not achieve revenue growth and our strategic objectives.

We market and sell our ICs to cloud networking, communications, data center and other equipment providers and their subsystem and component vendors. We believe our future business and financial success depends on market acceptance and increasing sales of these products. In order to meet our growth and strategic objectives, networking infrastructure OEMs must incorporate our products into their systems, and the demand for their systems must grow as well. We cannot provide assurance that sales of our products to these OEMs will increase substantially in the future or that the demand for our customers' systems will increase. Our future revenues from these products may not increase in accordance with our growth and strategic objectives if instead our OEM customers modify their product designs, select products sold by our competitors or develop their own proprietary ICs. Moreover, demand for their products that incorporate our ICs may not grow or result in significant sales of such products due to factors affecting the customers and their business, such as industry downturns, declines in capital spending in the enterprise and carrier markets and unfavorable macroeconomic conditions. Thus, the future success of our business depends in large part on factors outside our control, and sales of our products may not meet our revenue growth and strategic objectives.

Our failure to continue to develop new products and enhance our products on a timely basis could diminish our ability to attract and retain customers.

The existing and potential markets for our products are characterized by ever-increasing performance requirements, evolving industry standards, rapid technological change and product obsolescence. These characteristics lead to periodic changes in customer requirements, shorter product life cycles and changes in industry demands and mandate new product introductions and enhancements to maintain customer engagements and design wins. In order to attain and maintain a significant position in the market, we will need to continue to enhance and evolve our products and the underlying proprietary technologies in anticipation of these market trends which may be impeded by our reductions in design engineering staff since the beginning of 2017.

Our future performance depends on a number of factors, including our ability to:

- identify target markets and relevant emerging technological trends;
- develop and maintain competitive technology by improving performance and adding innovative features that differentiate our products from alternative technologies;
- enable the incorporation of our products into the customers' products on a timely basis and at competitive prices;
- develop our products to be manufactured at smaller process geometries; and
- respond effectively to new technological developments or new product introductions by others.

Our failure to enhance our existing IC products and develop future products that achieve broad market acceptance will harm our competitive position and impede our future growth.

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Our ICs have a lengthy sales cycle, which makes it difficult to predict success in this market and the timing of future revenue.

Our ICs have a lengthy sales cycle, ranging from six to 24 months from the date of our initial proposal to a prospective customer until the date on which the customer confirms that it has designed our product into its system. As lengthy, or an even lengthier period, could ensue before we would know the volume of products that such customer will, or is likely to, order. A number of factors can contribute to the length of the sales cycle, including technical evaluations of our products by the customers, the design process required to integrate our products into the customers' products and the timing of the customers' new product announcements. In anticipation of product orders, we may incur substantial costs before the sales cycle is complete and before we receive any customer payments. As a result, in the event that a sale is not completed or is cancelled or delayed, we may have incurred substantial expenses, making it more difficult for us to become profitable or otherwise negatively impacting our financial results. Furthermore, because of this lengthy sales cycle, the recording of revenues from our selling efforts may be substantially delayed, our ability to forecast our future revenue may be more limited and our revenue may fluctuate significantly from quarter to quarter. We cannot provide any assurances that our efforts to build a strong and profitable business based on the sale of ICs will succeed. If these efforts are not successful, in light of the substantial resources that we have invested, our future operating results and cash flows could be materially and adversely affected.

The semiconductor industry is cyclical in nature and subject to periodic downturns, which can negatively affect our revenue.

The semiconductor industry is cyclical and has experienced pronounced downturns for sustained periods of up to several years. To respond to any downturn, many semiconductor manufacturers and their customers will slow their research and development activities, cancel or delay new product developments, reduce their workforces and inventories and take a cautious approach to acquiring new equipment and technologies. As a result, our business has been in the past and could be adversely affected in the future by an industry downturn, which could negatively impact our future revenue and profitability. Also, the cyclical nature of the semiconductor industry may cause our operating results to fluctuate significantly from year-to-year, which may tend to increase the volatility of the price of our common stock.

We expect our royalty revenues to decrease compared with our historical results, and there is no guarantee revenues from our IC products will replace these lost revenues in the near future.

In 2011, we began to place greater emphasis on our IC business and re-deploy engineering, marketing and sales resources from IP to IC activities. We are no longer actively pursuing new license arrangements, and, as a result, our royalty and other revenues in 2017 declined when compared with prior years. In addition, the production volumes of the current royalty-bearing products shipped by our licensees are expected to decrease; therefore we expect our royalty revenue to decrease in 2018 and future periods. Historically, royalties have generated a 100% gross margin, and any decrease in royalties adversely affects our gross margin, operating results and cash flows.

Our revenue has been highly concentrated among a small number of licensees and customers, and our results of operations could be harmed if we lose a key revenue source and fail to replace it.

Our overall revenue has been highly concentrated, with a few customers accounting for a significant percentage of our total revenue. For the six-months ended June 30, 2018, our three largest customers represented 33%, 22% and 12% of total revenue, respectively. For the year ended December 31, 2017, our three largest customers represented 46%, 17% and 11% of total revenue, respectively. For the year ended December 31, 2016, our three largest customers represented 47%, 21% and 13% of total revenue, respectively. We expect that a relatively small number of customers will continue to account for a substantial portion of our revenue for the foreseeable future. However, we were recently informed by a large customer that it will be phasing out our Bandwidth Engine IC products over the next 24 months. The loss of future business with this customer is expected to result in a material reduction in our revenue outlook beginning in the fourth quarter of 2018.

As a result of this revenue concentration, our results of operations could be adversely affected by the decision of a single key licensee or customer to cease using our technology or products or by a decline in the number of products that incorporate our technology that are sold by a single licensee or customer or by a small group of licensees or customers.

Our revenue concentration may also pose credit risks, which could negatively affect our cash flow and financial condition.

We might also face credit risks associated with the concentration of our revenue among a small number of licensees and customers. As of June 30, 2018, two customers represented 76% of total trade receivables. Our failure to collect receivables from any customer that represents a large percentage of receivables on a timely basis, or at all, could adversely affect our cash flow or results of operations and might cause our stock price to fall.

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Our products must meet exact specifications, and defects and failures may occur, which may cause customers to return or stop buying our products.

Our customers generally establish demanding specifications for quality, performance and reliability that our products must meet. However, our products are highly complex and may contain defects and failures when they are first introduced or as new versions are released. If defects and failures occur in our products during the design phase or after, we could experience lost revenues, increased costs, including warranty and customer support expenses and penalties for non-performance stipulated in customer purchase agreements, delays in or cancellations or rescheduling of orders or shipments, product returns or discounts, diversion of management resources or damage to our reputation and brand equity, and in some cases consequential damages, any of which would harm our operating results. In addition, delays in our ability to fill product orders as a result of quality control issues may negatively impact our relationship with our customers. We cannot assure you that we will have sufficient resources to satisfy any asserted claims. Furthermore, any such defects, failures or delays may be particularly damaging to us as we attempt to establish our reputation as a reliable provider of IC products.

Because we sell our products on a purchase order basis and rely on estimated forecasts of our customers' needs, inaccurate forecasts could adversely affect our business.

We sell our IC products pursuant to individual purchase orders, rather than long-term purchase commitments. Therefore, we will rely on estimated demand forecasts, based upon input from our customers, to determine how much product to manufacture. Because our sales will be based primarily on purchase orders, our customers may cancel, delay or otherwise modify their purchase commitments with little or no notice to us. For these reasons, we will generally have limited visibility regarding our customers' product needs. In addition, the product design cycle for networking OEMs is lengthy, and it may be difficult for us to accurately anticipate when they will commence commercial shipments of products that include our ICs.

Furthermore, if we experience substantial warranty claims, our customers may cancel existing orders or cease to place future orders. Any cancellation, delay or other modification in our customers' orders could significantly reduce our revenue, cause our operating results to fluctuate from period to period, and make it more difficult for us to predict our revenue. In the event of a cancellation or reduction of an order, we may not have enough time to reduce operating expenses to mitigate the effect of the lost revenue on our business.

If we overestimate customer demand for our products, we may purchase products from our manufacturers that we cannot sell. Conversely, if we underestimate customer demand or if sufficient manufacturing and testing capacity were unavailable, we would forego revenue opportunities and could lose market share in the markets served by our products and could incur penalty payments under our customer purchase agreements. In addition, our inability to meet customer requirements for our products could lead to delays in product shipments, force customers to identify alternative sources and otherwise adversely affect our ongoing relationships with our customers.

We depend on contract manufacturers for a significant portion of our revenue from the sale of our IC products.

Many of our current and prospective OEM customers use third party contract manufacturers to manufacture their systems, and these contract manufacturers purchase our products directly from us on behalf of the OEMs. Although we expect to work with our OEM customers in the design and development phases of their systems, these OEMs often give contract manufacturers some authority in product purchasing decisions. If we cannot compete effectively for the business of these contract manufacturers, or, if any of the contract manufacturers that work with our OEM customers experience financial or other difficulties in their businesses, our revenue and our business could be adversely affected. For example, if a contract manufacturer becomes subject to bankruptcy proceedings, we may not be able to obtain our products held by the contract manufacturer or recover payments owed to us by the contract manufacturer for products already delivered to the contract manufacturer. If we are unable to persuade contract manufacturers to purchase our products, or if the contract manufacturers are unable to deliver systems with our products to OEMs on a timely basis, our business would be adversely affected.

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We rely on independent foundries and contractors for the manufacture, assembly, testing and packaging of our integrated circuits, and the failure of any of these third parties to deliver products or otherwise perform as requested could damage our relationships with our customers and harm our sales and financial results.

As a fabless semiconductor company, we rely on third parties for substantially all of our manufacturing operations. We depend on these parties to supply us with material in a timely manner that meets our standards for yield, cost and quality. We do not have long-term supply contracts with any of our suppliers or manufacturing service providers, and therefore they are not obligated to manufacture products for us for any specific period, in any specific quantity or at any specified price, except as may be provided in a particular purchase order. Any problems with our manufacturing supply chain could adversely impact our ability to ship our products to our customers on time and in the quantity required, which in turn could damage our customer relationships and impede market acceptance of our IC solutions.

Our third party wafer foundries, and testing and assembly vendors are located in regions at high risk for earthquakes and other natural disasters. Any disruption to the operations of these foundries and vendors resulting from earthquakes or other natural disasters could cause significant delays in the development, production, shipment and sales of our IC products.

TSMC, which manufactures our products, is located in Asia, as are other foundries we may use in the future. Our vendors that provide substrates and wafer sorting and handle the testing of our products, are headquartered in either Asia or the San Francisco Bay Area of California. Our primary manufacturing operations are located in San Jose, California. The risk of an earthquake in the Pacific Rim region is significant due to the proximity of major earthquake fault lines. The occurrence of earthquakes or other natural disasters could result in the disruption of the wafer foundry or assembly and test capacity of the third parties that supply these services to us and may impede our research and development efforts, as well as our ability to market and sell our products. We may not be able to obtain alternate capacity on favorable terms, if at all.

We might not be able to protect and enforce our intellectual property rights, which could impair our ability to compete and reduce the value of our technology.

Our technology is complex and is intended for use in complex SoCs and networking systems. Our licensees' products utilize our embedded memory and/or interface technology, and a large number of companies manufacture and market these products. Because of these factors, policing the unauthorized use of our intellectual property is difficult and expensive. We cannot be certain that we will be able to detect unauthorized use of our technology or prevent other parties from designing and marketing unauthorized products based on our technology. In the event we identify any past or present infringement of our patents, copyrights or trademarks, or any violation of our trade secrets, confidentiality procedures or licensing agreements, we cannot assure you that the steps taken by us to protect our proprietary information will be adequate to prevent misappropriation of our technology. Our inability to adequately protect our intellectual property would reduce significantly the barriers of entry for directly competing technologies and could reduce the value of our technology. Furthermore, we might initiate claims or litigation against third parties for infringement of our proprietary rights or to establish the validity of our proprietary rights. Litigation by us could result in significant expense and divert the efforts of our technical and management personnel, whether or not such litigation results in a determination favorable to us.

Our existing patents might not provide us with sufficient protection of our intellectual property, and our patent applications might not result in the issuance of patents, either of which could reduce the value of our core technology and harm our business.

We rely on a combination of patents, trademarks, trade secret laws and confidentiality procedures to protect our intellectual property rights. We cannot be sure that any patents will be issued from any of our pending applications or that any claims allowed from pending applications will be of sufficient scope or strength, or issued in all countries where our products can be sold, to provide meaningful protection or any commercial advantage to us. Failure of our patents or patent applications to provide meaningful protection might allow others to utilize our technology without any compensation to us.

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Any claim that our products or technology infringe third party intellectual property rights could increase our costs of operation and distract management and could result in expensive settlement costs or the discontinuance of our technology licensing or product offerings. In addition, we may incur substantial litigation expense, which would adversely affect our profitability.

The semiconductor industry is characterized by vigorous protection and pursuit of intellectual property rights or positions, which has resulted in often protracted and expensive litigation. We are not aware of any third party intellectual property that our products or technology would infringe. However, like many companies of our size with limited resources, we have not searched for all potentially applicable intellectual property in the public databases. It is possible that a third party now has, or may in the future obtain, patents or other intellectual property rights that our products or technology may now, or in the future, infringe. Our licensees and IC customers, or we, might, from time to time, receive notice of claims that we have infringed patents or other intellectual property rights of others. Litigation against us can result in significant expense and divert the efforts of our technical and management personnel, whether or not the litigation has merit or results in a determination adverse to us.

The discovery of defects in our technology and products could expose us to liability for damages.

The discovery of a defect in our technologies and products could lead our customers to seek damages from us. Many of our agreements with customers include provisions waiving implied warranties regarding our technology and products and limiting our liability to our customers. We cannot be certain, however, that the waivers or limitations of liability contained in our agreements with customers will be enforceable.

Royalty amounts owed to us might be difficult to verify, and we might find it difficult, expensive and time-consuming to enforce our license agreements.

The standard terms of our 1T-SRAM license agreements require our licensees to document the manufacture and sale of products that incorporate our technology and generally report this data to us after the end of each quarter. We have the right to audit these royalty reports periodically, although we have not conducted any such audits recently. These audits can be expensive, time-consuming and potentially detrimental to our business relationships. A failure to fully enforce the royalty provisions of our license agreements could cause our revenue to decrease and impede our ability to achieve and maintain profitability.

If we fail to retain key personnel, our business and growth could be negatively affected.

Our business has been dependent to a significant degree upon the services of a small number of executive officers and technical employees. The loss of key personnel could negatively impact our technology development efforts, our ability to deliver under our existing agreements, maintain strategic relationships with our partners, and obtain new customers. We generally have not entered into employment or non-competition agreements with any of our employees and do not maintain key-man life insurance on the lives of any of our key personnel.

Risks Related to Ownership of Our Common Stock

We may incur additional debt in the future, subject to certain limitations contained in our Notes.

The degree to which we are leveraged and the restrictions governing our indebtedness could have important consequences including, but not limited to:

- limiting our ability to service all of our debt obligations;
- impacting our ability to incur additional indebtedness or obtain additional financing in the future for working capital, capital expenditures, acquisitions or general corporate or other purposes;
- increasing our vulnerability to general economic downturns and adverse industry conditions;
- limiting our flexibility in planning for, or reacting to, changes in our business and our industry; and
- limiting our ability to engage in certain transactions or capitalize on acquisition or other business opportunities.

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If we are in violation of the terms of the Notes in the future and do not receive a waiver, the Note holders could choose to accelerate payment on all outstanding loan balances. If we needed to obtain replacement financing, we may not be able to quickly obtain equivalent or suitable replacement financing. If we are unable to secure alternative sources of funding, such acceleration would have a material adverse impact on our financial condition.

Provisions of our certificate of incorporation and bylaws or Delaware law might delay or prevent a change-of-control transaction and depress the market price of our stock.

Various provisions of our certificate of incorporation and bylaws might have the effect of making it more difficult for a third party to acquire, or discouraging a third party from attempting to acquire, control of our company. These provisions could limit the price that certain investors might be willing to pay in the future for shares of our common stock. Certain of these provisions eliminate cumulative voting in the election of directors, limit the right of stockholders to call special meetings and establish specific procedures for director nominations by stockholders and the submission of other proposals for consideration at stockholder meetings.

We are also subject to provisions of Delaware law which could delay or make more difficult a merger, tender offer or proxy contest involving our company. In particular, Section 203 of the Delaware General Corporation Law prohibits a Delaware corporation from engaging in any business combination with any interested stockholder for a period of three years unless specific conditions are met. Any of these provisions could have the effect of delaying, deferring or preventing a change in control, including without limitation, discouraging a proxy contest or making more difficult the acquisition of a substantial block of our common stock.

Under our certificate of incorporation, our board of directors may issue up to 20,000,000 shares of preferred stock without stockholder approval on such terms as the board might determine. The rights of the holders of common stock will be subject to, and might be adversely affected by, the rights of the holders of any preferred stock that might be issued in the future.

Our stockholder rights plan could prevent stockholders from receiving a premium over the market price for their shares from a potential acquirer.

We adopted a stockholder rights plan that generally entitles our stockholders to rights to acquire additional shares of our common stock when a third party acquires 15% of our common stock or commences or announces its intent to commence a tender offer for at least 15% of our common stock. The plan also includes an exception to permit the acquisition of shares representing more than 15% of our common stock by a brokerage firm that manages independent customer accounts and generally does not have any discretionary voting power with respect to such shares. This plan could delay, deter or prevent an investor from acquiring us in a transaction that could otherwise result in stockholders receiving a premium over the market price for their shares of common stock. Our intention is to maintain and enforce the terms of this plan, which could delay, deter or prevent an investor from acquiring us in a transaction that could otherwise result in stockholders receiving a premium over the market price for their shares of common stock.

Potential volatility of the price of our common stock could negatively affect your investment.

We cannot assure you that there will continue to be an active trading market for our common stock. Historically, the stock market, as well as our common stock, has experienced significant price and volume fluctuations. Market prices of securities of technology companies have been highly volatile and frequently reach levels that bear no relationship to the operating performance of such companies. These market prices generally are not sustainable and are subject to wide variations. If our common stock trades to unsustainably high levels, it is likely that the market price of our common stock will thereafter experience a material decline. In the past, our board of directors approved stock repurchase programs, and any future program could impact the price of our common stock and increase volatility.

In the past, securities class action litigation has often been brought against a company following periods of volatility in the market price of its securities. We could be the target of similar litigation in the future. Securities litigation could cause us to incur substantial costs, divert management's attention and resources, harm our reputation in the industry and the securities markets and negatively impact our operating results.

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Our stock price could drop, and there could be significantly less trading activity in our stock, if securities or industry analysts downgrade our stock or do not publish research or reports about our business.

Our stock price and the trading market for our stock are likely to be affected significantly by the research and reports concerning our company and our business which are published by industry and securities analysts. We do not have any influence or control over these analysts, their reports or their recommendations. Our stock price and the trading market for our stock could be negatively affected if any analyst downgrades our stock, publishes a report which is critical of our business, or discontinues coverage of us.

We are a “smaller reporting company” and, as a result of the reduced disclosure and governance requirements applicable to smaller reporting companies, our common stock may be less attractive to investors.

We are a “smaller reporting company,” and we are subject to lesser disclosure obligations in our SEC filings compared to other issuers. Specifically, “smaller reporting companies” are able to provide simplified executive compensation disclosures in their filings, are exempt from the provisions of Section 404(b) of the Sarbanes-Oxley Act requiring that independent registered public accounting firms provide an attestation report on the effectiveness of internal control over financial reporting and have certain other decreased disclosure obligations in their SEC filings, including, among other things, only being required to provide two years of audited financial statements in annual reports. Decreased disclosures in our SEC filings due to our status as a “smaller reporting company” may make it harder for investors to analyze our operating results and financial prospects.

If we fail to maintain compliance with the continued listing requirements of the Nasdaq Capital Market, our common stock may be delisted and the price of our common stock and our ability to access the capital markets could be negatively impacted.

Our common stock currently trades on the Nasdaq Capital Market under the symbol “MOSY.” This market has continued listing standards that we must comply with in order to maintain the listing of our common stock. The continued listing standards include, among others, a minimum bid price requirement of \$1.00 per share and any of: (i) a minimum stockholders’ equity of \$2.5 million; (ii) a market value of listed securities of at least \$35.0 million; or (iii) net income from continuing operations of \$500,000 in the most recently completed fiscal year or in the two of the last three fiscal years. Our results of operations and fluctuating stock price directly impact our ability to satisfy these continued listing standards. In the event we are unable to maintain these continued listing standards, our common stock may be subject to delisting from the Nasdaq Capital Market.

On August 23, 2018, we received a deficiency notification letter from the Listing Qualifications Department (the Staff) of Nasdaq. Previously, on August 13, 2018, the Staff provided notification that the Company: (i) was not in compliance with the independent director and audit committee composition requirements, as set forth in Listing Rules 5605(b)(1) and 5605(c)(2), respectively, and (ii) would be provided a cure period to comply. However, the August 23, 2018 notification letter provided notice that due to the resignation of Stephen Domenik from our board of directors effective August 20, 2018, we are no longer eligible for the cure period described in the Staff’s August 13, 2018 notification letter. We have submitted a plan to regain compliance. If our plan is accepted, the Staff can grant an extension of up to 180 calendar days from the date of the letter to evidence compliance. If the Staff does not accept our plan, we will have the opportunity to appeal that decision before a Nasdaq Hearings Panel (Panel). There can be no assurance that, if we do appeal a subsequent delisting determination by the Staff to a Panel, that such appeal would be successful.

In addition, we no longer have at least two independent members serving on the committee of the board of directors. We intend to fill the vacant board of directors and committee seats prior to our next annual meeting of shareholders.

On September 21, 2018, we received an additional deficiency notification letter from the Staff of Nasdaq stating that the bid price for our common stock must close at \$1.00 per share or more for a minimum of ten consecutive trading days during the 180 calendar day period ending March 20, 2019 or we might be delisted. As mentioned above, the price of our common stock can be volatile, and there can be no assurance that we will be able to meet the minimum \$1.00 bid price requirement or the other NASDAQ continued listing requirements in the future, and we may be subject to delisting as a result.

If we are delisted, we would expect our common stock to be traded in the over-the-counter market, which could adversely affect the liquidity of our common stock. Additionally, we could face significant material adverse consequences, including:

- a limited availability of market quotations for our common stock;
- a reduced amount of analyst coverage;
- a decreased ability to issue additional securities or obtain additional financing in the future;
- reduced liquidity for our stockholders;
- potential loss of confidence by customers, collaboration partners and employees; and
- loss of institutional investor interest.

MARKET INFORMATION FOR OUR COMMON STOCK

The following table sets forth the range of high and low sales prices of our common stock on Nasdaq for the periods indicated:

	<u>High</u>	<u>Low</u>
2018		
First Quarter (January 1 – March 31, 2018)	\$ 2.08	\$1.03
Second Quarter (April 1 – June 30, 2018)	\$ 2.23	\$1.14
2017		
First Quarter (January 1 – March 31, 2017)	\$ 4.32	\$1.75
Second Quarter (April 1 – June 30, 2017)	\$ 2.70	\$0.55
Third Quarter (July 1 – September 30, 2017)	\$ 1.81	\$0.89
Fourth Quarter (October 1 – December 31, 2017)	\$ 1.45	\$0.64
2016		
First Quarter (January 1 – March 31, 2016)	\$11.70	\$5.70
Second Quarter (April 1 – June 30, 2016)	\$ 6.50	\$3.23
Third Quarter (July 1 – September 30, 2016)	\$ 8.03	\$4.10
Fourth Quarter (October 1 – December 31, 2016)	\$ 7.80	\$2.30

Dividend Policy

We have never declared or paid any cash dividends on our common stock and do not currently anticipate declaring or paying cash dividends on our common stock in the foreseeable future. We currently intend to retain all of our future earnings, if any, to finance operations. Any future determination relating to our dividend policy will be made at the discretion of our board of directors and will depend on a number of factors, including future earnings, capital requirements, financial conditions, future prospects, contractual restrictions and other factors that our board of directors may deem relevant.

Holders of Record

As of August 31, 2018, there were five holders of record of our common stock. The actual number of stockholders is greater than this number of record stockholders and includes stockholders who are beneficial owners but whose shares are held in street name by brokers and other nominees. This number of stockholders of record also does not include stockholders whose shares may be held in trust by other entities.

USE OF PROCEEDS

Assuming that we sell all of the securities offered hereby, we estimate that we will receive net proceeds of approximately \$11,100,000 from the sale of units in this offering, after deducting placement agent fees and estimated offering expenses of approximately \$900,000 payable by us, based on an assumed public offering price of \$0.766 per common unit (the last reported sale price of our common stock on Nasdaq on September 27, 2018).

We intend to use the net proceeds from this public offering for working capital and general corporate purposes (including research and development and sales and marketing, and capital expenditures). Assuming that we sell all of the securities offered hereby, we would expect to repay approximately \$8 million of such indebtedness at the closing of this offering.

In addition, the amount and timing of what we actually spend for these purposes may vary and will depend on a number of factors, including our future revenue and cash generated by operations and the other factors described in “Risk Factors.” Accordingly, our management will have discretion and flexibility in applying the net proceeds of this offering. Pending use of the net proceeds as described above, we intend to invest the net proceeds in money market funds and investment-grade debt securities.

Because there is no minimum offering amount required as a condition to the closing of this offering, the actual offering amount, placement agent fees and proceeds to us are not presently determinable and may be substantially less than the amount set forth above. We may sell fewer than all of the securities offered hereby, which may significantly reduce the amount of proceeds received by us. Thus, we may not raise the amount of capital we believe is required for our business and may need to raise additional funds, which may not be available or available on terms acceptable to us.

CAPITALIZATION

The following table sets forth our actual cash and cash equivalents and our capitalization as of June 30, 2018, sale of the securities offered hereby and the use of proceeds, as described in the section entitled “Use of Proceeds.”

The pro forma information set forth in the table below is illustrative only and will be adjusted based on the actual public offering price and other terms of this offering determined at pricing.

	<u>Actual</u>	<u>Pro Forma</u>
Cash and cash equivalents	\$ 3,595	\$ —
Convertible notes payable	9,647	—
Stockholders' equity:		
Convertible preferred stock, \$0.01 par value; 20,000 shares authorized and undesignated, actual, pro forma or as adjusted; no shares issued and outstanding, actual or pro forma	—	—
Common stock, \$0.001 par value, 120,000 shares authorized; 8,171 shares issued and outstanding, actual; shares issued and outstanding, pro forma	8	—
Additional paid-in capital	232,228	—
Accumulated deficit	(223,795)	—
Total stockholders' equity	8,441	—
Total capitalization	<u>\$ 18,088</u>	<u>\$ —</u>

DILUTION

If you invest in the common units being offered by this prospectus, your ownership interest will be immediately diluted to the extent of the difference between the public offering price per common unit and the as adjusted net tangible book value per share of our common stock immediately after giving effect to this offering. Our unaudited net tangible book deficit as of June 30, 2018 was approximately \$(4.9) million, or \$(0.60) per share of our common stock. Net tangible book value (deficit) per share is equal to our total tangible assets minus total liabilities, divided by 8,170,910 shares of common stock outstanding as of June 30, 2018.

The following table illustrates this dilution based solely on the number of shares of common stock issued as part of the common units and pre-funded units at closing, and assumes that no warrants other than the pre-funded warrants offered hereby are exercised, prior to the reset taking effect.

	<u>Proforma(1)</u>
Assumed public offering price per common unit	\$ 0.766
Net tangible book deficit per share as of June 30, 2018	\$ (0.60)
Increase in pro forma net tangible book value (deficit) per share attributable to new investors in common stock from units purchased at closing	\$ —
Pro forma, as-adjusted, net tangible book value per share after this offering	\$ —
Dilution per share to investors in this offering	\$ —

(1) Pro-forma amounts assume the one-time reset of the pre-funded warrants and warrants does not take effect.

The dilution information set forth in the table above is illustrative only and will be adjusted based on the actual public offering price and other terms of this offering determined at pricing.

This table does not take into account further dilution to new investors that could occur upon the exercise of the warrants offered hereby or outstanding options and warrants having a per share exercise price less than the public offering price per common unit in this offering. To the extent that outstanding options or warrants are exercised, or restricted stock units vest and settle, investors purchasing our common stock will experience further dilution. In addition, we may choose to raise additional capital due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. To the extent that additional capital is raised through the sale of equity or convertible debt securities, the issuance of these securities could result in further dilution to our stockholders.

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The number of shares of our common stock shown above to be outstanding immediately before and after this offering is based on 8,170,910 shares outstanding as of June 30, 2018, and excludes, as of such date:

- 2,271,338 shares of common stock issuable upon conversion of the 8% Senior Secured Convertible Notes due August 15, 2019 (calculated without regard to the effects of the MOU);
- 94,122 shares of common stock issuable upon exercise of outstanding exercisable stock options with a weighted average exercise price of approximately \$7.68 per share;
- 249,354 shares of common stock issuable upon exercise of outstanding stock options that are not exercisable;
- 302,014 shares of common stock issuable upon vesting of restricted stock units;
- 186,403 shares of common stock available for future issuance under our equity incentive plan;
- 147,024 shares of common stock available for sale under our employee stock purchase plan;
- 662,500 shares of common stock issuable upon exercise of warrants dated July 6, 2017 at \$2.35 per share; and
- 28,231,197 shares of our common stock issuable upon exercise of the warrants and/or pre-funded warrants offered hereby.

BUSINESS

Overview

We are a fabless semiconductor company focused on the development and sale of integrated circuits, or ICs, for the high-speed cloud networking, communications, security appliance, video, monitor and test, data center and computing markets. Our solutions deliver time-to-market, performance, power, area and economic benefits for system original equipment manufacturers, or OEMs. Our primary product line is marketed under the Bandwidth Engine and Programmable Search Engine names and marks, and these IC products integrate our proprietary, 1T-SRAM high-density embedded memory and a highly-efficient serial interface protocol resulting in a monolithic memory IC solution optimized for memory bandwidth and transaction access performance. Further performance benefits can be achieved to offload statistical, search or other custom functions using our optional integrated logic and processor elements. As data rates and the amount of high-speed processing increase, critical memory access bottlenecks occur. Our Bandwidth Engine, or BE, and Programmable Search Engine, or PSE, ICs drastically increase memory accesses per second, removing these bottlenecks. In addition, the serial interface and high-memory capacity reduce the board footprint, number of pins and complexity, while using less power.

In April 2017, we implemented restructuring initiatives to effect a reduction in our workforce and associated operating expenses, net loss and cash burn. Under these initiatives, we significantly reduced our headcount, closed international sales offices and relocated and downsized our corporate headquarters. We are primarily focusing our resources on producing and selling our existing products, and have substantially curtailed new product development. Despite the reduction in new product development, we believe our current product portfolio and roadmap position us for future growth and profitability, although we were recently informed by a large customer that it will be phasing out our Bandwidth Engine IC products over the next 24 months, which is expected to result in a material reduction in our revenue outlook beginning in the fourth quarter of 2018. We will continue to seek opportunities to sell existing products, license our technology and obtain third-party funding for new product development efforts. Our future success and ability to achieve and maintain profitability are dependent on the marketing and sales of our IC products into cloud networking, communications, security appliances, monitoring and test, data center, video, and other markets requiring high-bandwidth memory access.

Industry Background

The amount of data and the number of users and devices is growing exponentially, driven primarily by commercial and consumer cloud applications, video services, high speed mobile networks, Internet of Things, or IoT, and many other cloud applications. In order to meet these demands, the new cloud infrastructure; including the backbone, edge, access network and data centers must scale in both speed and intelligence to handle real-time security, bandwidth allocation, and service-level expectations. In addition, workloads or applications delivered at a massive scale from the cloud require flexible, efficient data and computing transmission to optimize resources to enable these applications and lower the overall cost, size and power of the data center. These increased demands strain communication between onboard IC devices, limiting the data throughput in network switches and routers and the network backbone.

To meet these demands, carrier and enterprise networks are merging with the cloud and are undergoing significant changes and, most significantly, are migrating to packet-based Ethernet networks that enable higher throughput, lower cost and uniform technology across access, core and metro network infrastructure. These networks are now being designed to deliver voice, video and high-speed Internet services on one converged, efficient and flexible network. These trends require networking systems, especially the high-speed switches and routers that primarily comprise these networks, to comply with evolving market requirements and be capable of providing new services and better quality of service while supporting new protocols and standards. To support these trends, traditional OEM network and telecommunications equipment manufacturers, such as Alcatel-Lucent (a subsidiary of Nokia Corporation), Cisco Systems, Inc., Tel. LM Ericsson, Fujitsu Ltd., Hitachi Ltd., Huawei Technologies, Juniper Networks, Inc., Nokia Corporation, and ZTE Corporation, as well as a new set of white-box solutions from new vendors and cloud-service providers, must offer higher levels of packet forwarding rates, bandwidth density and be optimized to enable higher-density, lower power data path connectivity in the next generations of their networking systems.

Networking communications, security, video and computing systems throughout the cloud network must operate at higher speed and performance levels, and so require new generations of packet processors and improved memory subsystems to enable system performance. These systems and their component line cards generally need to support aggregate rates of 100 gigabits per second, or Gbps, and above to meet the continued growth in network traffic.

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Cloud services have accelerated this transition with applications such as security. Data centers and access equipment that were previously aggregating slower traffic at rates of 1 Gbps to 10 Gbps, and 40 Gbps, now are being designed to aggregate traffic at 100 Gbps, or more. The transition to 100 Gbps networks is underway, and the increase in data rates for these networks is expected to continue to grow rapidly over the coming years.

Several types of semiconductors are included on each line card, including one or more processors and multiple memory chips. These processors are complex ICs or IC chipsets that perform high-speed data or packet processing for functions, such as traffic routing, shaping, metering, billing, statistics, detection, steering, security, video processing, monitoring and workload acceleration. The line cards use various types of memory ICs to facilitate temporary packet storage and assist in the analysis and tracking of information embedded within the data flowing through the processors. After a packet enters the line card, a packet or data processor helps separate the packet into smaller pieces for rapid analysis. In a typical packet-based network for example, the data is broken up into the packet header, which contains vital information on packet destination and type, such as the Internet protocol address, and the payload, which contains the data being sent. Generally, the line card operations must occur at full data rates and typically require accessing memory ICs many times. Simultaneously, the packet's payload, which may be substantially larger than the packet header, is also stored in memory ICs until processing is complete and the packet can re-combine and be sent to its next system destination. Within the line card, communication between the packet processor and memory ICs occurs through an interface consisting of combinations of physical pins on each type of chip. These pins are grouped together in a parallel or a serial architecture to form a pathway, called a bus, through which information is transferred from one IC to the next.

Today, the majority of physical buses that connect networking equipment and components use a parallel architecture to communicate between processors and memory ICs, which means information can travel only in one direction and in one instance at a time. As processing speeds increase, the number of pins required and the speed of the bus in a parallel architecture become a limitation on system performance and capability. In contrast, the number of connections is reduced substantially across fewer, higher-rate pins in a serial architecture, and data is transferred simultaneously in both directions. Data transfer rates are limited by the data access rates of the various ICs included on the line card, thus leading to bottlenecks when these ICs perform inadequately. In order to remove these bottlenecks and meet next-generation bandwidth requirements, the line card ICs need to support higher access rates enabled by internal memory or high-speed serial bus architectures and these more advanced interface protocols.

Most networking and communication systems sold and in operation today include line cards that process data at speeds ranging from 10 Gbps, to 100 Gbps, and support many aggregated slower ports. To accommodate the substantial and growing increase in demand for networking communications and applications, networking systems manufacturers are developing and bringing to market next-generation systems that run at aggregate speeds of 100 Gbps to 400 Gbps or more with developments underway to scale to thousands of Gbps, or terabits, per second. However, although processor performance in applications such as computing and networking has continued to double nearly every 18 months, or even sooner, the performance of memory technology has generally been able to double only once every 10 years. Existing memory IC solutions based on parallel interface architecture easily support speeds up to 40 Gbps, but are not optimal for meeting speeds of 100 Gbps and beyond due to system-level limitations for pin counts, power and performance. These networking and communications systems are generally comprised of a chassis populated by four to 16 line cards. Often, these systems are shipped to customers with only a portion of the line card slots populated, and the customer will add additional line cards subsequently to increase system performance, capacity and features.

Each line card requires a significant amount of memory to support its processing capabilities. Traditional external memory IC solutions currently used on line cards include both dynamic random access memory, or DRAM, and static random access memory, or SRAM. Line cards in networking systems use both specialized, high-performance DRAM ICs, such as reduced-latency DRAM, or RLDRAM, low-latency DRAM, or LLDRAM, and commodity DRAM, such as double data rate, or DDR. The latest DDR memory called high-bandwidth memory, or HBM, provides high bandwidth, but has fundamentally slow access time. For very high access, networking systems use higher-performance SRAM ICs such as quad data rate, or QDR SRAM. These memories are very fast, but are much smaller, more costly and burn more power than traditional DRAM. Substantially all of these traditional memory IC solutions use parallel interfaces, which are slower than serial interfaces, so we believe they will be increasingly challenged to meet the performance, pin count, area and power requirements as networking systems expand beyond 100 Gbps. The result is a gap between processor and memory performance. To meet the higher performance requirements being demanded by the industry, while using current components and architectural approaches, system designers must add more discrete memory ICs to the line cards and/or add more embedded memory on the packet processor. This results in higher cost and

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power consumption, the use of more space on the line cards and additional communication interference between the ICs, which in turn results in additional bandwidth limitation problems. We believe our Bandwidth Engine family of products is well suited to address these challenges and replace these traditional memory solutions.

We have developed our ICs to synergistically address the need for high-speed data access and throughput currently confronting system designers. We expect our IC products to meet the increasing demands placed on conventional memory technology used on the line cards in high-speed systems. We believe that our products and technology are well positioned as replacements for existing IC solutions in order to meet the needs of a growing number of data processing applications with aggregate rates greater than 100 Gbps that require high bandwidth and high access rate to memory.

Our Approach

We have leveraged our proprietary intellectual property, or IP, to design our IC products to help networking OEMs address the growing bottlenecks in system performance. We have incorporated critical features into our product families to accomplish this objective.

On-Chip Acceleration

One significant performance bottleneck in any network line card is the need to transfer data between discrete ICs. Many of these data-transfer operations are iterative in nature, requiring subsequent, back-to-back accesses of the memory IC by the processor IC. Our Bandwidth Engine ICs include an arithmetic logic unit, or ALU, which enables the performance of mathematical operations on data. Moving certain processing functions from the processor IC to the Bandwidth Engine IC through the use of this embedded ALU, reduces the number of processing transactions and frees the processor IC to perform other important networking or micro-processing functions.

The PSE takes this concept one step further by incorporating integrated search-optimized processors. The processors can be programmed by the user to offload and accelerate standard and/or customized functions from the main processor thereby reducing memory transactions and data path complexity to provide improved performance and lower system latency.

High-Performance Interface

High-speed, efficient interfaces are critical building blocks to meet high data transfer rate requirements for communication between ICs on network line cards. We believe that current networking system requirements necessitate an industry transition from parallel to serial interface. As a result, semiconductor companies are increasingly turning to serial interface architectures to achieve needed system performance. For example, high-performance ICs that are sold into wide markets, such as field programmable gate arrays, or FPGAs, and network processing units, NPUs, are using serial interfaces to ensure they can compete with custom designed application specific ICs, or ASICs, by matching their performance. Using serial interfaces, IC developers also are able to reduce pin count (the wired electrical pins that connect an IC to the network line card on which it is mounted) on the IC. With reducing geometries, the size of most high-performance ICs is dictated by the number of pins required, rather than the amount of logic and memory embedded in the chip. As a result, using serial interface facilitates cost reduction and reduced system power consumption, while improving the performance of both the IC itself and the overall system. While serial interfaces provide significantly enhanced performance over parallel interfaces, SerDes interfaces traditionally have had higher power consumption, which is a challenge for IC designers. Our SerDes interfaces, however, are optimized to meet our customers' signal integrity, low- power consumption and latency requirements.

We make our interface technologies compliant with industry standards so that they can interoperate with interfaces on existing ICs. In addition, we make them programmable to support multiple data rates, which allows for greater flexibility for the system designer, while lowering their development and validation costs. Interoperability reduces development time, thereby reducing the overall time to market of our customers' systems.

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GigaChip Interface Protocol

In addition to the physical characteristics of the serial interface, the protocol used to transmit data is also an important element that impacts speed and performance. To address this and complement our Bandwidth Engine devices, we have developed the GigaChip® Interface protocol, or GCI, which is an open-interface transport protocol optimized for efficient chip-to-chip communications. The GCI electrical interface is compatible with the current industry standard (Common Electrical Interface, release #11, or CEI-11G-SR and XFI) to simplify electrical interoperability between devices. GCI can enable highly efficient serial chip-to-chip communications, and its transport efficiency averages 90% for the data transfers it handles. GCI is included in our ICs and is offered to customers and prospective partners on terms intended to encourage widespread adoption.

High-Performance and High-Density Memory Architecture

The high-density of our proprietary 1T-SRAM technologies stems from the use of a single-transistor, or 1T, which is similar to DRAM, with a storage cell for each bit of information. Embedded memory utilizing our 1T-SRAM technologies is typically two to three times denser than the six-transistor storage cells used by traditional SRAM, or 6T-SRAM. Embedded memory utilizing our 1T-SRAM technologies typically provides speeds essentially equal to or greater than the speeds of traditional SRAM and DRAM, particularly for larger memory sizes. Our 1T-SRAM memory designs can sustain random access cycle times of less than three nanoseconds, significantly faster than DRAM technology. Embedded memory utilizing our 1T-SRAM technologies can consume as little as one-half the active power and generate less heat than traditional SRAM when operating at the same speed. The 1T-SRAM allows us to integrate more high-performance memory using less expensive processing technology, reduces system level heat dissipation and enables reliable operation using lower-cost packaging.

Our Strategy

Our primary business objective is to be a profitable IP-rich fabless semiconductor company offering ICs that deliver unparalleled memory bandwidth and access rate performance for high-performance data processing in cloud networking, security appliances, video, test and monitoring, and data center systems. The key components of our strategic plan include the following strategies:

Target Large and Growing Markets

Our initial strategy is to target the multi-billion-dollar networking telecommunications, security appliance and data center OEM equipment markets, and we have developed products to support the growth in 100 Gbps and higher networking speeds. We are currently supporting numerous customers, with whom we have achieved design wins. We continue to actively pursue additional design wins for the use of our ICs in our target markets. We believe our design wins represent the potential for significant future revenue growth. With limited history to date, however, we cannot estimate how much revenue each design win is likely to generate, or how much revenue all of these (and future design wins) are likely to generate. There is no assurance that these customer designs will be shipped in large volume by our customers to their customers, however.

Expand Adoption of the GigaChip Interface Protocol

We have provided our GCI interface protocol as an open industry standard that may be designed into other ICs in the system, as we believe this will further enable serial communication on network line cards and encourage adoption of our Bandwidth Engine IC products. A number of IC providers and partners have publicly announced their support of GCI and Bandwidth Engine, including the largest FPGA providers, Altera Corporation (a subsidiary of Intel Corporation), Xilinx, Inc., and EZchip Semiconductor Ltd. (a subsidiary of Mellanox Technologies Ltd.), with whom we work closely to support common customers. In addition, multiple networking systems companies, including actual and prospective customers, have adopted GCI.

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Build Long-Term Relationships with FPGA Vendors and Suppliers of Data Processing Solutions

We believe that having long-term relationships with FPGA providers is critical to our success, as such relationships enable us to reduce our time-to-market, provide us with a competitive advantage and expand our target markets. A key consideration of network system designers is to demonstrate interoperability between our IC products and the data processing utilized in their systems. To obtain design wins, we must demonstrate this interoperability, and also show that our IC works optimally with the packet processor to achieve the performance requirements. In addition, our current strategy requires packet processor suppliers to adopt our GCI interface. To that end, we have been working closely with FPGA and application specific standard product providers, to enable interoperability between our Bandwidth Engine IC products and their high-performance products. To facilitate the acceptance of our Bandwidth Engine ICs, we have made available development and characterization kits for system designers to evaluate and develop code for next-generation networking systems. Our characterization kits are fully-functional hardware platforms that allow FPGA and ASIC providers, and their customers, to demonstrate interoperability of the Bandwidth Engine IC with the ASIC or FPGA the designers use within their networking systems.

Our Bandwidth Engine Products

The Bandwidth Engine is a memory-dominated IC that has been designed to be a high-performance companion IC to packet processors. While the Bandwidth Engine primarily functions as a memory device with a high-performance and high-efficiency interface, it also can accelerate certain processing operations by serving as a co-processor element. Our Bandwidth Engine ICs combine: (1) our proprietary high-density, high-speed, low latency embedded memory, (2) our high-speed serial interface technology, or SerDes, (3) an open-standard interface protocol and (4) intelligent access technology. We believe an IC combining our 1T-SRAM memory and serial interface with logic and other intelligence functions provides a system-level solution and significantly improves overall system performance at lower cost, size and power consumption. Our Bandwidth Engine ICs can provide up to and over 4.5 billion memory accesses per second, which is more than twice the performance of current memory-based solutions. They also can enable system designers to significantly narrow the gap between processor and memory IC performance. Customers that design Bandwidth Engine ICs onto the line cards in their networking systems will re-architect their systems at the line-card level and use our product to replace traditional memory solutions. When compared with existing commercially available solutions, our Bandwidth Engine ICs may:

- provide up to four times the performance;
- reduce power by approximately 50%;
- reduce cost by greater than 50%; and
- result in a dramatic reduction in IC pin counts on the line card.

Our first-generation Bandwidth Engine IC products contain 576 megabytes, or MB, of memory and use a serial interface with up to 16 lanes operating at up to 10.3 Gbps per lane. We announced the end-of-life of these products and expect to complete fulfillment of last-time customer orders by June 30, 2019.

Our second-generation Bandwidth Engine IC products contain 576 MB of memory and use a SerDes interface with up to 16 lanes operating at up to 15 Gbps per lane. In addition to a speed improvement of up to 50% over our first-generation products, the architecture has enabled multiple family-member parts with added specialized features. We have been shipping our Bandwidth Engine 2 IC products since 2013 and expect these products to be our primary revenue source for the foreseeable future.

Our third-generation Bandwidth Engine IC products contain 1152 MB of memory and use a SerDes interface with up to 16 lanes operating at up to 30 Gbps per lane. Bandwidth Engine 3 targets support for packet-processing applications with up to five billion memory single word accesses per second, as well as burst mode to enable full duplex buffering up to 400 Gbps for ingress, egress and oversubscription applications. The devices provide benefits of size, power, pin count and cost savings to our customers. We do not anticipate significant revenues from these products until 2019 or later.

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Programmable Search Engine (PSE)

We brought our PSE IC products to market in 2016 to further leverage our proven serial interface technology and high-density integrated memory with the processor engine architecture to enable high-speed customizable search, security, and data analysis functions for networking, security, and data center applications. Our PSE architecture features 32 search-optimized processor engines, data flow schedulers, and over a terabit of internal access bandwidth. The device leverages our GCI technology and high-density integrated memory (1152 Mb of 1T-SRAM embedded memory).

IP Licensing and Distribution

Historically, we have offered our memory and interface technologies on a worldwide basis to semiconductor companies, electronic product manufacturers, foundries, intellectual property companies and design companies through product development, technology licensing and joint marketing relationships. We licensed our technology to semiconductor companies who incorporated our technology into ICs that they sold to their customers. As a result of the change in our corporate strategy, since 2012, our licensing activities have primarily been limited to collecting royalties on existing agreements, and we expect this trend to continue. Royalty and other revenue represented 12% of our total revenues for the six-months ended June 30, 2018. Royalty and other revenue generated from our existing agreements represented 11%, 24%, and 45% of our total revenue for the years ended December 31, 2017, 2016, and 2015, respectively. Licensing and royalty revenues have been declining since 2010, and we expect continued decline of royalty revenues in 2018.

Research and Development

Our ability to compete in the future depends on successfully improving our technology to meet the market's increasing demand for higher performance and lower cost requirements. Development of our IC products requires specialized chip design and product engineers, as well as significant fabrication and testing costs, including mask costs, as we bring these products to market. During 2017, we substantially reduced our headcount, and have limited internal resources available for new IC product development, which will result in fewer product improvements and new developments. In the near term, our planned product roadmap will include software-based capabilities and features that leverage our existing base of IC products.

Sales and Marketing

We believe that systems OEMs typically prefer to extend the use of traditional memory solutions and their parallel interfaces, despite performance and costs challenges, and are reluctant to change their technology platforms and adopt new designs and technologies, such as serial interfaces, which are an integral part of our product solutions. Therefore, our principal selling and marketing activities to date have been focused on persuading these OEMs and key component specialists that our solutions provide critical performance advantages, as well as on securing design wins with them.

In addition to our direct sales personnel, we sell through sales representatives and distributors in the United States and Asia. We also have applications engineers who support our customer engagements and engage with the customers' system architects and designers to propose and implement our IC and IP solutions, such as the GCI Interface, to address their systems challenges.

In the markets we serve, the time from initial customer engagement to design win to production volume shipments can range from 18 to 36 months. Networking, communications and security appliance systems can have a product life from a few years to over 10 years once a product like ours has been designed into the system.

Our revenue has been highly concentrated, with a few customers accounting for a significant percentage of our total revenue. For the six-months ended June 30, 2018, Flextronics International, Ltd., or Flextronics, and Nokia, formerly Alcatel-Lucent, and Palo Alto Networks, Inc., represented 33%, 8% and 22% of total revenue, respectively. For the year ended December 31, 2017, Flextronics, Clavis Company and Nokia, represented 46%, 17% and 11% of total revenue, respectively. For the year ended December 31, 2016, Alcatel-Lucent, Clavis Company and Taiwan Semiconductor Manufacturing Co., Ltd., or TSMC, represented 47%, 21% and 13% of total revenue, respectively.

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Intellectual Property

We regard our patents, copyrights, trademarks, trade secrets and similar intellectual property as critical to our success, and rely on a combination of patent, trademark, copyright, and trade secret laws to protect our proprietary rights.

As of August 31, 2018, we held 68 U.S. and 43 foreign patents on various aspects of our technology, with expiration dates ranging from 2018 to 2035. We also held 10 pending patent applications in the U.S. and abroad. There can be no assurance that others will not independently develop or patent similar or competing technology or design around any patents that may be issued to us, or that we will be able to successfully enforce our patents against infringement by others.

The semiconductor industry is characterized by frequent litigation regarding patent and other intellectual property rights. Our licensees or we might, from time to time, receive notice of claims that we have infringed patents or other intellectual property rights owned by others. Our successful protection of our patents and other intellectual property rights and our ability to make, use, import, offer to sell, and sell products free from the intellectual property rights of others are subject to a number of factors, particularly those described under the, “Risk Factors” above.

Competition

The markets for our products are highly competitive. We believe that the principal competitive factors are:

- processing speed and performance;
- density and cost;
- power consumption;
- reliability;
- interface requirements;
- ease with which technology can be customized for and incorporated into customers’ products; and
- level of technical support provided.

We believe that our products compete favorably with respect to each of these criteria. Our proprietary 1T-SRAM embedded memory and high-speed serial interface IP can provide our Bandwidth Engine ICs with a competitive advantage over alternative devices. Alternative solutions are either DRAM or SRAM-based and can support either the memory size or speed requirements of high-performance networking systems, but generally not both. DRAM solutions provide a significant amount of memory at competitive cost, but DRAM solutions do not have the required fast access and cycle times to enable high-performance. The DRAM solutions currently used in networking systems include RDRAM from Micron Technology, Inc., or Micron, and Integrated Silicon Solutions, Inc., LDRAM from Renesas, DDR from Samsung Electronics Co., Ltd., Micron and others, and HBM, which is stacked memory from Samsung Electronics Co. and SK Hynix. SRAM solutions can meet high-speed performance requirements, but often lack adequate memory size. The SRAM solutions currently used in networking systems primarily include QDR or similar SRAM products from Cypress Semiconductor Corporation and GSI Technology, Inc. Most of the currently available SRAM and DRAM solutions use a parallel, rather than a serial interface. To offset these drawbacks, system designers generally must use more discrete memory ICs, resulting in higher power consumption and greater utilization of space on the line card.

Our competitors include established semiconductor companies with significantly longer operating histories, greater name recognition and reputation, large customer bases, dedicated manufacturing facilities and greater financial, technical, sales and marketing resources. This may allow them to respond more quickly than us to new or emerging technologies or changes in customer requirements. Generally, customers prefer suppliers with greater financial resources than we have currently. Many of our competitors also have significant influence in the semiconductor industry. They may be able to introduce new technologies or devote greater resources to the development, marketing and sales of their products than we can. Furthermore, in the event of a manufacturing capacity shortage, these competitors may be able to manufacture products when we are unable to do so.

Our Bandwidth Engine ICs compete with embedded memory solutions, stand-alone memory ICs, including both DRAM and SRAM ICs, and ASICs designed by customers in-house to meet their system requirements. Our prospective customers may be unwilling to adopt and design-in our ICs due to the uncertainties and risks surrounding

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designing a new IC into their systems and relying on a supplier that has limited history of manufacturing such ICs and limited financial resources. In addition, Bandwidth Engine ICs require the customer and its other IC suppliers to implement our chip-to-chip communication protocol, the GCI interface. These parties may be unwilling to do this if they believe it could adversely impact their own future product developments or competitive advantages, or, if they believe it might complicate their development process or increase the cost of their products. To remain competitive, we believe we must provide unparalleled memory IC solutions with the highest bandwidth capability for our target markets, which solutions are engineered and built for high-reliability carrier and enterprise applications.

Manufacturing

We depend on third-party vendors to manufacture, package, assemble and test our IC products, as we do not own or operate a semiconductor fabrication, packaging or production testing facility for boards and system assembly. By outsourcing manufacturing, we can avoid the high cost associated with owning and operating our own facilities, allowing us to focus our efforts on the design and marketing of our products.

We perform an ongoing review of product manufacturing and testing processes. Our IC products are subjected to extensive testing to assess whether their performance meets design specifications. Our test vendors provide us with immediate test data and the ability to generate characterization reports that are made available to our customers. We have achieved ISO 9001:2015 certification, and all of our manufacturing vendors have also achieved ISO 9001 certification.

Employees

As of August 31, 2018, we had 22 employees all of whom are located in the United States, consisting of 13 in research and development and manufacturing operations and 9 in sales, general and administrative functions.

Available Information

We were founded in 1991, and reincorporated in Delaware in September 2000. Our website address is www.mosys.com. The information in our website is not incorporated by reference into this report. Through a link on the Investor section of our website, we make available our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and any amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as soon as reasonably practicable after they are filed with, or furnished to, the Securities and Exchange Commission, or SEC. You can also read and obtain copies of any materials we file with the SEC at the SEC's Public Reference Room at 450 Fifth Street, NW, Washington, DC 20549. You can obtain additional information about the operation of the Public Reference Room by calling the SEC at 1.800.SEC.0330. In addition, the SEC maintains a website (www.sec.gov) that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC, including us.

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The following table sets forth certain information as of August 31, 2018 concerning the ownership of our common stock by:

- each stockholder known by us to be the beneficial owner of more than 5% of the outstanding shares of our common stock (currently our only class of voting securities);
- each of our directors;
- each of the named executive officers; and
- all directors and executive officers as a group.

Beneficial ownership is determined in accordance with Rule 13d-3 of the Exchange Act, and includes all shares over which the beneficial owner exercises voting or investment power. Shares that are issuable upon the exercise of options, warrants and other rights to acquire common stock that are presently exercisable or exercisable within 60 days of August 31, 2018 are reflected in a separate column in the table below. These shares are taken into account in the calculation of the total number of shares beneficially owned by a particular holder and the total number of shares outstanding for the purpose of calculating percentage ownership of the particular holder. We have relied on information supplied by our officers, directors and certain stockholders and on information contained in filings with the SEC. Except as otherwise indicated, and subject to community property laws where applicable, we believe, based on information provided by these persons, that the persons named in the table have sole voting and investment power with respect to all shares of common stock shown as beneficially owned by them. The percentage of beneficial ownership is based on 8,273,886 shares of common stock outstanding as of August 31, 2018.

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Unless otherwise stated, the business address of each of our directors and named executive officers listed in the table is 2309 Bering Drive, San Jose, California 95131.

Name and Address of Beneficial Owner	Number of Shares Beneficially Owned (Excluding Outstanding Options)(1)	Number of Shares Issuable on Exercise of Outstanding Options or Convertible Securities(2)	Percent of Class
Ingalls & Snyder LLC 1325 Avenue of the Americas New York, NY 10019	-	736,548(3)	9.9
Directors and Officers:			
Daniel Lewis		33,334	*
Daniel O'Neil	-	33,334	*
Leonard Perham	176,853	—	2.1
James Sullivan	20,700	17,025	*
John Monson	18,047	14,906	*
All current directors and executive officers as a group (5 persons)	255,600	172,916	5.2

* Represents holdings of less than one percent.

- (1) Excludes shares subject to outstanding options, warrants, convertible securities or other rights to acquire common stock that are exercisable within 60 days of August 31, 2018.
- (2) Represents the number of shares subject to outstanding options, warrants, convertible securities or other rights to acquire common stock that are exercisable within 60 days of August 31, 2018.
- (3) The beneficial ownership of Ingalls includes shares of common stock issuable upon conversion of \$6,033,238 par amount of the Notes that are held by Ingalls & Snyder Value Partners, an investment partnership managed under an investment advisory contract with Ingalls, and for which Ingalls & Snyder Value Partners would have voting and dispositive power if such shares were converted. The individual at Ingalls with dispositive power or voting power with respect to the shares included in the table is Thomas O. Boucher, Managing Director. By their terms, the notes are not convertible at any time that, as a result of such conversion, the note holder would beneficially own more than 9.9% of our outstanding shares of common stock. This number of shares does not take into account the effects of the provisions of the MOU.

DESCRIPTION OF CAPITAL STOCK

General

The following description of our capital stock, warrants and provisions of our certificate of incorporation and bylaws is a summary only and not a complete description.

Our authorized capital stock consists of 120,000,000 shares of common stock, par value \$0.001 per share, and 20,000,000 shares of preferred stock, par value \$0.01 per share

Common Stock

As of August 31, 2018, 8,273,886 shares of our common stock were outstanding and held of record by five stockholders. Each holder of our common stock is entitled to—

- one vote per share on all matters submitted to a vote of the stockholders;
- dividends as may be declared by our board of directors out of funds legally available for that purpose, subject to the rights of any preferred stock that may be outstanding; and
- his, her or its pro rata share in any distribution of our assets after payment or providing for the payment of liabilities and the liquidation preference of any outstanding preferred stock in the event of liquidation.

Holders of common stock have no cumulative voting rights, redemption rights or preemptive rights to purchase or subscribe for any shares of our common stock or other securities. All of the outstanding shares of common stock are fully paid and nonassessable. The rights, preferences and privileges of holders of our common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of preferred stock that we may designate and issue in the future.

Preferred Stock

We have designated 20,000 shares of our preferred stock as Series AA preferred stock for issuance pursuant to the exercise of rights under our rights plan, none of which are outstanding. For more information on the rights plan, see the discussion below.

Our board of directors has the authority, subject to any limitations prescribed by Delaware law, to issue shares of preferred stock in one or more series and to fix and determine the relative rights and preferences of the shares constituting any series to be established, without any further vote or action by the stockholders. Any shares of our preferred stock so issued may have priority over our common stock with respect to dividend, liquidation and other rights.

Our board of directors may authorize the issuance of our preferred stock with voting or conversion rights that could adversely affect the voting power or other rights of the holders of our common stock. Although the issuance of our preferred stock could provide us with flexibility in connection with possible acquisitions and other corporate purposes, under some circumstances, it could have the effect of delaying, deferring or preventing a change of control.

Outstanding Common Stock Warrants

On July 6, 2017, we issued warrants to purchase 662,500 shares of our common stock. The warrants have an exercise price of \$2.35 per share of our common stock, may be exercised from time to time beginning January 6, 2018 (the “Initial Exercise Date”), and at any time thereafter up to the date that is five years from the Initial Exercise Date, at which time any unexercised warrants will expire and cease to be exercisable.

The warrants are exercisable, at the option of each holder, in whole or in part by delivering to us a duly executed exercise notice and by payment in full in immediately available funds for the number of shares of common stock purchased upon such exercise. If a registration statement registering the issuance of the shares of common stock underlying the warrants under the Securities Act is not then effective or available, the holder may exercise the warrant

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through a cashless exercise, in whole or in part, in which case the holder would receive upon such exercise the net number of shares of common stock determined according to the formula set forth in the warrant. No fractional shares of common stock will be issued in connection with the exercise of a warrant. In lieu of fractional shares, we will either pay the holder an amount in cash equal to the fractional amount multiplied by the exercise price or round up to the next whole share. The exercise price is subject to appropriate adjustment in the event of certain stock dividends and distributions, stock splits, stock combinations, reclassifications or similar events affecting our common stock.

A holder will not have the right to exercise any portion of the warrant if the holder (together with its affiliates) would beneficially own in excess of 4.99% (or on election of the holder, 9.99%) of the number of shares of our stock outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the warrants. However, any holder may increase or decrease such percentage to any other percentage not in excess of 9.99% upon notice to us, provided that any increase in such percentage shall not be effective until 61 days after such notice to us.

In the event of a fundamental transaction, as described in the warrants, which generally includes any reorganization, recapitalization or reclassification of our common stock, the sale, transfer or other disposition of all or substantially all of our properties or assets, our consolidation or merger with or into another person, the holders of the warrants will be entitled to receive upon exercise of the warrants the kind and amount of securities, cash or other property that the holders would have received had they exercised the warrants immediately prior to such fundamental transaction.

We filed a registration statement on Form S-1 to fulfill our obligation under the purchase agreement to provide for the resale by these investors of up to 662,500 shares of common stock issuable upon exercise of the warrants, which registration statement was declared effective by the SEC on February 2, 2018. We agreed to use commercially reasonable efforts to keep such registration statement effective at all times until (a) the warrant shares are sold under such registration statement or pursuant to Rule 144 under the Securities Act, (b) the warrant shares may be sold without volume or manner-of-sale restrictions pursuant to Rule 144 under the Securities Act, and (c) the five-year anniversary of the Initial Exercise Date, whichever is the earliest to occur.

Antitakeover Effects of Provisions of Our Certificate of Incorporation and Bylaws and of Delaware Law.

Certain provisions of our charter documents and Delaware law could have an anti-takeover effect and could delay, discourage or prevent a tender offer or takeover attempt that a stockholder might consider to be in its best interests, including attempts that might otherwise result in a premium being paid over the market price of our common stock.

Certificate of Incorporation and Bylaws.

Our certificate of incorporation provides that stockholders can take action only at a duly called annual or special meeting of the stockholders and not by written consent. At the same time, our bylaws provide that special meetings of stockholders may be called only by our chairman of the board, our chief executive officer, a majority of the total number of authorized directors or any individual holder of 25% of the outstanding shares of common stock. These provisions could delay consideration of a stockholder proposal until the next annual meeting. Our bylaws provide for an advance notice procedure for the nomination, other than by or at the direction of our board of directors, of candidates for election as directors, as well as for other stockholder proposals to be considered at annual meetings of stockholders. In addition, under our bylaws newly created directorships resulting from any increase in the number of directors or any vacancies in the board resulting from death, resignation, retirement, disqualification, removal from office or other cause during a director's term in office can be filled by the vote of the remaining directors in office, and the board is expressly authorized to amend the bylaws, without stockholder consent. These provisions may preclude a third party from removing incumbent directors and can control of our board of directors. Accordingly, these provisions could discourage a third party from initiating a proxy contest, making a tender offer or otherwise attempting to gain control of our company.

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Delaware Takeover Statute.

Section 203 of the Delaware General Corporation Law, or DGCL, generally prohibits a publicly-held Delaware corporation from engaging in an acquisition, asset sale or other transaction resulting in a financial benefit to any person who, together with affiliates and associates, owns, or within three years did own, 15.0% or more of a corporation's voting stock. The prohibition continues for a period of three years after the date of the transaction in which the person becomes an owner of 15.0% or more of the corporation's voting stock, unless the business combination is approved in a prescribed manner. The statute could prohibit, delay, defer or prevent a change in control with respect to our company.

Antitakeover Effects of Our Rights Plan

On November 10, 2010, we executed a rights agreement in connection with the declaration by our board of directors of a dividend of one preferred stock purchase right to be paid on November 10, 2010, referred to as the "record date," for each share of our common stock issued and outstanding at the close of business on the record date. Each right entitles the registered holder to purchase one one-thousandth of a share of our Series AA Preferred Stock, \$0.01 par value per share, at a price of \$48.00 per one one-thousandth of a share of such Series AA Preferred Stock, subject to adjustment, including as a result of our one-for-ten reverse stock split in February 2017 (which adjustment is not reflected here). Generally, the rights will not be exercisable until a third party acquires 15% of our common stock or commences or announces its intent to commence a tender offer for at least 15% of our common stock, other than holders of "grandfathered stock" as defined in the rights agreement.

Under the rights agreement, the firm of Ingalls & Snyder LLC, or Ingalls, and its managed account beneficial owners collectively will not trigger the rights as long as none of their shares are held for the purpose of acquiring control or effecting change or influence in control of us. This exclusion applies only to shares of common stock for which there is only shared dispositive power and Ingalls has only non-discretionary voting power.

The rights agreement could delay, deter or prevent an investor from acquiring us in a transaction that could otherwise result in our stockholders receiving a premium over the market price for their shares of common stock. The above discussion of the rights agreement is not complete, and we urge you to read the entire rights agreement and our certificate of incorporation, as amended, to see all of the terms and conditions applicable to the Series AA Preferred Stock and the rights to acquire shares of such stock. (See item (n) under "Information Incorporated by Reference.")

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Equiniti Trust Company.

Nasdaq Capital Market Listing

Our common stock is listed on Nasdaq under the symbol "MOSY."

DESCRIPTION OF SECURITIES WE ARE OFFERING

The following description summarizes the material terms and provisions of the warrants that we may offer under this prospectus and any related warrant agreements and warrant certificates.

We are offering up to (i) 3,133,159 common units, each common unit consisting of one share of our common stock, and one warrant to purchase one share of common stock, and up to (ii) 12,549,019 pre-funded units, each pre-funded unit consisting of one pre-funded warrant to purchase one share of our common stock, and one warrant to purchase one share of our common stock. The share of common stock, warrant included in each common unit will be issued separately, and the pre-funded warrant to purchase one share of common stock and the accompanying warrant included in each pre-funded unit will be issued separately. Units will not be issued or certificated. We are also registering the shares of common stock included in the common units and the shares of common stock issuable from time to time upon exercise of the pre-funded warrants included in pre-funded units and warrants included in the common units and the pre-funded units offered hereby. We may issue a larger number or smaller number of common units and a larger or smaller number of pre-funded units depending on relative investor demand for each type of unit.

Common Stock

The material terms and provisions of our common stock and each other class of our securities which qualifies or limits our common stock are described under the caption "Description of Capital Stock" in this prospectus.

Warrants

The following summary of certain terms and provisions of the warrants included in the common units and the pre-funded units that are being offered hereby is not complete and is subject to, and qualified in its entirety by, the provisions of the warrants, the form of which will be filed as an exhibit to the registration statement of which this prospectus forms a part. Prospective investors should carefully review the terms and provisions of the form of warrant for a complete description of the terms and conditions of the warrants.

Duration and Exercise Price

Each warrant included in the common units and the pre-funded units offered hereby will have an initial exercise price per whole share equal to \$. The warrants will be immediately exercisable and will expire on the five-year anniversary of the original issuance date. The exercise price and number of shares of common stock issuable upon exercise is subject to appropriate adjustment in the event of stock dividends, stock splits, reorganizations or similar events affecting our common stock and the exercise price. If, at any time after the initial issuance of the warrants, we sell or grant any option to purchase or sell or grant any right to reprice, or otherwise dispose of or issue, any of our common stock or securities convertible into or exercisable for shares of our common stock at an effective price per share that is lower than the then exercise price of the warrant, then the exercise price will be reduced to equal such lower price, subject to a floor of % of the original exercise price of the warrants; except that no adjustment will be made with respect to issuances (a) of equity securities pursuant to our equity compensation plans, (b) securities issuable upon the exercise or exchange of or conversion of securities exercisable or exchangeable for or convertible into shares of Common Stock issued and outstanding on the date of the securities purchase agreement, provided that such securities have not been amended since the date of the securities purchase agreement to increase the number of such securities or to decrease the exercise price, exchange price or conversion price of such securities (other than in connection with stock splits or combinations) or to extend the term of such securities, but this provision will not prohibit the issuance of securities in exchange for, or payment of, debt owed under the Notes, and (c) unregistered securities issued pursuant to acquisitions or strategic transactions approved by a majority of the disinterested directors of the Company.

The warrants will be issued separately from the common stock included in the common units, or the pre-funded warrants included in the pre-funded units, as the case may be, and may be transferred separately immediately thereafter. A warrant to purchase one share of our common stock will be included in each common unit or pre-funded unit purchased in this offering.

Exercisability

The warrants will be exercisable, at the option of each holder, in whole or in part, by delivering to us a duly executed exercise notice accompanied by payment in full for the number of shares of our common stock purchased upon such exercise (except in the case of a cashless exercise as discussed below). A holder (together with its affiliates) may not exercise any portion of the warrant to the extent that the holder would own more than 4.99% (or, at the election of a purchaser prior to issuance of the warrant, 9.99%) of the outstanding common stock immediately after exercise, except that upon at least 61 days' prior notice from the holder to us, the holder may increase the amount of ownership of outstanding stock after exercising the holder's warrants up to 9.99% of the number of shares of our common stock outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the warrants.

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Cashless Exercise

If, at the time a holder exercises its warrants, a registration statement registering the issuance of the shares of common stock underlying the warrants under the Securities Act is not then effective or available for the issuance of such shares, then in lieu of making the cash payment otherwise contemplated to be made to us upon such exercise in payment of the aggregate exercise price, the holder may elect instead to receive upon such exercise (either in whole or in part) the net number of shares of common stock determined according to a formula set forth in the warrants.

Fractional Shares

No fractional shares of common stock will be issued upon the exercise of the warrants. Rather, the number of shares of common stock to be issued will, at our election, either be rounded up to the nearest whole number or we will pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the exercise price.

Transferability

Subject to applicable laws, a warrant may be transferred at the option of the holder upon surrender of the warrant to us together with the appropriate instruments of transfer.

Exchange Listing

We do not intend to list the warrants on any securities exchange or nationally recognized trading system.

Rights as a Stockholder

Except as otherwise provided in the warrants or by virtue of such holder's ownership of shares of our common stock, the holders of the warrants do not have the rights or privileges of holders of our common stock, including any voting rights, until they exercise their warrants.

Fundamental Transaction

In the event of a "fundamental transaction," as defined in the warrant, and generally including any reorganization, recapitalization or reclassification of our common stock, the sale, transfer or other disposition of all or substantially all of our properties or assets, our consolidation or merger with or into another person, the acquisition of more than 50% of our outstanding common stock, or any person or group becoming the beneficial owner of 50% of the voting power represented by our outstanding common stock, the holders of the warrants will be entitled to receive upon exercise of the warrants the kind and amount of securities, cash or other property that the holders would have received had they exercised the warrants immediately prior to such fundamental transaction. In the event of a fundamental transaction, we are obligated, at the holder's option, exercisable at any time concurrently with, or within 30 days after, the consummation of the fundamental transaction (or, if later, the date of the public announcement of the applicable fundamental transaction), purchase the warrants from the holder by paying to the holder an amount of consideration equal to the Black Scholes Value of the remaining unexercised portion of the warrant on the date of the execution of the consummation of such fundamental transaction, provided that, the holder shall only be entitled to receive from us or our successor, as of the date of consummation of such fundamental transaction, the same type or form of consideration (and in the same proportion), at the Black Scholes Value of the unexercised portion of the warrant, that is being offered and paid to the holders of our common stock in connection with the fundamental transaction. Under the warrant, "Black Scholes Value" means the value of the warrant based on the Black and Scholes Option Pricing Model obtained from the "OV" function on Bloomberg, L.P. ("Bloomberg") determined as of the day of consummation of the applicable fundamental transaction for pricing purposes and reflecting (A) a risk-free interest rate corresponding to the U.S. Treasury rate for a period equal to the time between the date of the public announcement of the applicable Fundamental Transaction and the warrant expiration date, (B) an expected volatility equal to 100%, (C) the underlying price per share used in such calculation shall be the greater of (i) the sum of the price per share being offered in cash, if any, plus the value of any non-cash consideration, if any, being offered in such fundamental transaction and (ii) the greater of (x) the last VWAP immediately prior to the public announcement of such fundamental transaction and (y) the last VWAP immediately prior to the consummation of such fundamental transaction and (D) a remaining option time equal to the time between the date of the public announcement of the applicable fundamental transaction and the warrant expiration date.

Pre-Funded Warrants

The following summary of certain terms and provisions of pre-funded warrants included in the pre-funded units that are being offered hereby is not complete and is subject to, and qualified in its entirety by, the provisions of the pre-funded warrant, the form of which will be filed as an exhibit to the registration statement of which this prospectus forms a part. Prospective investors should carefully review the terms and provisions of the form of pre-funded warrant for a complete description of the terms and conditions of the pre-funded warrants.

Duration and Exercise Price

Each pre-funded warrant will have an initial exercise price per share equal to \$0.001. The pre-funded warrants will be immediately exercisable and may be exercised at any time until the pre-funded warrants are exercised in full. The exercise price and number of shares of common stock issuable upon exercise is subject to appropriate adjustment in the event of stock dividends, stock splits, reorganizations or similar events affecting our common stock and the exercise price. This prospectus also relates to the offering of the shares of common stock issuable upon exercise of the pre-funded warrants. The pre-funded warrants will be issued separately from the accompanying warrants included in the pre-funded units, and may be transferred separately immediately thereafter.

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Exercisability

The pre-funded warrants will be exercisable, at the option of each holder, in whole or in part, by delivering to us a duly executed exercise notice accompanied by payment in full for the number of shares of our common stock purchased upon such exercise (except in the case of a cashless exercise as discussed below). A holder (together with its affiliates) may not exercise any portion of the pre-funded warrant to the extent that the holder would own more than 4.99% (or, at the election of a purchaser prior to issuance of the warrant, 9.99%) of the outstanding common stock immediately after exercise, except that upon at least 61 days' prior notice from the holder to us, the holder may increase the amount of ownership of outstanding stock after exercising the holder's pre-funded warrants up to 9.99% of the number of shares of our common stock outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the pre-funded warrants.

Cashless Exercise

If, at the time a holder exercises its pre-funded warrants, a registration statement registering the issuance of the shares of common stock underlying the pre-funded warrants under the Securities Act is not then effective or available for the issuance of such shares, then in lieu of making the cash payment otherwise contemplated to be made to us upon such exercise in payment of the aggregate exercise price, the holder may elect instead to receive upon such exercise (either in whole or in part) the net number of shares of common stock determined according to a formula set forth in the pre-funded warrants.

Transferability

Subject to applicable laws, a pre-funded warrant may be transferred at the option of the holder upon surrender of the pre-funded warrant to us together with the appropriate instruments of transfer.

Fractional Shares

No fractional shares of common stock will be issued upon the exercise of the pre-funded warrants. Rather, the number of shares of common stock to be issued will, at our election, either be rounded up to the nearest whole number or we will pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the exercise price.

Trading Market

There is no trading market available for the pre-funded warrants on any securities exchange or nationally recognized trading system.

Rights as a Stockholder

Except as otherwise provided in the pre-funded warrants or by virtue of such holder's ownership of shares of our common stock, the holders of the pre-funded warrants do not have the rights or privileges of holders of our common stock, including any voting rights, until they exercise their pre-funded warrants.

Fundamental Transaction

In the event of a "fundamental transaction," as defined in the pre-funded warrant, and generally including any reorganization, recapitalization or reclassification of our common stock, the sale, transfer or other disposition of all or substantially all of our properties or assets, our consolidation or merger with or into another person, the acquisition of more than 50% of our outstanding common stock, or any person or group becoming the beneficial owner of 50% of the voting power represented by our outstanding common stock, the holders of the warrants will be entitled to receive upon exercise of the pre-funded warrants the kind and amount of securities, cash or other property that the holders would have received had they exercised the pre-funded warrants immediately prior to such fundamental transaction.

PLAN OF DISTRIBUTION

Roth Capital Partners, LLC, which we refer to as "Roth Capital Partners" is acting as the lead placement agent in connection with this offering, subject to the terms and conditions of a placement agency agreement dated _____, 2018. The Benchmark Company, LLC, which we refer to as "Benchmark" is acting as co-placement agent. The placement agents are not purchasing or selling any of the units offered by this prospectus, nor are the placement agents required to

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arrange the purchase or sale of any specific number or dollar amount of the units. The placement agents have agreed to use reasonable best efforts to arrange for the sale of all of the units offered hereby. Therefore, we may not sell the entire amount of the units offered pursuant to this prospectus. The placement agents may engage one or more sub-agents or selected dealers in connection with this offering.

In connection with the offering, we will be entering into a securities purchase agreement with each purchaser of not less than \$100,000 of common units or pre-funded units. This agreement includes representations and warranties by us and the purchaser. This agreement also includes a covenant that in no event shall the total number of shares of common stock owned by a purchaser, or a group of which such purchaser is a part, exceed 19.9% of the number of shares of common stock outstanding prior to the offering, unless stockholder approval is obtained for such excess holding.

Only certain institutional investors purchasing the securities offered hereby will execute, at such investors' option, a securities purchase agreement with us, providing such investors with certain representations, warranties and covenants from us, which representations, warranties and covenants will not be available to other investors who will not execute a securities purchase agreement in connection with the purchase of the securities offered pursuant to this prospectus. Therefore, those investors shall rely solely on this prospectus in connection with the purchase of securities in the offering.

We will deliver the securities being issued to the investors upon receipt of investor funds for the purchase of the securities offered pursuant to this prospectus. We expect to deliver the securities being offered pursuant to this prospectus on or about , 2018.

Commissions and Expenses

We have agreed to pay the placement agents an aggregate cash placement fee equal to 6.5% of the gross proceeds received at the closing from the sale of the units with respect to the base offering amount which is the amount of gross proceeds from the sale of units to investors excluding the proceeds of sales of units to the holders of Notes at the closing.

The following table shows per-unit and total cash placement agent fees we will pay to the placement agents in connection with the sale of the units offered pursuant to this prospectus.

	<u>Per Common Unit</u>	<u>Per Pre-funded Unit</u>
Placement Agent Fees		
Total		

Because there is no minimum offering amount required as a condition to closing in this offering, the actual aggregate cash placement fee, if any, is not presently determinable and may be substantially less than the maximum amount set forth above. In addition, subject to FINRA Rule 5110(f)(2)(d)(i), we have agreed to reimburse the placement agents for reasonable out-of-pocket expenses up to a maximum of \$80,000. We estimate that the total expenses of the offering payable by us, excluding the placement agent fees, will be approximately \$380,000.

Determination of Offering Price

The public offering price of the securities we are offering was negotiated between us and the investors, in consultation with the placement agents based on the trading of our common stock prior to the offering, among other things. Other factors considered in determining the public offering price of our common stock we are offering include the history and prospects of the Company, the stage of development of our business, our business plans for the future and the extent to which they have been implemented, an assessment of our management, general conditions of the securities markets at the time of the offering and such other factors as were deemed relevant.

Indemnification

We have agreed to indemnify the placement agents against liabilities under the Securities Act. We have also agreed to contribute to payments the placement agents may be required to make in respect of such liabilities.

The placement agents may be deemed to be underwriters within the meaning of Section 2(a)(11) of the Securities Act, and any commissions received by it and any profit realized on the resale of the shares sold by it while acting as principal might be deemed to be underwriting discounts or commissions under the Securities Act. As an underwriter, each placement agent would be required to comply with the requirements of the Securities Act and the Exchange Act, including, without limitation, Rule 415(a)(4) under the Securities Act and Rule 10b-5 and Regulation M under the Exchange Act. These rules and regulations may limit the timing of purchases and sales of shares by the placement agents acting as principals. Under these rules and regulations, the placement agents may not engage in any stabilization activity in connection with our securities; and may not bid for or purchase any of our securities or attempt to induce any person to purchase any of our securities, other than as permitted under the Exchange Act, until they have completed their participation in the distribution.

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Electronic Distribution

This prospectus may be made available in electronic format on websites or through other online services maintained by the placement agents, or by an affiliate. Other than this prospectus in electronic format, the information on the placement agents' website and any information contained in any other website maintained by the placement agents or by an affiliate is not part of this prospectus or the registration statement of which this prospectus is a part, has not been approved and/or endorsed by us or the placement agents, and should not be relied upon by investors.

The foregoing does not purport to be a complete statement of the terms and conditions of the placement agency agreement or the securities purchase agreement, copies of which are incorporated by reference into the registration statement of which this prospectus is a part. See "Where You Can Find More Information."

Regulation M Restrictions

The placement agents may be deemed to be an underwriter within the meaning of Section 2(a)(11) of the Securities Act, and any commissions received by it and any profit realized on the resale of any units sold by it while acting as a principal might be deemed to be underwriting discounts or commissions under the Securities Act. As an underwriter, the placement agents would be required to comply with the requirements of the Securities Act and the Securities Exchange Act of 1934, as amended, or the "Exchange Act," including Rule 415(a)(4) under the Securities Act and Rule 10b-5 and Regulation M promulgated under the Exchange Act. These rules and regulations may limit the timing of purchases and sales of shares offered hereby by any placement agent acting as a principal. Under these rules and regulations, a placement agent:

- must not engage in any stabilization activity in connection with our securities; and
- must not bid for or purchase any of our securities or attempt to induce any person to purchase any of our securities, other than as permitted under the Exchange Act, until it has completed its participation in the distribution.

Passive Market Making

In connection with this offering, the placement agents may engage in passive market making transactions in our Common Stock on the Nasdaq Capital Market in accordance with Rule 103 of Regulation M promulgated under the Exchange Act during a period before the commencement of offers or sales of the units and extending through the completion of the distribution. A passive market maker must display its bid at a price not in excess of the highest independent bid of that security. If all independent bids are lowered below the passive market maker's bid, however, that bid must then be lowered when specified purchase limits are exceeded.

Lock-Up Agreements

We and each of our officers and directors have agreed not to offer, pledge, sell, contract to sell, grant any option or contract to purchase, purchase any option or contract to sell, or otherwise dispose of, directly or indirectly, any common stock or any securities convertible into, exercisable for, or exchangeable for common stock, or enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of the common stock for a period of 90 days after the effective date of the registration statement of which this prospectus is a part without the prior written consent of Roth Capital Partners, except for sales of shares to satisfy tax withholding obligations upon settlement of restricted stock units outstanding as of the date of the lock-up agreement. This consent may be given at any time without public notice. Each officer and director shall be immediately and automatically released from all restrictions and obligations under the lock up agreement in the event that he or she ceases to be a director or officer of our company and has no further reporting obligations under Section 16 of the Exchange Act.

Other

From time to time, the placement agents and their affiliates may in the future provide various investment banking, financial advisory and other services to us and our affiliates for which services they may receive customary fees, but we have no present arrangements to do so. Subject to Regulation M and other applicable statutes and regulations, in the course of its businesses, the placement agents and their affiliates may actively trade our securities or loans for their own account or for the accounts of customers, and, accordingly, the placement agents may at any time hold long or short positions in such securities or loans.

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Listing

Our common stock is listed on the Nasdaq Capital Market under the symbol “MOSY.” There is no established trading market for the warrants or the pre-funded warrants offered by this prospectus, and we do not expect a market to develop. In addition, we do not intend to apply for listing of the warrants or the pre-funded warrants offered by this prospectus on any securities exchange or recognized trading system.

Selling Restrictions

European Economic Area

This prospectus does not constitute an approved prospectus under Directive 2003/71/EC and no such prospectus is intended to be prepared and approved in connection with this offering. Accordingly, in relation to each Member State of the European Economic Area which has implemented Directive 2003/71/EC (each, a “Relevant Member State”) an offer to the public of any shares of common stock, which are the subject of the offering contemplated by this prospectus may not be made in that Relevant Member State except that an offer to the public in that Relevant Member State of any shares of common stock may be made at any time under the following exemptions under the Prospectus Directive, if and to the extent that they have been implemented in that Relevant Member State:

- (a) to any legal entity which is a qualified investor as defined in the Prospectus Directive;
- (b) to fewer than 100 or, if the Relevant Member State has implemented the relevant provision of the 2010 PD Amending Directive, 150, natural or legal persons (other than qualified investors as defined in the Prospectus Directive), subject to obtaining the prior consent of the representatives of the underwriter for any such offer; or
- (c) in any other circumstances which do not require any person to publish a prospectus pursuant to Article 3 of the Prospectus Directive.

For the purposes of this provision, the expression an “offer to the public” in relation to any shares of common stock in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer and any shares of common stock to be offered so as to enable an investor to decide to purchase any shares of common stock, as the expression may be varied in that Member State by any measure implementing the Prospectus Directive in that Member State and the expression “Prospectus Directive” means Directive 2003/71/EC (and any amendments thereto including the 2010 PD Amending Directive to the extent implemented in each Relevant Member State) and includes any relevant implementing measure in each Relevant Member State and the expression “2010 PD Amending Directive” means Directive 2010/73/EU.

United Kingdom

This prospectus is not an approved prospectus for purposes of the UK Prospectus Rules, as implemented under the EU Prospectus Directive (2003/71/EC), and have not been approved under section 21 of the Financial Services and Markets Act 2000 (as amended) (the “FSMA”) by a person authorized under FSMA. The financial promotions contained in this prospectus is directed at, and this prospectus is only being distributed to (1) persons who receive this prospectus outside of the United Kingdom, and (2) persons in the United Kingdom who fall within the exemptions under articles 19 (investment professionals) and 49(2)(a) to (d) (high net worth companies, unincorporated associations, etc.) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (all such persons together being referred to as “Relevant Persons”). This prospectus must not be acted upon or relied upon by any person who is not a Relevant Person. Any investment or investment activity to which this prospectus relates is available only to Relevant Persons and will be engaged in only with Relevant Persons. This prospectus and its contents are confidential and should not be distributed, published or reproduced (in whole or in part) or disclosed by recipients to any other person that is not a Relevant Person.

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The placement agents have represented, warranted and agreed that:

- (a) they have only communicated or caused to be communicated and will only communicate or cause to be communicated any invitation or inducement to engage in investment activity (within the meaning of section 21 of the FSMA in connection with the issue or sale of any of the shares of common stock in circumstances in which section 21(1) of the FSMA does not apply to the issuer; and
- (b) they have complied with and will comply with all applicable provisions of the FSMA with respect to anything done by it in relation to the shares of common stock in, from or otherwise involving the United Kingdom.

LEGAL MATTERS

The validity of the issuance of shares of common stock offered hereby will be passed upon for us by Pillsbury Winthrop Shaw Pittman LLP, Palo Alto, California. Ellenoff Grossman & Schole LLP, New York, New York is acting as counsel for the placement agents in connection with this offering.

EXPERTS

The consolidated financial statements of MoSys, Inc. as of December 31, 2017 and 2016 and for each of the three years in the period ended December 31, 2017, incorporated in this prospectus by reference to the Annual Report on Form 10-K for the year ended December 31, 2017, have been so incorporated in reliance on the report of BPM LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

We were founded in 1991 and reincorporated in Delaware in September 2000. Our website address is www.mosys.com. The information in our website is not incorporated by reference into this report. Through a link on the Investor section of our website, we make available our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and any amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as soon as reasonably practicable after they are filed with, or furnished to, the Securities and Exchange Commission, or SEC. You can also read and obtain copies of any materials we file with the SEC at the SEC's Public Reference Room at 450 Fifth Street, NW, Washington, DC 20549. You can obtain additional information about the operation of the Public Reference Room by calling the SEC at 1.800.SEC.0330. In addition, the SEC maintains a website (www.sec.gov) that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC, including us.

This prospectus is part of a registration statement on Form S-1 that we filed with the SEC, of which this prospectus is a part, under the Securities Act, with respect to the shares of common stock offered hereby. This prospectus omits some information contained in the registration statement in accordance with SEC rules and regulations. You should review the information and exhibits in the registration statement for further information about us and the securities being offered hereby. Statements in this prospectus concerning any document we filed as an exhibit to the registration statement or that we otherwise filed with the SEC are not intended to be comprehensive and are qualified by reference to the filings. You should review the complete document to evaluate these statements.

INFORMATION INCORPORATED BY REFERENCE

The SEC allows us to “incorporate by reference” the information we file with them, which means that we can disclose important information by referring you to those documents. The information incorporated by reference is considered to be part of the accompanying prospectus, and information that we file later with the SEC will automatically update and supersede this information. We incorporate by reference the documents listed below:

- (a) our Annual Report on Form 10-K for the fiscal year ended December 31, 2017, filed with the SEC on March 12, 2018;
- (b) our Quarterly Report on Form 10-Q for the fiscal quarter ended June 30, 2017, filed with the SEC on August 10, 2017;
- (c) our Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2018, filed with the SEC on May 11, 2018;
- (d) our Quarterly Report on Form 10-Q for the fiscal quarter ended June 30, 2018, filed with the SEC on August 8, 2018;
- (e) our Current Report on Form 8-K filed with the SEC on February 27, 2018, other than item 2.01 and exhibit 99.1 thereof;
- (f) our Current Report on Form 8-K filed with the SEC on August 17, 2018;
- (g) our Current Report on Form 8-K filed with the SEC on August 29, 2018;
- (h) our Current Report on Form 8-K filed with the SEC on September 17, 2018;
- (i) our Current Report on Form 8-K filed with the SEC on September 20, 2018;
- (j) our Current Report on Form 8-K filed with the SEC on September 25, 2018; and
- (k) the description of our capital stock set forth in our Registration Statement on Form 8-A, filed with the SEC on June 26, 2001, as amended by Amendment No. 2 to Registration Statement on Form 8-A/A, filed with the SEC on November 12, 2010, Amendment No. 3 on Form 8-A/A, filed on July 27, 2011, and Amendment No. 4 on Form 8-A/A, filed on May 24, 2012.

In addition, all filed information contained in reports and documents filed with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act subsequent to the date of filing the registration statement that includes the accompanying prospectus and prior to the filing of a post-effective amendment to the registration statement containing the accompanying prospectus, which indicates that all securities offered have been sold or which deregisters all of such securities then remaining unsold, shall be deemed to be incorporated by reference in this prospectus. Any statement contained herein or in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes hereof to the extent that a statement contained herein or in any other subsequently filed document which is also incorporated or deemed to be incorporated herein modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

You may request a copy of these filings, at no cost, by writing or telephoning us at the following address or telephone number:

MoSys, Inc.
2309 Bering Drive
San Jose, CA 95131
(408) 418-7500
Attention: Chief Financial Officer

In addition, you may obtain a copy of these filings from the SEC as described in the section entitled “Where You Can Find More Information.”



**Up to 3,133,159 Common Units (each Common Unit contains one Share of Common Stock, and one Warrant to purchase one Share of Common Stock)
and
Up to 12,549,019 Pre-Funded Units (each Pre-Funded Unit contains one Pre-funded Warrant to purchase one Share of Common Stock, and one Warrant
to purchase one Share of Common Stock)
and
Shares of Common Stock Underlying the Warrants and
Shares of Common Stock Underlying the Pre-funded Warrants**

PROSPECTUS

Lead Placement Agent

Roth Capital Partners

Co-Placement Agent

The Benchmark Company

, 2018

PART II

INFORMATION NOT REQUIRED IN THE PROSPECTUS

Item 13. Other Expenses of Issuance and Distribution.

The following table sets forth the estimated costs and expenses payable by the registrant in connection with the offering of the securities being registered.

SEC registration fee	\$ 2,895
FINRA filing fee	2,000
Accounting fees and expenses	50,000
Legal fees and expenses	255,000
Printing and miscellaneous expenses	70,105
Total	<u>\$380,000</u>

Item 14. Indemnification of Directors and Officers.

Section 145 of the Delaware General Corporation Law, or the DGCL, authorizes a court to award, or a corporation's board of directors to grant, indemnity to directors and officers in terms sufficiently broad to permit such indemnification under certain circumstances for liabilities (including reimbursement for expenses incurred) arising under the Securities Act.

As permitted by the DGCL, our bylaws provide that we shall indemnify our directors and officers, and may indemnify our employees and other agents, to the fullest extent permitted by law. The bylaws also permit us to secure insurance on behalf of any officer, director, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against any liability arising out of his or her actions in that capacity if he or she is serving at our request. We have obtained officer and director liability insurance with respect to liabilities arising out of various matters, including matters arising under the Securities Act.

We have entered into agreements with our directors that, among other things, indemnify them for certain expenses (including attorneys' fees), judgments, fines and settlement amounts incurred by them in any action or proceeding, including any action by us or in our right, arising out of the person's services as a director or officer of ours or any other company or enterprise to which the person provides services at our request.

Item 15. Recent Sales of Unregistered Securities

On July 6, 2017, we sold warrants to purchase an aggregate of 662,500 shares of our common stock to purchasers of shares of our common stock in a concurrent public offering of registered shares of common stock on Form S-3. The warrants and the shares of our common stock issuable upon the exercise of the warrants were not registered under the Securities Act, pursuant to the exemption provided in Section 4(a)(2) under the Securities Act and Rule 506(b). Our total proceeds from the sale were \$2,252,500, less expenses of \$113,822, and payments to the placement agent, Roth Capital Partners, LLC, of \$160,150 for placement fees and reimbursement of selling commissions and expenses.

On August 23, 2016, we accepted for cancellation exchanged options to purchase an aggregate of 4,569,959 shares of common stock and issued from the Amended and Restated 2010 Equity Incentive Plan replacement options covering 3,340,273 shares of common stock. The exchange was effected pursuant to the exemption from registration provided under Section 3(a)(9) of the Securities Act of 1933, as amended. The option exchange resulted in a net reduction in the number of shares underlying our outstanding derivative equity securities of 1,229,686.

On March 14, 2016, we entered into a 10% Senior Secured Convertible Note Purchase Agreement with the purchaser of \$8,000,000 principal amount of 10% Senior Secured Convertible Notes due August 15, 2018, at par, in a private placement transaction effected pursuant to an exemption from the registration requirements under the Securities Act of 1933 pursuant to Section 4(a)(2) thereof. Pursuant to an amendment to the Notes and related documents effective February 18, 2018, the interest rate has been reduced to 8% and the maturity date of the Notes has been extended to August 15, 2019.

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Item 16.

Reference is hereby made to the attached Exhibit Index, which is incorporated herein by reference.

Item 17. Undertakings.

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.

Provided, however, that paragraphs (1)(i), (1)(ii) and (1)(iii) above do not apply if the registration statement is on Form S-1, Form S-3, Form SF-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 15(d) of the Securities Exchange Act of 1934 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 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, for the purpose of determining liability under the Securities Act of 1933 to any purchaser, each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness. Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the 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 the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use; or

(5) That, for the purpose of determining liability of the registrant under the Securities Act of 1933 to any purchaser in the initial distribution of the securities:

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The undersigned registrant undertakes that 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.

(6) That, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (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) 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) The undersigned registrant hereby undertakes to supplement the prospectus, after the expiration of the subscription period, to set forth the results of the subscription offer, the transactions by the underwriters during the subscription period, the amount of unsubscribed securities to be purchased by the underwriters, and the terms of any subsequent reoffering thereof. If any public offering by the underwriters is to be made on terms differing from those set forth on the cover page of the prospectus, a post-effective amendment will be filed to set forth the terms of such offering.

(8) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the provisions described in Item 15 above, 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.

(9) The undersigned registrant hereby undertakes that:

(i) For purposes of determining any liability under the Securities Act of 1933, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the registrant pursuant to Rule 424(b) (1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective.

(ii) For the purpose of determining any liability under the Securities Act of 1933, each post-effective amendment that contains a form of prospectus 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.

EXHIBIT INDEX

EXHIBIT NUMBER	DESCRIPTION
3.1(1)	Restated Certificate of Incorporation of the Registrant
3.1.1(1A)	Certificate of Amendment to Restated Certificate of Incorporation of the Registrant
3.2(2)	Amended and Restated Bylaws of the Registrant
4.1(3)	Specimen Common Stock Certificate
4.4(4)	Rights Agreement, dated November 10, 2010, by and between Registrant and Wells Fargo Bank, N.A., as Rights Agent
4.4.1(4)	Form of Right Certificate
4.4.2(4)	Summary of Rights to Purchase Shares
4.4.3(5)	Amendment No. 1 to Rights Agreement, dated July 22, 2011, by and between Registrant and Wells Fargo Bank, N.A. as Rights Agent
4.4.4(6)	Amendment No. 2 to Rights Agreement, dated May 18, 2012, by and between Registrant and Wells Fargo Bank, N.A. as Rights Agent
4.5(7)	Form of Common Stock Purchase Warrant dated July 6, 2017
4.6**	Form of Common Stock Purchase Warrant
4.7**	Form of Pre-Funded Warrant
5.1***	Opinion of Pillsbury Winthrop Shaw Pittman LLP
10.1(3)	Form of Indemnity Agreement between Registrant and each of its directors and executive officers
10.2(8)	Placement Agency Agreement
10.3(9)*	Amended and Restated 2000 Stock Option and Equity Incentive Plan
10.4(10)*	Form of Stock Option Agreement pursuant to Amended and Restated 2000 Stock Option and Equity Incentive Plan
10.5(11)*	Form of New Employee Inducement Grant Stock Option Agreement
10.6(12)*	Employment offer letter agreement and Mutual Agreement to Arbitrate between Registrant and Leonard Perham dated as of November 8, 2007
10.7(13)	Form of Securities Purchase Agreement dated June 30, 2017
10.8(14)*	Employment offer letter agreement between Registrant and James Sullivan dated December 21, 2007
10.9(15)*	Amended and Restated 2010 Equity Incentive Plan
10.10(16)*	Form of Option Agreement for Stock Option Grant pursuant to 2010 Equity Incentive Plan
10.11(17)*	2010 Employee Stock Purchase Plan

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10.12(18)	<u>Lease Agreement between Registrant and M West Propco XII, LLC. dated July 19, 2010</u>
10.13(19)*	<u>Form of Notice of Restricted Stock Unit Award and Agreement</u>
10.14(20)	<u>Lease Termination Agreement with M West Propco XII LLC dated October 3, 2017</u>
10.15(21)	<u>Sublease Agreement with Cyren, Inc. dated October 3, 2017</u>
10.16(22)	<u>Amendment to 10% Senior Secured Convertible Note Purchase Agreement and every 10% Senior Secured Convertible Note due August 15, 2018 Issued Thereunder</u>
10.17(23)*	<u>Offer to Exchange Certain Outstanding Stock Options for a Number of Replacement Stock Options</u>
10.18(24)*	<u>Form of New Employee Inducement Grant Stock Option Agreement (revised February 2012)</u>
10.19(25)*	<u>Form of Indemnification Agreement used from June 5, 2012</u>
10.20(26)*	<u>Form of Notice of Grant of Restricted Stock Unit Award and Agreement under the Amended and Restated 2010 Equity Incentive Plan</u>
10.21(27)*	<u>Employment Offer Letter Agreement between Registrant and John Monson dated February 21, 2012</u>
10.22(28)	<u>10% Senior Secured Convertible Note Purchase Agreement</u>
10.23(29)	<u>Security Agreement</u>
10.24(30)	<u>10% Senior Secured Convertible Note due August 15, 2018</u>
10.25(31)*	<u>Executive Change-in-Control and Severance Policy</u>
10.26**	<u>Form of Securities Purchase Agreement</u>
10.27***	<u>Form of Placement Agency Agreement</u>
10.28*,***	<u>Employment offer letter agreement between Registrant and Daniel Lewis dated August 8, 2018</u>
10.29***	<u>Memorandum of Understanding for modification of 10% Senior Secured Convertible Notes</u>
23.1**	<u>Consent of Independent Registered Public Accounting Firm – BPM LLP</u>
23.2***	<u>Consent of Pillsbury Winthrop Shaw Pittman LLP (included in Exhibit 5.1)</u>
24***	<u>Power of Attorney (filed as part of signature page to Registration Statement)</u>

* Management contract, compensatory plan or arrangement.

** Filed herewith.

*** Previously filed.

- (1) Incorporated by reference to Exhibit 3.6 to Form 8-K filed by the Registrant on November 12, 2010 (Commission File No. 000-32929).
- (1A) Incorporated by reference to Exhibit 3.1 to Form 8-K filed by the Registrant on February 14, 2017 (Commission File No. 000-32929).
- (2) Incorporated by reference to Exhibit 3.4 to Form 8-K filed by the Registrant on October 29, 2008 (Commission File No. 000-32929).
- (3) Incorporated by reference to the same-numbered exhibit to the Registration Statement on Form S-1, as amended, originally filed by the Registrant with the SEC on August 4, 2000, declared effective June 27, 2001 (Commission File No. 333-43122).
- (4) Incorporated by reference to the same-numbered exhibit to Form 8-K by the Registrant on November 12, 2010 (Commission File No. 000-32929).
- (5) Incorporated by reference to Exhibit 4.2.3 to the Current Report on Form 8-K, filed by the Registrant on July 27, 2011 (Commission File No. 000-32929).

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- (6) Incorporated by reference to Exhibit 4.2.4 to the Current Report on Form 8-K, filed by the Registrant on May 24, 2012 (Commission File No. 000-32929).
- (7) Incorporated by reference to Exhibit 4.1 to the Current Report on Form 8-K, filed by the Registrant on June 30, 2017 (Commission File No. 000-32929).
- (8) Incorporated by reference to the same-numbered exhibit to Form 8-K by the Registrant on June 30, 2017 (Commission File No. 000-32929).
- (9) Incorporated by reference to Appendix B to the Registrant's proxy statement on Schedule 14A filed by the Registrant on October 7, 2004 (Commission File No. 000-32929).
- (10) Incorporated by reference to Exhibit 10.15 to Form 10-Q filed by the Registrant on August 9, 2005 (Commission File No. 000-32929).
- (11) Incorporated by reference to Exhibit 10.25 to Form 10-K filed by the Registrant on March 17, 2008 (Commission File No. 000-32929).
- (12) Incorporated by reference to Exhibit 10.24 to Form 10-K filed by the Registrant on March 17, 2008 (Commission File No. 000-32929).
- (13) Incorporated by reference to the Exhibit 10.1 to Form 8-K by the Registrant on June 30, 2017 (Commission File No. 000-32929).
- (14) Incorporated by reference to Exhibit 10.26 to Form 10-K filed by the Registrant on March 17, 2008 (Commission File No. 000-32929).
- (15) Incorporated by reference to Exhibit 4.8 to Form S-8 filed by the Registrant on August 8, 2014 (Commission File No. 000-197989).
- (16) Incorporated by reference to Exhibit 4.10 to Form S-8 filed by the Registrant on July 28, 2010 (Commission File No. 333-168358).
- (17) Incorporated by reference to Appendix B to the proxy statement on Schedule 14A filed by the Registrant on May 26, 2010 (Commission File No. 000-32929).
- (18) Incorporated by reference to Exhibit 10.35 to Form 8-K filed by the Registrant on July 22, 2010 (Commission File No. 000-32929).
- (19) Incorporated by reference to Exhibit 4.8 to Form S-8 filed by the Registrant on June 5, 2009 (Commission File No. 333-159753).
- (20) Incorporated by reference to Exhibit 99.1 to Form 10-Q filed by the Registrant on November 14, 2017 (Commission File No. 000-32929).
- (21) Incorporated by reference to Exhibit 99.2 to Form 10-Q filed by the Registrant on November 14, 2017 (Commission File No. 000-32929).
- (22) Incorporated by reference to Exhibit 10.4 to Form 8-K filed by the Registrant on February 27, 2018 (Commission File No. 000-32929).
- (23) Incorporated by reference to Exhibit 99(A)(1)(A) to Schedule TO filed by the Registrant on July 26, 2016 (Commission File No. 005-78033), as amended).
- (24) Incorporated by reference to Exhibit 10.19 to Form 10-K filed by the Registrant on March 15, 2012 (Commission File No. 000-32929).
- (25) Incorporated by reference to Exhibit 10.22 to Form 10-Q filed by the Registrant on August 9, 2012 (Commission File No. 000-32929).
- (26) Incorporated by reference to Exhibit 10.24 to Form 10-K filed by the Registrant on March 14, 2014 (Commission File No. 000-32929).
- (27) Incorporated by reference to Exhibit 10.25 to Form 10-K filed by the Registrant on March 14, 2014 (Commission File No. 000-32929).
- (28) Incorporated by reference to Exhibit 10.1 to Form 8-K filed by the Registrant on March 15, 2016 (Commission File No. 000-32929).
- (29) Incorporated by reference to Exhibit 10.2 to Form 8-K filed by the Registrant on March 15, 2016 (Commission File No. 000-32929).
- (30) Incorporated by reference to Exhibit 10.3 to Form 8-K filed by the Registrant on March 15, 2016 (Commission File No. 000-32929 (Commission File No. 333-159753)).
- (31) Incorporated by reference to Exhibit 99(D)(7) to Schedule TO filed by the Registrant on July 26, 2016 (Commission File No. 005-78033), as amended).

SIGNATURES

Pursuant to the requirements of the Securities Act, 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 September 28, 2018.

MOSYS, INC

By: /s/ Daniel Lewis
Daniel Lewis
Chief Executive Officer, President and Director (principal executive officer)

By: /s/ James W. Sullivan
James W. Sullivan
Vice President and Chief Financial Officer (principal accounting officer and principal financial officer)

Pursuant to the requirements of the Securities Act of 1933, as amended, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

<u>SIGNATURE</u>	<u>TITLE</u>	<u>DATE</u>
<u>/s/ Daniel Lewis</u> Daniel Lewis	Chief Executive Officer, President and Director (principal executive officer)	September 28, 2018
<u>/s/ James W. Sullivan</u> James W. Sullivan	Vice President and Chief Financial Officer (principal accounting officer and principal financial officer)	September 28, 2018
<u>*</u> Leonard Perham	Director	September 28, 2018
<u>*</u> Daniel O'Neil	Director	September 28, 2018

*By: /s/ James W. Sullivan
Attorney-in-fact

COMMON STOCK PURCHASE WARRANT

MOSYS, INC.

Warrant Shares: _____

Initial Issuance Date: September __, 2018

THIS COMMON STOCK PURCHASE WARRANT (the "Warrant") certifies that, for value received, _____ or its assigns (the "Holder") is entitled, upon the terms and subject to the limitations on exercise and the conditions hereinafter set forth, at any time on or after September __, 2018 (the "Initial Exercise Date") and on or prior to the close of business on the five (5) year anniversary of the Initial Exercise Date (the "Termination Date"; provided, however, that if such date is not a Trading Day, the Termination Date shall be the immediately following Trading Day) but not thereafter, to subscribe for and purchase from MoSys, Inc., a Delaware corporation (the "Company"), up to _____ shares (as subject to adjustment hereunder, the "Warrant Shares") of Common Stock. The purchase price of one share of Common Stock under this Warrant shall be equal to the Exercise Price, as defined in Section 2(b).

Section 1. Definitions. In addition to the terms defined elsewhere in this Warrant, the following terms have the meanings indicated in this Section 1:

"Affiliate" means any Person that, directly or indirectly through one or more intermediaries, controls or is controlled by or is under common control with a Person, as such terms are used in and construed under Rule 405 under the Securities Act.

"Board of Directors" means the board of directors of the Company.

"Business Day" means any day except any Saturday, any Sunday, any day which is a federal legal holiday in the United States or any day on which banking institutions in the State of New York are authorized or required by law or other governmental action to close.

"Commission" means the United States Securities and Exchange Commission.

"Exchange Act" means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

"Exempt Issuance" means the issuance of (a) shares of Common Stock or options to employees, officers or directors of the Company pursuant to any stock or option plan duly adopted for such purpose, by a majority of the non-employee members of the Board of Directors or a majority of the members of a committee of non-employee directors established for such purpose for services rendered to the Company, (b) securities upon the exercise or exchange of or conversion of any Securities issued hereunder and/or other securities exercisable or exchangeable for or convertible into shares of Common Stock issued and outstanding on the date of this Agreement, provided that such securities have not been amended since the date of this Agreement to increase the number of such securities or to decrease the exercise price, exchange price or conversion price of such securities (other than in connection with stock splits or combinations) or to extend the term of such securities, but this provision will not prohibit the issuance of securities in exchange for, or payment of debt owed under senior secured convertible notes due August 15, 2019, and (c) securities issued pursuant to acquisitions or strategic transactions approved by a majority of the disinterested directors of the Company, provided that such securities are issued as "restricted securities" (as defined in Rule 144) and carry no registration rights that require or permit the filing of any registration statement in connection therewith during the period ending on the 90 day anniversary of the Initial Issuance Date, and provided that any such issuance shall only be to a Person (or to the equity holders of a Person) which is, itself or through its subsidiaries, an operating company or an owner of an asset in a business synergistic with the business of the Company and shall provide to the Company additional benefits in addition to the investment of funds, but shall not include a transaction in which the Company is issuing securities primarily for the purpose of raising capital or to an entity whose primary business is investing in securities.

"Liens" means a lien, charge pledge, security interest, encumbrance, right of first refusal, preemptive right or other restriction.

"Person" means an individual or corporation, partnership, trust, incorporated or unincorporated association, joint venture, limited liability company, joint stock company, government (or an agency or subdivision thereof) or other entity of any kind.

"Proceeding" means an action, claim, suit, investigation or proceeding (including, without limitation, an informal investigation or partial proceeding, such as a deposition), whether commenced or threatened.

“Purchase Agreement” means that certain Securities Purchase Agreement, dated as of May __, 2018, between the Company, and each of the purchasers identified on the signature pages thereto.

“Rule 144” means Rule 144 promulgated by the Commission pursuant to the Securities Act, as such Rule may be amended or interpreted from time to time, or any similar rule or regulation hereafter adopted by the Commission having substantially the same purpose and effect as such Rule.

“Securities Act” means the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder.

“Trading Day” means a day on which the principal Trading Market is open for trading.

“Trading Market” means any of the following markets or exchanges on which the Common Stock is listed or quoted for trading on the date in question: the NYSE American, the Nasdaq Capital Market, the Nasdaq Global Market, the Nasdaq Global Select Market or the New York Stock Exchange (or any successors to any of the foregoing).

“Transfer Agent” means Equiniti Trust Company, the current transfer agent of the Company, with a mailing address of 1110 Centre Pointe Curve Suite 101, Mendota Heights, MN 55120, and any successor transfer agent of the Company.

Section 2. Exercise.

a) Exercise of Warrant. Exercise of the purchase rights represented by this Warrant may be made, in whole or in part, at any time or times on or after the Initial Exercise Date and on or before the Termination Date by delivery to the Company of a duly executed facsimile copy or PDF copy submitted by e-mail (or e-mail attachment) of the Notice of Exercise in the form annexed hereto (“Notice of Exercise”). Within the earlier of (i) two (2) Trading Days and (ii) the number of Trading Days comprising the Standard Settlement Period (as defined in Section 2(d)(i) herein) following the date of exercise as aforesaid, the Holder shall deliver the aggregate Exercise Price for the shares specified in the applicable Notice of Exercise by wire transfer or cashier’s check drawn on a United States bank unless the cashless exercise procedure specified in Section 2(c) below is specified in the applicable Notice of Exercise. No ink-original Notice of Exercise shall be required, nor shall any medallion guarantee (or other type of guarantee or notarization) of any Notice of Exercise be required. Notwithstanding anything herein to the contrary, the Holder shall not be required to physically surrender this Warrant to the Company until the Holder has purchased all of the Warrant Shares available hereunder and the Warrant has been exercised in full, in which case, the Holder shall surrender this Warrant to the Company for cancellation within three (3) Trading Days of the date on which the final Notice of Exercise is delivered to the Company. Partial exercises of this Warrant resulting in purchases of a portion of the total number of Warrant Shares available hereunder shall have the effect of lowering the outstanding number of Warrant Shares purchasable hereunder in an amount equal to the applicable number of Warrant Shares purchased. The

Holder and the Company shall maintain records showing the number of Warrant Shares purchased and the date of such purchases. The Company shall deliver any objection to any Notice of Exercise within one (1) Business Day of receipt of such notice. **The Holder and any assignee, by acceptance of this Warrant, acknowledge and agree that, by reason of the provisions of this paragraph, following the purchase of a portion of the Warrant Shares hereunder, the number of Warrant Shares available for purchase hereunder at any given time may be less than the amount stated on the face hereof.**

b) Exercise Price. The exercise price per share of the Common Stock under this Warrant shall be \$ _____, subject to adjustment hereunder (the "Exercise Price").

c) Cashless Exercise. If at the time of exercise hereof there is no effective registration statement registering, or the prospectus contained therein is not available for the issuance of the Warrant Shares to the Holder, then this Warrant may also be exercised, in whole or in part, at such time by means of a "cashless exercise" in which the Holder shall be entitled to receive a number of Warrant Shares equal to the quotient obtained by dividing [(A-B) (X)] by (A), where:

- (A) = as applicable: (i) the VWAP on the Trading Day immediately preceding the date of the applicable Notice of Exercise if such Notice of Exercise is (1) both executed and delivered pursuant to Section 2(a) hereof on a day that is not a Trading Day or (2) both executed and delivered pursuant to Section 2(a) hereof on a Trading Day prior to the opening of "regular trading hours" (as defined in Rule 600(b)(64) of Regulation NMS promulgated under the federal securities laws) on such Trading Day, (ii) at the option of the Holder, either (y) the VWAP on the Trading Day immediately preceding the date of the applicable Notice of Exercise or (z) the Bid Price of the Common Stock on the principal Trading Market as reported by Bloomberg L.P. as of the time of the Holder's execution of the applicable Notice of Exercise if such Notice of Exercise is executed during "regular trading hours" on a Trading Day and is delivered within two (2) hours thereafter (including until two (2) hours after the close of "regular trading hours" on a Trading Day) pursuant to Section 2(a) hereof or (iii) the VWAP on the date of the applicable Notice of Exercise if the date of such Notice of Exercise is a Trading Day and such Notice of Exercise is both executed and delivered pursuant to Section 2(a) hereof after the close of "regular trading hours" on such Trading Day;
- (B) = the Exercise Price of this Warrant, as adjusted hereunder; and
- (X) = the number of Warrant Shares that would be issuable upon exercise of this Warrant in accordance with the terms of this Warrant if such exercise were by means of a cash exercise rather than a cashless exercise.

If Warrant Shares are issued in such a cashless exercise, the parties acknowledge and agree that in accordance with Section 3(a)(9) of the Securities Act, the Warrant Shares shall take on the registered characteristics of the Warrants being exercised. The Company agrees not to take any position contrary to this Section 2(c).

“Bid Price” means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a Trading Market, the bid price of the Common Stock for the time in question (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg L.P. (based on a Trading Day from 9:30 a.m. (New York City time) to 4:02 p.m. (New York City time)), (b) if OTCQB or OTCQX is not a Trading Market, the volume weighted average price of the Common Stock for such date (or the nearest preceding date) on OTCQB or OTCQX as applicable, (c) if the Common Stock is not then listed or quoted for trading on OTCQB or OTCQX and if prices for the Common Stock are then reported in the “Pink Sheets” published by OTC Markets Group, Inc. (or a similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share of the Common Stock so reported, or (d) in all other cases, the fair market value of a share of Common Stock as determined by an independent appraiser selected in good faith by the Purchasers of a majority in interest of the Securities then outstanding and reasonably acceptable to the Company, the fees and expenses of which shall be paid by the Company.

“VWAP” means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a Trading Market, the daily volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg L.P. (based on a Trading Day from 9:30 a.m. (New York City time) to 4:02 p.m. (New York City time)), (b) if OTCQB or OTCQX is not a Trading Market, the volume weighted average price of the Common Stock for such date (or the nearest preceding date) on OTCQB or OTCQX as applicable, (c) if the Common Stock is not then listed or quoted for trading on OTCQB or OTCQX and if prices for the Common Stock are then reported in the “Pink Sheets” published by OTC Markets Group, Inc. (or a similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share of the Common Stock so reported, or (d) in all other cases, the fair market value of a share of Common Stock as determined by an independent appraiser selected in good faith by the Purchasers of a majority in interest of the Securities then outstanding and reasonably acceptable to the Company, the fees and expenses of which shall be paid by the Company.

Notwithstanding anything herein to the contrary, on the Termination Date, this Warrant shall be automatically exercised via cashless exercise pursuant to this Section 2(c).

d) Mechanics of Exercise.

i. Delivery of Warrant Shares Upon Exercise. The Company shall cause the Warrant Shares purchased hereunder to be transmitted by the Transfer Agent to the Holder by crediting the account of the Holder’s or its designee’s balance account with The Depository Trust Company through its Deposit or Withdrawal at Custodian system (“DWAC”) if the Company is then a participant in such system and either (A) there is an effective registration statement permitting the issuance of the Warrant

Shares to or resale of the Warrant Shares by Holder or (B) this Warrant is being exercised via cashless exercise, and otherwise by physical delivery of a certificate, registered in the Company's share register in the name of the Holder or its designee, for the number of Warrant Shares to which the Holder is entitled pursuant to such exercise to the address specified by the Holder in the Notice of Exercise by the date that is the earliest of (i) two (2) Trading Days after the delivery to the Company of the Notice of Exercise, (ii) one (1) Trading Day after delivery of the aggregate Exercise Price to the Company and (iii) the number of Trading Days comprising the Standard Settlement Period after the delivery to the Company of the Notice of Exercise (such date, the "Warrant Share Delivery Date"). Upon delivery of the Notice of Exercise, the Holder shall be deemed for all corporate purposes to have become the holder of record of the Warrant Shares with respect to which this Warrant has been exercised, irrespective of the date of delivery of the Warrant Shares, provided that payment of the aggregate Exercise Price (other than in the case of a cashless exercise) is received within the earlier of (i) two (2) Trading Days and (ii) the number of Trading Days comprising the Standard Settlement Period following delivery of the Notice of Exercise. If the Company fails for any reason to deliver to the Holder the Warrant Shares subject to a Notice of Exercise by the Warrant Share Delivery Date, the Company shall pay to the Holder, in cash, as liquidated damages and not as a penalty, for each \$1,000 of Warrant Shares subject to such exercise (based on the VWAP of the Common Stock on the date of the applicable Notice of Exercise), \$10 per Trading Day (increasing to \$20 per Trading Day on the fifth Trading Day after such liquidated damages begin to accrue) for each Trading Day after such Warrant Share Delivery Date until such Warrant Shares are delivered or Holder rescinds such exercise. The Company agrees to maintain a transfer agent that is a participant in the FAST program so long as this Warrant remains outstanding and exercisable. As used herein, "Standard Settlement Period" means the standard settlement period, expressed in a number of Trading Days, on the Company's primary Trading Market with respect to the Common Stock as in effect on the date of delivery of the Notice of Exercise.

ii. Delivery of New Warrants Upon Exercise. If this Warrant shall have been exercised in part, the Company shall, at the request of a Holder and upon surrender of this Warrant certificate, at the time of delivery of the Warrant Shares, deliver to the Holder a new Warrant evidencing the rights of the Holder to purchase the unpurchased Warrant Shares called for by this Warrant, which new Warrant shall in all other respects be identical with this Warrant.

iii. Rescission Rights. If the Company fails to cause the Transfer Agent to transmit to the Holder the Warrant Shares pursuant to Section 2(d)(i) by the Warrant Share Delivery Date, then the Holder will have the right to rescind such exercise.

iv. Compensation for Buy-In on Failure to Timely Deliver Warrant Shares Upon Exercise. In addition to any other rights available to the Holder, if the Company fails to cause the Transfer Agent to transmit to the Holder the Warrant Shares in accordance with the provisions of Section 2(d)(i) above pursuant to an exercise on or before the Warrant Share Delivery Date, and if after such date the Holder is required by its broker to purchase (in an open market transaction or otherwise) or the Holder's brokerage firm otherwise purchases, shares of Common Stock to deliver in satisfaction of a sale by the Holder of the Warrant Shares which the Holder anticipated receiving upon such exercise (a "Buy-In"), then the Company shall (A) pay in cash to the Holder the amount, if any, by which (x) the Holder's total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased exceeds (y) the amount obtained by multiplying (1) the number of Warrant Shares that the Company was required to deliver to the Holder in connection with the exercise at issue times (2) the price at which the sell order giving rise to such purchase obligation was executed, and (B) at the option of the Holder, either reinstate the portion of the Warrant and equivalent number of Warrant Shares for which such exercise was not honored (in which case such exercise shall be deemed rescinded) or deliver to the Holder the number of shares of Common Stock that would have been issued had the Company timely complied with its exercise and delivery obligations hereunder. For example, if the Holder purchases Common Stock having a total purchase price of \$11,000 to cover a Buy-In with respect to an attempted exercise of shares of Common Stock with an aggregate sale price giving rise to such purchase obligation of \$10,000, under clause (A) of the immediately preceding sentence the Company shall be required to pay the Holder \$1,000. The Holder shall provide the Company written notice indicating the amounts payable to the Holder in respect of the Buy-In and, upon request of the Company, evidence of the amount of such loss. Nothing herein shall limit a Holder's right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Company's failure to timely deliver shares of Common Stock upon exercise of the Warrant as required pursuant to the terms hereof.

v. No Fractional Shares or Scrip. No fractional shares or scrip representing fractional shares shall be issued upon the exercise of this Warrant. As to any fraction of a share which the Holder would otherwise be entitled to purchase upon such exercise, the Company shall, at its election, either pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the Exercise Price or round up to the next whole share.

vi. Charges, Taxes and Expenses. Issuance of Warrant Shares shall be made without charge to the Holder for any issue or transfer tax or other incidental expense in respect of the issuance of such Warrant Shares, all of which taxes and expenses shall be paid by the Company, and such Warrant Shares shall be issued in the name of the Holder or in such name or names as may be directed by the Holder; provided, however, that in the event that Warrant Shares are to be issued in a name other than the name of the Holder, this Warrant when surrendered for exercise shall be accompanied by the Assignment Form attached hereto duly executed by the Holder and the Company may require, as a condition thereto, the payment of a sum sufficient to reimburse it for any transfer tax incidental thereto. The Company shall pay all Transfer Agent fees required for same-day processing of any Notice of Exercise and all fees to the Depository Trust Company (or another established clearing corporation performing similar functions) required for same-day electronic delivery of the Warrant Shares.

vii. Closing of Books. The Company will not close its stockholder books or records in any manner which prevents the timely exercise of this Warrant, pursuant to the terms hereof.

e) Holder's Exercise Limitations. The Company shall not effect any exercise of this Warrant, and a Holder shall not have the right to exercise any portion of this Warrant, pursuant to Section 2 or otherwise, to the extent that after giving effect to such issuance after exercise as set forth on the applicable Notice of Exercise, the Holder (together with the Holder's Affiliates, and any other Persons acting as a group together with the Holder or any of the Holder's Affiliates (such Persons, "Attribution Parties")), would beneficially own in excess of the Beneficial Ownership Limitation (as defined below). For purposes of the foregoing sentence, the number of shares of Common Stock beneficially owned by the Holder and its Affiliates and Attribution Parties shall include the number of shares of Common Stock issuable upon exercise of this Warrant with respect to which such determination is being made, but shall exclude the number of shares of Common Stock which would be issuable upon (i) exercise of the remaining, nonexercised portion of this Warrant beneficially owned by the Holder or any of its Affiliates or Attribution Parties and (ii) exercise or conversion of the unexercised or nonconverted portion of any other securities of the Company (including, without limitation, any other Common Stock Equivalents) subject to a limitation on conversion or exercise analogous to the limitation contained herein beneficially owned by the Holder or any of its Affiliates or Attribution Parties. Except as set forth in the preceding sentence, for purposes of this Section 2(e), beneficial ownership shall be calculated in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder, it being acknowledged by the Holder that the Company is not representing to the Holder that such calculation is in compliance with Section 13(d) of the Exchange Act and the Holder is solely responsible for any schedules required to be filed in accordance therewith. To the extent that the limitation contained in this Section 2(e) applies, the determination of whether this Warrant is exercisable (in relation to other securities owned by the Holder together with any Affiliates and Attribution Parties) and of

which portion of this Warrant is exercisable shall be in the sole discretion of the Holder, and the submission of a Notice of Exercise shall be deemed to be the Holder's determination of whether this Warrant is exercisable (in relation to other securities owned by the Holder together with any Affiliates and Attribution Parties) and of which portion of this Warrant is exercisable, in each case subject to the Beneficial Ownership Limitation, and the Company shall have no obligation to verify or confirm the accuracy of such determination. In addition, a determination as to any group status as contemplated above shall be determined in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. For purposes of this Section 2(e), in determining the number of outstanding shares of Common Stock, a Holder may rely on the number of outstanding shares of Common Stock as reflected in (A) the Company's most recent periodic or annual report filed with the Commission, as the case may be, (B) a more recent public announcement by the Company or (C) a more recent written notice by the Company or the Transfer Agent setting forth the number of shares of Common Stock outstanding. Upon the written or oral request of a Holder, the Company shall within two Trading Days confirm orally and in writing to the Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Company, including this Warrant, by the Holder or its Affiliates or Attribution Parties since the date as of which such number of outstanding shares of Common Stock was reported. The "Beneficial Ownership Limitation" shall be 4.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock issuable upon exercise of this Warrant. The Holder, upon notice to the Company, may increase or decrease the Beneficial Ownership Limitation provisions of this Section 2(e), provided that the Beneficial Ownership Limitation in no event exceeds 9.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock upon exercise of this Warrant held by the Holder and the provisions of this Section 2(e) shall continue to apply. Any increase in the Beneficial Ownership Limitation will not be effective until the 61st day after such notice is delivered to the Company. The provisions of this paragraph shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 2(e) to correct this paragraph (or any portion hereof) which may be defective or inconsistent with the intended Beneficial Ownership Limitation herein contained or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitations contained in this paragraph shall apply to a successor holder of this Warrant.

Section 3. Certain Adjustments.

a) Stock Dividends and Splits. If the Company, at any time while this Warrant is outstanding: (i) pays a stock dividend or otherwise makes a distribution or distributions on shares of its Common Stock or any other equity or equity equivalent securities payable in shares of Common Stock (which, for avoidance of doubt, shall not include any shares of Common Stock issued by the Company upon exercise of this Warrant), (ii) subdivides

outstanding shares of Common Stock into a larger number of shares, (iii) combines (including by way of reverse stock split) outstanding shares of Common Stock into a smaller number of shares or (iv) issues by reclassification of shares of the Common Stock any shares of capital stock of the Company, then in each case the Exercise Price shall be multiplied by a fraction of which the numerator shall be the number of shares of Common Stock (excluding treasury shares, if any) outstanding immediately before such event and of which the denominator shall be the number of shares of Common Stock outstanding immediately after such event, and the number of shares issuable upon exercise of this Warrant shall be proportionately adjusted such that the aggregate Exercise Price of this Warrant shall remain unchanged. Any adjustment made pursuant to this Section 3(a) shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution and shall become effective immediately after the effective date in the case of a subdivision, combination or re-classification.

b) Subsequent Equity Sales. If the Company or any Subsidiary thereof, as applicable, at any time while this Warrant is outstanding, shall sell or grant any option to purchase, or sell or grant any right to reprice, or otherwise dispose of or issue (or announce any offer, sale, grant or any option to purchase or other disposition) any Common Stock or Common Stock Equivalents, at an effective price per share less than the Exercise Price then in effect (such lower price, the "Base Share Price" and such issuances collectively, a "Dilutive Issuance") (it being understood and agreed that if the holder of the Common Stock or Common Stock Equivalents so issued shall at any time, whether by operation of purchase price adjustments, reset provisions, floating conversion, exercise or exchange prices or otherwise, or due to warrants, options or rights per share which are issued in connection with such issuance, be entitled to receive shares of Common Stock at an effective price per share that is less than the Exercise Price, such issuance shall be deemed to have occurred for less than the Exercise Price on such date of the Dilutive Issuance at such effective price), then simultaneously with the consummation (or, if earlier, the announcement) of each Dilutive Issuance the Exercise Price shall be reduced and only reduced to equal the Base Share Price, provided that the Base Share Price shall not be less than \$___ (subject to adjustment for reverse and forward stock splits, recapitalizations and similar transactions following the date of the Purchase Agreement). Notwithstanding the foregoing, no adjustments shall be made, paid or issued under this Section 3(b) in respect of an Exempt Issuance. The Company shall notify the Holder, in writing, no later than the Trading Day following the issuance or deemed issuance of any Common Stock or Common Stock Equivalents subject to this Section 3(b), indicating therein the applicable issuance price, or applicable reset price, exchange price, conversion price and other pricing terms (such notice, the "Dilutive Issuance Notice"). For purposes of clarification, whether or not the Company provides a Dilutive Issuance Notice pursuant to this Section 3(b), upon the occurrence of any Dilutive Issuance, the Holder is entitled to receive a number of Warrant Shares based upon the Base Share Price regardless of whether the Holder accurately refers to the Base Share Price in the Notice of Exercise. If the Company enters into a Variable Rate Transaction, despite the prohibition thereon in the Purchase Agreement, the Company shall be deemed to have issued Common Stock or Common Stock Equivalents at the lowest possible conversion or exercise price at which such securities may be converted or exercised

c) Subsequent Rights Offerings. In addition to any adjustments pursuant to Section 3(a) above, if at any time the Company grants, issues or sells any Common Stock Equivalents or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of shares of Common Stock (the "Purchase Rights"), then the Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could have acquired if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on exercise hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the grant, issue or sale of such Purchase Rights (provided, however, to the extent that the Holder's right to participate in any such Purchase Right would result in the Holder exceeding the Beneficial Ownership Limitation, then the Holder shall not be entitled to participate in such Purchase Right to such extent (or beneficial ownership of such shares of Common Stock as a result of such Purchase Right to such extent) and such Purchase Right to such extent shall be held in abeyance for the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation).

d) Pro Rata Distributions. During such time as this Warrant is outstanding, if the Company shall declare or make any dividend or other distribution of its assets (or rights to acquire its assets) to holders of shares of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property or options by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction) (a "Distribution"), at any time after the issuance of this Warrant, then, in each such case, the Holder shall be entitled to participate in such Distribution to the same extent that the Holder would have participated therein if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on exercise hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date of which a record is taken for such Distribution, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the participation in such Distribution (provided, however, to the extent that the Holder's right to participate in any such Distribution would result in the Holder exceeding the Beneficial Ownership Limitation, then the Holder shall not be entitled to participate in such Distribution to such extent (or in the beneficial ownership of any shares of Common Stock as a result of such Distribution to such extent) and the portion of such Distribution shall be held in abeyance for the benefit of the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation).

e) Fundamental Transaction. If, at any time while this Warrant is outstanding, (i) the Company, directly or indirectly, in one or more related transactions effects any merger or consolidation of the Company with or into another Person, (ii) the Company, directly or indirectly, effects any sale, lease, license, assignment, transfer, conveyance or other disposition of all or substantially all of its assets in one or a series of related

transactions, (iii) any, direct or indirect, purchase offer, tender offer or exchange offer (whether by the Company or another Person) is completed pursuant to which holders of Common Stock are permitted to sell, tender or exchange their shares for other securities, cash or property and has been accepted by the holders of 50% or more of the outstanding Common Stock, (iv) the Company, directly or indirectly, in one or more related transactions effects any reclassification, reorganization or recapitalization of the Common Stock or any compulsory share exchange pursuant to which the Common Stock is effectively converted into or exchanged for other securities, cash or property, or (v) the Company, directly or indirectly, in one or more related transactions consummates a stock or share purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with another Person or group of Persons whereby such other Person or group acquires more than 50% of the outstanding shares of Common Stock (not including any shares of Common Stock held by the other Person or other Persons making or party to, or associated or affiliated with the other Persons making or party to, such stock or share purchase agreement or other business combination) (each a “Fundamental Transaction”), then, upon any subsequent exercise of this Warrant, the Holder shall have the right to receive, for each Warrant Share that would have been issuable upon such exercise immediately prior to the occurrence of such Fundamental Transaction, at the option of the Holder (without regard to any limitation in Section 2(e) on the exercise of this Warrant), the number of shares of Common Stock of the successor or acquiring corporation or of the Company, if it is the surviving corporation, and any additional consideration (the “Alternate Consideration”) receivable as a result of such Fundamental Transaction by a holder of the number of shares of Common Stock for which this Warrant is exercisable immediately prior to such Fundamental Transaction (without regard to any limitation in Section 2(e) on the exercise of this Warrant). For purposes of any such exercise, the determination of the Exercise Price shall be appropriately adjusted to apply to such Alternate Consideration based on the amount of Alternate Consideration issuable in respect of one share of Common Stock in such Fundamental Transaction, and the Company shall apportion the Exercise Price among the Alternate Consideration in a reasonable manner reflecting the relative value of any different components of the Alternate Consideration. If holders of Common Stock are given any choice as to the securities, cash or property to be received in a Fundamental Transaction, then the Holder shall be given the same choice as to the Alternate Consideration it receives upon any exercise of this Warrant following such Fundamental Transaction. Notwithstanding anything to the contrary, in the event of a Fundamental Transaction, the Company or any Successor Entity (as defined below) shall, at the Holder’s option, exercisable at any time concurrently with, or within 30 days after, the consummation of the Fundamental Transaction (or, if later, the date of the public announcement of the applicable Fundamental Transaction), purchase this Warrant from the Holder by paying to the Holder an amount of consideration equal to the Black Scholes Value of the remaining unexercised portion of this Warrant on the date of the consummation of such Fundamental Transaction; provided, however, Holder shall only be entitled to receive from the Company or any Successor Entity, as of the date of consummation of such Fundamental Transaction, the same type or form of consideration (and in the same proportion), at the Black Scholes Value (as defined below) of the unexercised portion of this Warrant, that is being offered and paid to the holders of Common Stock of the Company in connection with the Fundamental Transaction, whether that consideration be in the form of cash, stock or any combination thereof, or whether the holders of Common Stock are given the choice to receive from among alternative forms of consideration in connection with the Fundamental Transaction. “Black Scholes Value” means the value of this Warrant based on the Black and Scholes Option Pricing Model obtained from the “OV” function on Bloomberg, L.P. (“Bloomberg”) determined as of the day of consummation of the applicable Fundamental Transaction for pricing purposes and reflecting (A) a risk-free interest rate corresponding to the U.S. Treasury rate for a period equal to the time between the date of the public announcement of the applicable Fundamental Transaction and the Termination Date, (B) an expected volatility equal to the lesser of 100% and the 100-day volatility obtained from the HVT function on Bloomberg as of the Trading Day immediately following the public announcement of the applicable Fundamental Transaction, (C) the underlying price per share used in such calculation shall be the greater of (i) the sum of the price per share being offered in cash, if any, plus the value of any non-cash consideration, if any, being offered in such Fundamental Transaction and (ii) the greater of (x) the last VWAP immediately prior to the public announcement of such Fundamental Transaction and (y) the last VWAP immediately prior to the consummation of such Fundamental Transaction and (D) a remaining option time equal to the time between the date of the public announcement of the applicable Fundamental Transaction and the Termination Date. The payment of the Black Scholes Value will be made by wire transfer of immediately available funds within five Business Days of the Holder’s election (or, if later, on the effective date of the Fundamental Transaction). The Company shall cause any successor entity in a Fundamental Transaction in which the Company is not the survivor (the “Successor Entity”) to assume in writing all of the obligations of the Company under this Warrant and the other Transaction Documents in accordance with the provisions of this Section 3(d) pursuant to written agreements in form and substance reasonably satisfactory to the Holder and approved by the Holder (without unreasonable delay) prior to such Fundamental Transaction and shall, at the option of the Holder, deliver to the Holder in exchange for this Warrant a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to this Warrant which is exercisable for a corresponding number of shares of capital stock of such Successor Entity (or its parent entity) equivalent to the shares of Common Stock acquirable and receivable upon exercise of this Warrant (without regard to any limitations on the exercise of this Warrant) prior to such Fundamental Transaction, and with an exercise price

which applies the exercise price hereunder to such shares of capital stock (but taking into account the relative value of the shares of Common Stock pursuant to such Fundamental Transaction and the value of such shares of capital stock, such number of shares of capital stock and such exercise price being for the purpose of protecting the economic value of this Warrant immediately prior to the consummation of such Fundamental Transaction), and which is reasonably satisfactory in form and substance to the Holder. Upon the occurrence of any such Fundamental Transaction, the Successor Entity shall succeed to, and be substituted for (so that from and after the date of such Fundamental Transaction, the provisions of this Warrant and the other Transaction Documents referring to the "Company" shall refer instead to the Successor Entity), and may exercise every right and power of the Company and shall assume all of the obligations of the Company under this Warrant and the other Transaction Documents with the same effect as if such Successor Entity had been named as the Company herein.

f) Calculations. All calculations under this Section 3 shall be made to the nearest cent or the nearest 1/100th of a share, as the case may be. For purposes of this Section 3, the number of shares of Common Stock deemed to be issued and outstanding as of a given date shall be the sum of the number of shares of Common Stock (excluding treasury shares, if any) issued and outstanding.

g) Notice to Holder.

i. Adjustment to Exercise Price. Whenever the Exercise Price is adjusted pursuant to any provision of this Section 3, the Company shall promptly deliver to the Holder by facsimile or email a notice setting forth the Exercise Price after such adjustment and any resulting adjustment to the number of Warrant Shares and setting forth a brief statement of the facts requiring such adjustment.

ii. Notice to Allow Exercise by Holder. If (A) the Company shall declare a dividend (or any other distribution in whatever form) on the Common Stock, (B) the Company shall declare a special nonrecurring cash dividend on or a redemption of the Common Stock, (C) the Company shall authorize the granting to all holders of the Common Stock rights or warrants to subscribe for or purchase any shares of capital stock of any class or of any rights, (D) the approval of any stockholders of the Company shall be required in connection with any reclassification of the Common Stock, any consolidation or merger to which the Company is a party, any sale or transfer of all or substantially all of the assets of the Company, or any compulsory share exchange whereby the Common Stock is converted into other securities, cash or property, or (E) the Company shall authorize the voluntary or involuntary dissolution, liquidation or winding up of the affairs of the Company, then, in each case, the Company shall cause to be delivered by facsimile or email to the Holder at its last facsimile number or email address as it shall appear upon the Warrant Register of the Company, at least 10 calendar days prior to the applicable record or effective date hereinafter specified, a notice stating (x) the date on which a record is to be

taken for the purpose of such dividend, distribution, redemption, rights or warrants, or if a record is not to be taken, the date as of which the holders of the Common Stock of record to be entitled to such dividend, distributions, redemption, rights or warrants are to be determined or (y) the date on which such reclassification, consolidation, merger, sale, transfer or share exchange is expected to become effective or close, and the date as of which it is expected that holders of the Common Stock of record shall be entitled to exchange their shares of the Common Stock for securities, cash or other property deliverable upon such reclassification, consolidation, merger, sale, transfer or share exchange; provided that the failure to deliver such notice or any defect therein or in the delivery thereof shall not affect the validity of the corporate action required to be specified in such notice. To the extent that any notice provided in this Warrant constitutes, or contains, material, non-public information regarding the Company or any of the Subsidiaries, the Company shall simultaneously file such notice with the Commission pursuant to a Current Report on Form 8-K. The Holder shall remain entitled to exercise this Warrant during the period commencing on the date of such notice to the effective date of the event triggering such notice except as may otherwise be expressly set forth herein.

Section 4. Transfer of Warrant.

a) Transferability. This Warrant and all rights hereunder (including, without limitation, any registration rights) are transferable, in whole or in part, upon surrender of this Warrant at the principal office of the Company or its designated agent, together with a written assignment of this Warrant substantially in the form attached hereto duly executed by the Holder or its agent or attorney and funds sufficient to pay any transfer taxes payable upon the making of such transfer. Upon such surrender and, if required, such payment, the Company shall execute and deliver a new Warrant or Warrants in the name of the assignee or assignees, as applicable, and in the denomination or denominations specified in such instrument of assignment, and shall issue to the assignor a new Warrant evidencing the portion of this Warrant not so assigned, and this Warrant shall promptly be cancelled. Notwithstanding anything herein to the contrary, the Holder shall not be required to physically surrender this Warrant to the Company unless the Holder has assigned this Warrant in full, in which case, the Holder shall surrender this Warrant to the Company within three (3) Trading Days of the date on which the Holder delivers an assignment form to the Company assigning this Warrant in full. The Warrant, if properly assigned in accordance herewith, may be exercised by a new holder for the purchase of Warrant Shares without having a new Warrant issued.

b) New Warrants. This Warrant may be divided or combined with other Warrants upon presentation hereof at the aforesaid office of the Company, together with a written notice specifying the names and denominations in which new Warrants are to be issued, signed by the Holder or its agent or attorney. Subject to compliance with Section 4(a), as to any transfer which may be involved in such division or combination, the Company shall execute and deliver a new Warrant or Warrants in exchange for the Warrant or Warrants to be divided or combined in accordance with such notice. All Warrants issued on transfers or exchanges shall be dated the initial issuance date of this Warrant and shall be identical with this Warrant except as to the number of Warrant Shares issuable pursuant thereto.

c) Warrant Register. The Company shall register this Warrant, upon records to be maintained by the Company for that purpose (the “Warrant Register”), in the name of the record Holder hereof from time to time. The Company may deem and treat the registered Holder of this Warrant as the absolute owner hereof for the purpose of any exercise hereof or any distribution to the Holder, and for all other purposes, absent actual notice to the contrary.

Section 5. Miscellaneous.

a) No Rights as Stockholder Until Exercise. This Warrant does not entitle the Holder to any voting rights, dividends or other rights as a stockholder of the Company prior to the exercise hereof as set forth in Section 2(d)(i), except as expressly set forth in Section 3.

b) Loss, Theft, Destruction or Mutilation of Warrant. The Company covenants that upon receipt by the Company of evidence reasonably satisfactory to it of the loss, theft, destruction or mutilation of this Warrant or any stock certificate relating to the Warrant Shares, and in case of loss, theft or destruction, of indemnity or security reasonably satisfactory to it (which, in the case of the Warrant, shall not include the posting of any bond), and upon surrender and cancellation of such Warrant or stock certificate, if mutilated, the Company will make and deliver a new Warrant or stock certificate of like tenor and dated as of such cancellation, in lieu of such Warrant or stock certificate.

c) Saturdays, Sundays, Holidays, etc. If the last or appointed day for the taking of any action or the expiration of any right required or granted herein shall not be a Business Day, then, such action may be taken or such right may be exercised on the next succeeding Business Day.

d) Authorized Shares.

The Company covenants that, during the period the Warrant is outstanding, it will reserve from its authorized and unissued Common Stock a sufficient number of shares to provide for the issuance of the Warrant Shares upon the exercise of any purchase rights under this Warrant. The Company further covenants that its issuance of this Warrant shall constitute full authority to its officers who are charged with the duty of issuing the necessary Warrant Shares upon the exercise of the purchase rights under this Warrant. The Company will take all such reasonable action as may be necessary to assure that such Warrant Shares may be issued as provided herein without violation of any applicable law or regulation, or of any requirements of the Trading Market upon which the Common Stock may be listed. The Company covenants that all Warrant Shares which may be issued upon the exercise of the purchase rights represented by this Warrant will, upon exercise of the purchase rights represented by this Warrant and payment for such Warrant Shares in accordance herewith, be duly authorized, validly issued, fully paid and nonassessable and free from all taxes, liens and charges created by the Company in respect of the issue thereof (other than taxes in respect of any transfer occurring contemporaneously with such issue).

Except and to the extent as waived or consented to by the Holder, the Company shall not by any action, including, without limitation, amending its certificate of incorporation or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such actions as may be necessary or appropriate to protect the rights of Holder as set forth in this Warrant against impairment. Without limiting the generality of the foregoing, the Company will (i) not increase the par value of any Warrant Shares above the amount payable therefor upon such exercise immediately prior to such increase in par value, (ii) take all such action as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and nonassessable Warrant Shares upon the exercise of this Warrant and (iii) use commercially reasonable efforts to obtain all such authorizations, exemptions or consents from any public regulatory body having jurisdiction thereof, as may be, necessary to enable the Company to perform its obligations under this Warrant.

Before taking any action which would result in an adjustment in the number of Warrant Shares for which this Warrant is exercisable or in the Exercise Price, the Company shall obtain all such authorizations or exemptions thereof, or consents thereto, as may be necessary from any public regulatory body or bodies having jurisdiction thereof.

e) Jurisdiction. All questions concerning the construction, validity, enforcement and interpretation of this Warrant shall be determined in accordance with the provisions of the Purchase Agreement.

f) Restrictions. The Holder acknowledges that the Warrant Shares acquired upon the exercise of this Warrant, if not registered and the Holder does not utilize cashless exercise, will have restrictions upon resale imposed by state and federal securities laws.

g) Nonwaiver and Expenses. No course of dealing or any delay or failure to exercise any right hereunder on the part of Holder shall operate as a waiver of such right or otherwise prejudice the Holder's rights, powers or remedies. Without limiting any other provision of this Warrant or the Purchase Agreement, if the Company willfully and knowingly fails to comply with any provision of this Warrant, which results in any material damages to the Holder, the Company shall pay to the Holder such amounts as shall be sufficient to cover any costs and expenses including, but not limited to, reasonable attorneys' fees, including those of appellate proceedings, incurred by the Holder in collecting any amounts due pursuant hereto or in otherwise enforcing any of its rights, powers or remedies hereunder.

h) Notices. Any notice, request or other document required or permitted to be given or delivered to the Holder by the Company shall be delivered in accordance with the notice provisions of the Purchase Agreement.

i) Limitation of Liability. No provision hereof, in the absence of any affirmative action by the Holder to exercise this Warrant to purchase Warrant Shares, and no enumeration herein of the rights or privileges of the Holder, shall give rise to any liability of the Holder for the purchase price of any Common Stock or as a stockholder of the Company, whether such liability is asserted by the Company or by creditors of the Company.

j) Remedies. The Holder, in addition to being entitled to exercise all rights granted by law, including recovery of damages, will be entitled to specific performance of its rights under this Warrant. The Company agrees that monetary damages would not be adequate compensation for any loss incurred by reason of a breach by it of the provisions of this Warrant and hereby agrees to waive and not to assert the defense in any action for specific performance that a remedy at law would be adequate.

k) Successors and Assigns. Subject to applicable securities laws, this Warrant and the rights and obligations evidenced hereby shall inure to the benefit of and be binding upon the successors and permitted assigns of the Company and the successors and permitted assigns of Holder. The provisions of this Warrant are intended to be for the benefit of any Holder from time to time of this Warrant and shall be enforceable by the Holder or holder of Warrant Shares.

l) Amendment. This Warrant may be modified or amended or the provisions hereof waived with the written consent of the Company and the Holder.

m) Severability. Wherever possible, each provision of this Warrant shall be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Warrant shall be prohibited by or invalid under applicable law, such provision shall be ineffective to the extent of such prohibition or invalidity, without invalidating the remainder of such provisions or the remaining provisions of this Warrant.

n) Headings. The headings used in this Warrant are for the convenience of reference only and shall not, for any purpose, be deemed a part of this Warrant.

(Signature Page Follows)

IN WITNESS WHEREOF, the Company has caused this Warrant to be executed by its officer thereunto duly authorized as of the date first above indicated.

MOSYS, INC.

By: _____
Name:
Title:

NOTICE OF EXERCISE

TO: **MOSYS, INC.**

(1) The undersigned hereby elects to purchase _____ Warrant Shares of the Company pursuant to the terms of the attached Warrant (only if exercised in full), and tenders herewith payment of the exercise price in full, together with all applicable transfer taxes, if any.

(2) Payment shall take the form of (check applicable box):

in lawful money of the United States; or

if permitted the cancellation of such number of Warrant Shares as is necessary, in accordance with the formula set forth in subsection 2(c), to exercise this Warrant with respect to the maximum number of Warrant Shares purchasable pursuant to the cashless exercise procedure set forth in subsection 2(c).

(3) Please issue said Warrant Shares in the name of the undersigned or in such other name as is specified below:

The Warrant Shares shall be delivered to the following DWAC Account Number:

[SIGNATURE OF HOLDER]

Name of Investing Entity: _____

Signature of Authorized Signatory of Investing Entity: _____

Name of Authorized Signatory: _____

Title of Authorized Signatory: _____

Date: _____

ASSIGNMENT FORM

(To assign the foregoing Warrant, execute this form and supply required information. Do not use this form to purchase shares.)

FOR VALUE RECEIVED, the foregoing Warrant and all rights evidenced thereby are hereby assigned to

Name: _____
(Please Print)

Address: _____
(Please Print)

Phone Number: _____

Email Address: _____

Dated: _____, _____

Holder's Signature: _____

Holder's Address: _____

PRE-FUNDED COMMON STOCK PURCHASE WARRANT

MOSYS, INC.

Initial Exercise Date: September __, 2018

Warrant Shares:

THIS PRE-FUNDED COMMON STOCK PURCHASE WARRANT (the “Warrant”) certifies that, for value received, _____ or its assigns (the “Holder”) is entitled, upon the terms and subject to the limitations on exercise and the conditions hereinafter set forth, at any time on or after September __, 2018 (the “Initial Exercise Date”) until this Warrant is exercised in full (the “Termination Date”) but not thereafter, to subscribe for and purchase from MoSys, Inc., a Delaware corporation (the “Company”), up to _____ shares (as subject to adjustment hereunder, the “Warrant Shares”) of Common Stock. The Company shall promptly notify each Holder of the applicable adjustment to the Exercise Price as of the Adjustment Date (an “Adjustment Notice”). The purchase price of one share of Common Stock under this Warrant shall be equal to the Exercise Price, as defined in Section 2(b).

Section 1. Definitions. In addition to the terms defined elsewhere in this Warrant, the following terms have the meanings indicated in this Section 1:

“Affiliate” means any Person that, directly or indirectly through one or more intermediaries, controls or is controlled by or is under common control with a Person, as such terms are used in and construed under Rule 405 under the Securities Act.

“Board of Directors” means the board of directors of the Company.

“Business Day” means any day except any Saturday, any Sunday, any day which is a federal legal holiday in the United States or any day on which banking institutions in the State of New York are authorized or required by law or other governmental action to close.

“Commission” means the United States Securities and Exchange Commission.

“Exchange Act” means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

“Liens” means a lien, charge pledge, security interest, encumbrance, right of first refusal, preemptive right or other restriction.

“Person” means an individual or corporation, partnership, trust, incorporated or unincorporated association, joint venture, limited liability company, joint stock company, government (or an agency or subdivision thereof) or other entity of any kind.

“Proceeding” means an action, claim, suit, investigation or proceeding (including, without limitation, an informal investigation or partial proceeding, such as a deposition), whether commenced or threatened.

“Purchase Agreement” means that certain Securities Purchase Agreement, dated as of September __, 2018, between the Company, and each of the purchasers identified on the signature pages thereto.

“Rule 144” means Rule 144 promulgated by the Commission pursuant to the Securities Act, as such Rule may be amended or interpreted from time to time, or any similar rule or regulation hereafter adopted by the Commission having substantially the same purpose and effect as such Rule.

“Securities Act” means the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder.

“Trading Day” means a day on which the principal Trading Market is open for trading.

“Trading Market” means any of the following markets or exchanges on which the Common Stock is listed or quoted for trading on the date in question: the NYSE American, the Nasdaq Capital Market, the Nasdaq Global Market, the Nasdaq Global Select Market or the New York Stock Exchange (or any successors to any of the foregoing).

“Transfer Agent” means _____, the current transfer agent of the Company, with a mailing address of _____ and a facsimile number of _____, and any successor transfer agent of the Company.

Section 2. Exercise.

a) Exercise of Warrant. Exercise of the purchase rights represented by this Warrant may be made, in whole or in part, at any time or times on or after the Initial Exercise Date and on or before the Termination Date by delivery to the Company of a duly executed facsimile copy or PDF copy submitted by e-mail (or e-mail attachment) of the Notice of Exercise in the form annexed hereto (“Notice of Exercise”). Within the earlier of (i) two (2) Trading Days and (ii) the number of Trading Days comprising the Standard Settlement Period (as defined in Section 2(d)(i) herein) following the date of exercise as aforesaid, the Holder shall deliver the aggregate Exercise Price for the shares specified in the applicable Notice of Exercise by wire transfer or cashier’s check drawn on a United States bank unless the cashless exercise procedure specified in Section 2(c) below is specified in the applicable Notice of Exercise. No ink-original Notice of Exercise shall be

required, nor shall any medallion guarantee (or other type of guarantee or notarization) of any Notice of Exercise be required. Notwithstanding anything herein to the contrary, the Holder shall not be required to physically surrender this Warrant to the Company until the Holder has purchased all of the Warrant Shares available hereunder and the Warrant has been exercised in full, in which case, the Holder shall surrender this Warrant to the Company for cancellation within three (3) Trading Days of the date on which the final Notice of Exercise is delivered to the Company. Partial exercises of this Warrant resulting in purchases of a portion of the total number of Warrant Shares available hereunder shall have the effect of lowering the outstanding number of Warrant Shares purchasable hereunder in an amount equal to the applicable number of Warrant Shares purchased. The Holder and the Company shall maintain records showing the number of Warrant Shares purchased and the date of such purchases. The Company shall deliver any objection to any Notice of Exercise within one (1) Business Day of receipt of such notice. **The Holder and any assignee, by acceptance of this Warrant, acknowledge and agree that, by reason of the provisions of this paragraph, following the purchase of a portion of the Warrant Shares hereunder, the number of Warrant Shares available for purchase hereunder at any given time may be less than the amount stated on the face hereof.**

b) Exercise Price. The aggregate exercise price of this Warrant, except for a nominal exercise price of \$0.001 per Warrant Share, was pre-funded to the Company on or prior to the Initial Exercise Date and, consequently, no additional consideration (other than the nominal exercise price of \$0.001 per Warrant Share) shall be required to be paid by the Holder to any Person to effect any exercise of this Warrant. The Holder shall not be entitled to the return or refund of all, or any portion, of such pre-paid aggregate exercise price under any circumstance or for any reason whatsoever, including in the event this Warrant shall not have been exercised prior to the Termination Date. The remaining unpaid exercise price per share of Common Stock under this Warrant shall be \$0.01, subject to adjustment hereunder (the "Exercise Price").

c) Cashless Exercise. This Warrant may also be exercised, in whole or in part, at such time by means of a "cashless exercise" in which the Holder shall be entitled to receive a number of Warrant Shares equal to the quotient obtained by dividing [(A-B) (X)] by (A), where:

- (A) = as applicable: (i) the VWAP on the Trading Day immediately preceding the date of the applicable Notice of Exercise if such Notice of Exercise is (1) both executed and delivered pursuant to Section 2(a) hereof on a day that is not a Trading Day or (2) both executed and delivered pursuant to Section 2(a) hereof on a Trading Day prior to the opening of "regular trading hours" (as defined in Rule 600(b)(64) of Regulation NMS promulgated under the federal securities laws) on such Trading Day, (ii) at the option of the Holder, either (y) the VWAP on the Trading Day immediately preceding the date of the applicable Notice of Exercise or (z) the Bid Price of the Common Stock on the principal Trading Market as reported by Bloomberg L.P. as of the time of the Holder's execution of the applicable Notice of Exercise if such Notice of

Exercise is executed during “regular trading hours” on a Trading Day and is delivered within two (2) hours thereafter (including until two (2) hours after the close of “regular trading hours” on a Trading Day) pursuant to Section 2(a) hereof or (iii) the VWAP on the date of the applicable Notice of Exercise if the date of such Notice of Exercise is a Trading Day and such Notice of Exercise is both executed and delivered pursuant to Section 2(a) hereof after the close of “regular trading hours” on such Trading Day;

- (B) = the Exercise Price of this Warrant, as adjusted hereunder; and
- (X) = the number of Warrant Shares that would be issuable upon exercise of this Warrant in accordance with the terms of this Warrant if such exercise were by means of a cash exercise rather than a cashless exercise.

If Warrant Shares are issued in such a cashless exercise, the parties acknowledge and agree that in accordance with Section 3(a)(9) of the Securities Act, the Warrant Shares shall take on the registered characteristics of the Warrants being exercised. The Company agrees not to take any position contrary to this Section 2(c).

“Bid Price” means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a Trading Market, the bid price of the Common Stock for the time in question (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg L.P. (based on a Trading Day from 9:30 a.m. (New York City time) to 4:02 p.m. (New York City time)), (b) if OTCQB or OTCQX is not a Trading Market, the volume weighted average price of the Common Stock for such date (or the nearest preceding date) on OTCQB or OTCQX as applicable, (c) if the Common Stock is not then listed or quoted for trading on OTCQB or OTCQX and if prices for the Common Stock are then reported in the “Pink Sheets” published by OTC Markets Group, Inc. (or a similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share of the Common Stock so reported, or (d) in all other cases, the fair market value of a share of Common Stock as determined by an independent appraiser selected in good faith by the Purchasers of a majority in interest of the Securities then outstanding and reasonably acceptable to the Company, the fees and expenses of which shall be paid by the Company.

“VWAP” means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a Trading Market, the daily volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg L.P. (based on a Trading Day from 9:30 a.m. (New York City time) to 4:02 p.m. (New York City time)), (b) if OTCQB or OTCQX is not a Trading Market, the volume weighted average price of the Common Stock for such date (or the nearest preceding date) on OTCQB or OTCQX as applicable, (c) if the Common Stock is not then listed or quoted for trading on OTCQB or OTCQX and if prices for the Common Stock are then reported in the “Pink Sheets” published by OTC Markets Group, Inc. (or a

similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share of the Common Stock so reported, or (d) in all other cases, the fair market value of a share of Common Stock as determined by an independent appraiser selected in good faith by the Purchasers of a majority in interest of the Securities then outstanding and reasonably acceptable to the Company, the fees and expenses of which shall be paid by the Company.

Notwithstanding anything herein to the contrary, on the Termination Date, this Warrant shall be automatically exercised via cashless exercise pursuant to this Section 2(c).

d) Mechanics of Exercise.

i. Delivery of Warrant Shares Upon Exercise. The Company shall cause the Warrant Shares purchased hereunder to be transmitted by the Transfer Agent to the Holder by crediting the account of the Holder's or its designee's balance account with The Depository Trust Company through its Deposit or Withdrawal at Custodian system ("DWAC") if the Company is then a participant in such system and either (A) there is an effective registration statement permitting the issuance of the Warrant Shares to or resale of the Warrant Shares by Holder or (B) this Warrant is being exercised via cashless exercise, and otherwise by physical delivery of a certificate, registered in the Company's share register in the name of the Holder or its designee, for the number of Warrant Shares to which the Holder is entitled pursuant to such exercise to the address specified by the Holder in the Notice of Exercise by the date that is the earliest of (i) two (2) Trading Days after the delivery to the Company of the Notice of Exercise, (ii) one (1) Trading Day after delivery of the aggregate Exercise Price to the Company and (iii) the number of Trading Days comprising the Standard Settlement Period after the delivery to the Company of the Notice of Exercise (such date, the "Warrant Share Delivery Date"). Upon delivery of the Notice of Exercise, the Holder shall be deemed for all corporate purposes to have become the holder of record of the Warrant Shares with respect to which this Warrant has been exercised, irrespective of the date of delivery of the Warrant Shares, provided that payment of the aggregate Exercise Price (other than in the case of a cashless exercise) is received within the earlier of (i) two (2) Trading Days and (ii) the number of Trading Days comprising the Standard Settlement Period following delivery of the Notice of Exercise. If the Company fails for any reason to deliver to the Holder the Warrant Shares subject to a Notice of Exercise by the Warrant Share Delivery Date, the Company shall pay to the Holder, in cash, as liquidated damages and not as a penalty, for each \$1,000 of Warrant Shares subject to such exercise (based on the VWAP of the Common Stock on the date of the applicable Notice of Exercise), \$10 per Trading Day (increasing to \$20 per Trading Day on the fifth Trading Day after such liquidated damages begin to accrue) for each Trading Day after such Warrant Share Delivery Date until such Warrant Shares are delivered or Holder rescinds such exercise. The Company

agrees to maintain a transfer agent that is a participant in the FAST program so long as this Warrant remains outstanding and exercisable. As used herein, “Standard Settlement Period” means the standard settlement period, expressed in a number of Trading Days, on the Company’s primary Trading Market with respect to the Common Stock as in effect on the date of delivery of the Notice of Exercise. Notwithstanding the foregoing, with respect to any Notice(s) of Exercise delivered on or prior to 12:00 p.m. (New York City time) on the Initial Exercise Date, which may be delivered at any time after the time of execution of the Purchase Agreement, the Company agrees to deliver the Warrant Shares subject to such notice(s) by 4:00 p.m. (New York City time) on the Initial Exercise Date.

ii. Delivery of New Warrants Upon Exercise. If this Warrant shall have been exercised in part, the Company shall, at the request of a Holder and upon surrender of this Warrant certificate, at the time of delivery of the Warrant Shares, deliver to the Holder a new Warrant evidencing the rights of the Holder to purchase the unpurchased Warrant Shares called for by this Warrant, which new Warrant shall in all other respects be identical with this Warrant.

iii. Rescission Rights. If the Company fails to cause the Transfer Agent to transmit to the Holder the Warrant Shares pursuant to Section 2(d)(i) by the Warrant Share Delivery Date, then the Holder will have the right to rescind such exercise.

iv. Compensation for Buy-In on Failure to Timely Deliver Warrant Shares Upon Exercise. In addition to any other rights available to the Holder, if the Company fails to cause the Transfer Agent to transmit to the Holder the Warrant Shares in accordance with the provisions of Section 2(d)(i) above pursuant to an exercise on or before the Warrant Share Delivery Date, and if after such date the Holder is required by its broker to purchase (in an open market transaction or otherwise) or the Holder’s brokerage firm otherwise purchases, shares of Common Stock to deliver in satisfaction of a sale by the Holder of the Warrant Shares which the Holder anticipated receiving upon such exercise (a “Buy-In”), then the Company shall (A) pay in cash to the Holder the amount, if any, by which (x) the Holder’s total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased exceeds (y) the amount obtained by multiplying (1) the number of Warrant Shares that the Company was required to deliver to the Holder in connection with the exercise at issue times (2) the price at which the sell order giving rise to such purchase obligation was executed, and (B) at the option of the Holder, either reinstate the portion of the Warrant and equivalent number of Warrant Shares for which such exercise was not honored (in which case such exercise shall be deemed rescinded) or deliver to the Holder the number of shares of Common Stock that would

have been issued had the Company timely complied with its exercise and delivery obligations hereunder. For example, if the Holder purchases Common Stock having a total purchase price of \$11,000 to cover a Buy-In with respect to an attempted exercise of shares of Common Stock with an aggregate sale price giving rise to such purchase obligation of \$10,000, under clause (A) of the immediately preceding sentence the Company shall be required to pay the Holder \$1,000. The Holder shall provide the Company written notice indicating the amounts payable to the Holder in respect of the Buy-In and, upon request of the Company, evidence of the amount of such loss. Nothing herein shall limit a Holder's right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Company's failure to timely deliver shares of Common Stock upon exercise of the Warrant as required pursuant to the terms hereof.

v. No Fractional Shares or Scrip. No fractional shares or scrip representing fractional shares shall be issued upon the exercise of this Warrant. As to any fraction of a share which the Holder would otherwise be entitled to purchase upon such exercise, the Company shall, at its election, either pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the Exercise Price or round up to the next whole share.

vi. Charges, Taxes and Expenses. Issuance of Warrant Shares shall be made without charge to the Holder for any issue or transfer tax or other incidental expense in respect of the issuance of such Warrant Shares, all of which taxes and expenses shall be paid by the Company, and such Warrant Shares shall be issued in the name of the Holder or in such name or names as may be directed by the Holder; provided, however, that in the event that Warrant Shares are to be issued in a name other than the name of the Holder, this Warrant when surrendered for exercise shall be accompanied by the Assignment Form attached hereto duly executed by the Holder and the Company may require, as a condition thereto, the payment of a sum sufficient to reimburse it for any transfer tax incidental thereto. The Company shall pay all Transfer Agent fees required for same-day processing of any Notice of Exercise and all fees to the Depository Trust Company (or another established clearing corporation performing similar functions) required for same-day electronic delivery of the Warrant Shares.

vii. Closing of Books. The Company will not close its stockholder books or records in any manner which prevents the timely exercise of this Warrant, pursuant to the terms hereof.

e) Holder's Exercise Limitations. The Company shall not effect any exercise of this Warrant, and a Holder shall not have the right to exercise any portion of this Warrant, pursuant to Section 2 or otherwise, to the extent that after giving effect to such issuance after exercise as set forth on the applicable Notice of Exercise, the Holder (together with the Holder's Affiliates, and any other Persons acting as a group together with the Holder or any of the Holder's Affiliates (such Persons, "Attribution Parties")), would beneficially own in excess of the Beneficial Ownership Limitation (as defined below). For purposes of the foregoing sentence, the number of shares of Common Stock beneficially owned by the Holder and its Affiliates and Attribution Parties shall include the number of shares of Common Stock issuable upon exercise of this Warrant with respect to which such determination is being made, but shall exclude the number of shares of Common Stock which would be issuable upon (i) exercise of the remaining, nonexercised portion of this Warrant beneficially owned by the Holder or any of its Affiliates or Attribution Parties and (ii) exercise or conversion of the unexercised or nonconverted portion of any other securities of the Company (including, without limitation, any other Common Stock Equivalents) subject to a limitation on conversion or exercise analogous to the limitation contained herein beneficially owned by the Holder or any of its Affiliates or Attribution Parties. Except as set forth in the preceding sentence, for purposes of this Section 2(e), beneficial ownership shall be calculated in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder, it being acknowledged by the Holder that the Company is not representing to the Holder that such calculation is in compliance with Section 13(d) of the Exchange Act and the Holder is solely responsible for any schedules required to be filed in accordance therewith. To the extent that the limitation contained in this Section 2(e) applies, the determination of whether this Warrant is exercisable (in relation to other securities owned by the Holder together with any Affiliates and Attribution Parties) and of which portion of this Warrant is exercisable shall be in the sole discretion of the Holder, and the submission of a Notice of Exercise shall be deemed to be the Holder's determination of whether this Warrant is exercisable (in relation to other securities owned by the Holder together with any Affiliates and Attribution Parties) and of which portion of this Warrant is exercisable, in each case subject to the Beneficial Ownership Limitation, and the Company shall have no obligation to verify or confirm the accuracy of such determination. In addition, a determination as to any group status as contemplated above shall be determined in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. For purposes of this Section 2(e), in determining the number of outstanding shares of Common Stock, a Holder may rely on the number of outstanding shares of Common Stock as reflected in (A) the Company's most recent periodic or annual report filed with the Commission, as the case may be, (B) a more recent public announcement by the Company or (C) a more recent written notice by the Company or the Transfer Agent setting forth the number of shares of Common Stock outstanding. Upon the written or oral request of a Holder, the Company shall within two Trading Days confirm orally and in writing to the Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Company, including this Warrant, by

the Holder or its Affiliates or Attribution Parties since the date as of which such number of outstanding shares of Common Stock was reported. The “Beneficial Ownership Limitation” shall be 4.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock issuable upon exercise of this Warrant. The Holder, upon notice to the Company, may increase or decrease the Beneficial Ownership Limitation provisions of this Section 2(e), provided that the Beneficial Ownership Limitation in no event exceeds 9.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock upon exercise of this Warrant held by the Holder and the provisions of this Section 2(e) shall continue to apply. Any increase in the Beneficial Ownership Limitation will not be effective until the 61st day after such notice is delivered to the Company. The provisions of this paragraph shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 2(e) to correct this paragraph (or any portion hereof) which may be defective or inconsistent with the intended Beneficial Ownership Limitation herein contained or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitations contained in this paragraph shall apply to a successor holder of this Warrant.

Section 3. Certain Adjustments.

a) Stock Dividends and Splits. If the Company, at any time while this Warrant is outstanding: (i) pays a stock dividend or otherwise makes a distribution or distributions on shares of its Common Stock or any other equity or equity equivalent securities payable in shares of Common Stock (which, for avoidance of doubt, shall not include any shares of Common Stock issued by the Company upon exercise of this Warrant), (ii) subdivides outstanding shares of Common Stock into a larger number of shares, (iii) combines (including by way of reverse stock split) outstanding shares of Common Stock into a smaller number of shares or (iv) issues by reclassification of shares of the Common Stock any shares of capital stock of the Company, then in each case the Exercise Price shall be multiplied by a fraction of which the numerator shall be the number of shares of Common Stock (excluding treasury shares, if any) outstanding immediately before such event and of which the denominator shall be the number of shares of Common Stock outstanding immediately after such event, and the number of shares issuable upon exercise of this Warrant shall be proportionately adjusted such that the aggregate Exercise Price of this Warrant shall remain unchanged. Any adjustment made pursuant to this Section 3(a) shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution and shall become effective immediately after the effective date in the case of a subdivision, combination or re-classification.

b) Subsequent Rights Offerings. In addition to any adjustments pursuant to Section 3(a) above, if at any time the Company grants, issues or sells any Common Stock Equivalents or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of shares of Common Stock (the “Purchase Rights”), then the Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could have acquired if the Holder had held

the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on exercise hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the grant, issue or sale of such Purchase Rights (provided, however, to the extent that the Holder's right to participate in any such Purchase Right would result in the Holder exceeding the Beneficial Ownership Limitation, then the Holder shall not be entitled to participate in such Purchase Right to such extent (or beneficial ownership of such shares of Common Stock as a result of such Purchase Right to such extent) and such Purchase Right to such extent shall be held in abeyance for the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation).

c) Pro Rata Distributions. During such time as this Warrant is outstanding, if the Company shall declare or make any dividend or other distribution of its assets (or rights to acquire its assets) to holders of shares of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property or options by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction) (a "Distribution"), at any time after the issuance of this Warrant, then, in each such case, the Holder shall be entitled to participate in such Distribution to the same extent that the Holder would have participated therein if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on exercise hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date of which a record is taken for such Distribution, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the participation in such Distribution (provided, however, to the extent that the Holder's right to participate in any such Distribution would result in the Holder exceeding the Beneficial Ownership Limitation, then the Holder shall not be entitled to participate in such Distribution to such extent (or in the beneficial ownership of any shares of Common Stock as a result of such Distribution to such extent) and the portion of such Distribution shall be held in abeyance for the benefit of the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation).

d) Fundamental Transaction. If, at any time while this Warrant is outstanding, (i) the Company, directly or indirectly, in one or more related transactions effects any merger or consolidation of the Company with or into another Person, (ii) the Company, directly or indirectly, effects any sale, lease, license, assignment, transfer, conveyance or other disposition of all or substantially all of its assets in one or a series of related transactions, (iii) any, direct or indirect, purchase offer, tender offer or exchange offer (whether by the Company or another Person) is completed pursuant to which holders of Common Stock are permitted to sell, tender or exchange their shares for other securities, cash or property and has been accepted by the holders of 50% or more of the outstanding Common Stock, (iv) the Company, directly or indirectly, in one or more related transactions effects any reclassification, reorganization or recapitalization of the Common

Stock or any compulsory share exchange pursuant to which the Common Stock is effectively converted into or exchanged for other securities, cash or property, or (v) the Company, directly or indirectly, in one or more related transactions consummates a stock or share purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with another Person or group of Persons whereby such other Person or group acquires more than 50% of the outstanding shares of Common Stock (not including any shares of Common Stock held by the other Person or other Persons making or party to, or associated or affiliated with the other Persons making or party to, such stock or share purchase agreement or other business combination) (each a “Fundamental Transaction”), then, upon any subsequent exercise of this Warrant, the Holder shall have the right to receive, for each Warrant Share that would have been issuable upon such exercise immediately prior to the occurrence of such Fundamental Transaction, at the option of the Holder (without regard to any limitation in Section 2(e) on the exercise of this Warrant), the number of shares of Common Stock of the successor or acquiring corporation or of the Company, if it is the surviving corporation, and any additional consideration (the “Alternate Consideration”) receivable as a result of such Fundamental Transaction by a holder of the number of shares of Common Stock for which this Warrant is exercisable immediately prior to such Fundamental Transaction (without regard to any limitation in Section 2(e) on the exercise of this Warrant). For purposes of any such exercise, the determination of the Exercise Price shall be appropriately adjusted to apply to such Alternate Consideration based on the amount of Alternate Consideration issuable in respect of one share of Common Stock in such Fundamental Transaction, and the Company shall apportion the Exercise Price among the Alternate Consideration in a reasonable manner reflecting the relative value of any different components of the Alternate Consideration. If holders of Common Stock are given any choice as to the securities, cash or property to be received in a Fundamental Transaction, then the Holder shall be given the same choice as to the Alternate Consideration it receives upon any exercise of this Warrant following such Fundamental Transaction. The Company shall cause any successor entity in a Fundamental Transaction in which the Company is not the survivor (the “Successor Entity”) to assume in writing all of the obligations of the Company under this Warrant and the other Transaction Documents in accordance with the provisions of this Section 3(d) pursuant to written agreements in form and substance reasonably satisfactory to the Holder and approved by the Holder (without unreasonable delay) prior to such Fundamental Transaction and shall, at the option of the Holder, deliver to the Holder in exchange for this Warrant a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to this Warrant which is exercisable for a corresponding number of shares of capital stock of such Successor Entity (or its parent entity) equivalent to the shares of Common Stock acquirable and receivable upon exercise of this Warrant (without regard to any limitations on the exercise of this Warrant) prior to such Fundamental Transaction, and with an exercise price which applies the exercise price hereunder to such shares of capital stock (but taking into account the relative value of the shares of Common Stock pursuant to such Fundamental Transaction and the value of such shares of capital stock, such number of shares of capital stock and such exercise price being for the purpose of protecting the economic value of this Warrant immediately prior to the consummation of such Fundamental Transaction), and which is reasonably satisfactory in form and substance to the Holder. Upon the

occurrence of any such Fundamental Transaction, the Successor Entity shall succeed to, and be substituted for (so that from and after the date of such Fundamental Transaction, the provisions of this Warrant and the other Transaction Documents referring to the "Company" shall refer instead to the Successor Entity), and may exercise every right and power of the Company and shall assume all of the obligations of the Company under this Warrant and the other Transaction Documents with the same effect as if such Successor Entity had been named as the Company herein.

e) Calculations. All calculations under this Section 3 shall be made to the nearest cent or the nearest 1/100th of a share, as the case may be. For purposes of this Section 3, the number of shares of Common Stock deemed to be issued and outstanding as of a given date shall be the sum of the number of shares of Common Stock (excluding treasury shares, if any) issued and outstanding.

f) Notice to Holder.

i. Adjustment to Exercise Price. Whenever the Exercise Price is adjusted pursuant to any provision of this Section 3, the Company shall promptly deliver to the Holder by facsimile or email a notice setting forth the Exercise Price after such adjustment and any resulting adjustment to the number of Warrant Shares and setting forth a brief statement of the facts requiring such adjustment.

ii. Notice to Allow Exercise by Holder. If (A) the Company shall declare a dividend (or any other distribution in whatever form) on the Common Stock, (B) the Company shall declare a special nonrecurring cash dividend on or a redemption of the Common Stock, (C) the Company shall authorize the granting to all holders of the Common Stock rights or warrants to subscribe for or purchase any shares of capital stock of any class or of any rights, (D) the approval of any stockholders of the Company shall be required in connection with any reclassification of the Common Stock, any consolidation or merger to which the Company is a party, any sale or transfer of all or substantially all of the assets of the Company, or any compulsory share exchange whereby the Common Stock is converted into other securities, cash or property, or (E) the Company shall authorize the voluntary or involuntary dissolution, liquidation or winding up of the affairs of the Company, then, in each case, the Company shall cause to be delivered by facsimile or email to the Holder at its last facsimile number or email address as it shall appear upon the Warrant Register of the Company, at least 10 calendar days prior to the applicable record or effective date hereinafter specified, a notice stating (x) the date on which a record is to be taken for the purpose of such dividend, distribution, redemption, rights or warrants, or if a record is not to be taken, the date as of which the holders of the Common Stock of record to be entitled to such dividend, distributions, redemption, rights or warrants are to be determined or (y) the date on which such reclassification, consolidation, merger, sale, transfer or share exchange is expected to become effective or close, and the date as of

which it is expected that holders of the Common Stock of record shall be entitled to exchange their shares of the Common Stock for securities, cash or other property deliverable upon such reclassification, consolidation, merger, sale, transfer or share exchange; provided that the failure to deliver such notice or any defect therein or in the delivery thereof shall not affect the validity of the corporate action required to be specified in such notice. To the extent that any notice provided in this Warrant constitutes, or contains, material, non-public information regarding the Company or any of the Subsidiaries, the Company shall simultaneously file such notice with the Commission pursuant to a Current Report on Form 8-K. The Holder shall remain entitled to exercise this Warrant during the period commencing on the date of such notice to the effective date of the event triggering such notice except as may otherwise be expressly set forth herein.

Section 4. Transfer of Warrant.

a) Transferability. This Warrant and all rights hereunder (including, without limitation, any registration rights) are transferable, in whole or in part, upon surrender of this Warrant at the principal office of the Company or its designated agent, together with a written assignment of this Warrant substantially in the form attached hereto duly executed by the Holder or its agent or attorney and funds sufficient to pay any transfer taxes payable upon the making of such transfer. Upon such surrender and, if required, such payment, the Company shall execute and deliver a new Warrant or Warrants in the name of the assignee or assignees, as applicable, and in the denomination or denominations specified in such instrument of assignment, and shall issue to the assignor a new Warrant evidencing the portion of this Warrant not so assigned, and this Warrant shall promptly be cancelled. Notwithstanding anything herein to the contrary, the Holder shall not be required to physically surrender this Warrant to the Company unless the Holder has assigned this Warrant in full, in which case, the Holder shall surrender this Warrant to the Company within three (3) Trading Days of the date on which the Holder delivers an assignment form to the Company assigning this Warrant in full. The Warrant, if properly assigned in accordance herewith, may be exercised by a new holder for the purchase of Warrant Shares without having a new Warrant issued.

b) New Warrants. This Warrant may be divided or combined with other Warrants upon presentation hereof at the aforesaid office of the Company, together with a written notice specifying the names and denominations in which new Warrants are to be issued, signed by the Holder or its agent or attorney. Subject to compliance with Section 4(a), as to any transfer which may be involved in such division or combination, the Company shall execute and deliver a new Warrant or Warrants in exchange for the Warrant or Warrants to be divided or combined in accordance with such notice. All Warrants issued on transfers or exchanges shall be dated the initial issuance date of this Warrant and shall be identical with this Warrant except as to the number of Warrant Shares issuable pursuant thereto.

c) Warrant Register. The Company shall register this Warrant, upon records to be maintained by the Company for that purpose (the "Warrant Register"), in the name of the record Holder hereof from time to time. The Company may deem and treat the registered Holder of this Warrant as the absolute owner hereof for the purpose of any exercise hereof or any distribution to the Holder, and for all other purposes, absent actual notice to the contrary.

Section 5. Miscellaneous.

- a) No Rights as Stockholder Until Exercise. This Warrant does not entitle the Holder to any voting rights, dividends or other rights as a stockholder of the Company prior to the exercise hereof as set forth in Section 2(d)(i), except as expressly set forth in Section 3.
- b) Loss, Theft, Destruction or Mutilation of Warrant. The Company covenants that upon receipt by the Company of evidence reasonably satisfactory to it of the loss, theft, destruction or mutilation of this Warrant or any stock certificate relating to the Warrant Shares, and in case of loss, theft or destruction, of indemnity or security reasonably satisfactory to it (which, in the case of the Warrant, shall not include the posting of any bond), and upon surrender and cancellation of such Warrant or stock certificate, if mutilated, the Company will make and deliver a new Warrant or stock certificate of like tenor and dated as of such cancellation, in lieu of such Warrant or stock certificate.
- c) Saturdays, Sundays, Holidays, etc. If the last or appointed day for the taking of any action or the expiration of any right required or granted herein shall not be a Business Day, then, such action may be taken or such right may be exercised on the next succeeding Business Day.
- d) Authorized Shares.

The Company covenants that, during the period the Warrant is outstanding, it will reserve from its authorized and unissued Common Stock a sufficient number of shares to provide for the issuance of the Warrant Shares upon the exercise of any purchase rights under this Warrant. The Company further covenants that its issuance of this Warrant shall constitute full authority to its officers who are charged with the duty of issuing the necessary Warrant Shares upon the exercise of the purchase rights under this Warrant. The Company will take all such reasonable action as may be necessary to assure that such Warrant Shares may be issued as provided herein without violation of any applicable law or regulation, or of any requirements of the Trading Market upon which the Common Stock may be listed. The Company covenants that all Warrant Shares which may be issued upon the exercise of the purchase rights represented by this Warrant will, upon exercise of the purchase rights represented by this Warrant and payment for such Warrant Shares in accordance herewith, be duly authorized, validly issued, fully paid and nonassessable and free from all taxes, liens and charges created by the Company in respect of the issue thereof (other than taxes in respect of any transfer occurring contemporaneously with such issue).

Except and to the extent as waived or consented to by the Holder, the Company shall not by any action, including, without limitation, amending its certificate of incorporation or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such actions as may be necessary or appropriate to protect the rights of Holder as set forth in this Warrant against impairment. Without limiting the generality of the foregoing, the Company will (i) not increase the par value of any Warrant Shares above the amount payable therefor upon such exercise immediately prior to such increase in par value, (ii) take all such action as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and nonassessable Warrant Shares upon the exercise of this Warrant and (iii) use commercially reasonable efforts to obtain all such authorizations, exemptions or consents from any public regulatory body having jurisdiction thereof, as may be, necessary to enable the Company to perform its obligations under this Warrant.

Before taking any action which would result in an adjustment in the number of Warrant Shares for which this Warrant is exercisable or in the Exercise Price, the Company shall obtain all such authorizations or exemptions thereof, or consents thereto, as may be necessary from any public regulatory body or bodies having jurisdiction thereof.

e) Jurisdiction. All questions concerning the construction, validity, enforcement and interpretation of this Warrant shall be determined in accordance with the provisions of the Purchase Agreement.

f) Restrictions. The Holder acknowledges that the Warrant Shares acquired upon the exercise of this Warrant, if not registered and the Holder does not utilize cashless exercise, will have restrictions upon resale imposed by state and federal securities laws.

g) Nonwaiver and Expenses. No course of dealing or any delay or failure to exercise any right hereunder on the part of Holder shall operate as a waiver of such right or otherwise prejudice the Holder's rights, powers or remedies. Without limiting any other provision of this Warrant or the Purchase Agreement, if the Company willfully and knowingly fails to comply with any provision of this Warrant, which results in any material damages to the Holder, the Company shall pay to the Holder such amounts as shall be sufficient to cover any costs and expenses including, but not limited to, reasonable attorneys' fees, including those of appellate proceedings, incurred by the Holder in collecting any amounts due pursuant hereto or in otherwise enforcing any of its rights, powers or remedies hereunder.

h) Notices. Any notice, request or other document required or permitted to be given or delivered to the Holder by the Company shall be delivered in accordance with the notice provisions of the Purchase Agreement.

i) Limitation of Liability. No provision hereof, in the absence of any affirmative action by the Holder to exercise this Warrant to purchase Warrant Shares, and no enumeration herein of the rights or privileges of the Holder, shall give rise to any liability of the Holder for the purchase price of any Common Stock or as a stockholder of the Company, whether such liability is asserted by the Company or by creditors of the Company.

j) Remedies. The Holder, in addition to being entitled to exercise all rights granted by law, including recovery of damages, will be entitled to specific performance of its rights under this Warrant. The Company agrees that monetary damages would not be adequate compensation for any loss incurred by reason of a breach by it of the provisions of this Warrant and hereby agrees to waive and not to assert the defense in any action for specific performance that a remedy at law would be adequate.

k) Successors and Assigns. Subject to applicable securities laws, this Warrant and the rights and obligations evidenced hereby shall inure to the benefit of and be binding upon the successors and permitted assigns of the Company and the successors and permitted assigns of Holder. The provisions of this Warrant are intended to be for the benefit of any Holder from time to time of this Warrant and shall be enforceable by the Holder or holder of Warrant Shares.

l) Amendment. This Warrant may be modified or amended or the provisions hereof waived with the written consent of the Company and the Holder.

m) Severability. Wherever possible, each provision of this Warrant shall be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Warrant shall be prohibited by or invalid under applicable law, such provision shall be ineffective to the extent of such prohibition or invalidity, without invalidating the remainder of such provisions or the remaining provisions of this Warrant.

n) Headings. The headings used in this Warrant are for the convenience of reference only and shall not, for any purpose, be deemed a part of this Warrant.

(Signature Page Follows)

IN WITNESS WHEREOF, the Company has caused this Warrant to be executed by its officer thereunto duly authorized as of the date first above indicated.

MOSYS, INC.

By: _____
Name:
Title:

NOTICE OF EXERCISE

TO: **MOSYS, INC.**

(1) The undersigned hereby elects to purchase _____ Warrant Shares of the Company pursuant to the terms of the attached Warrant (only if exercised in full), and tenders herewith payment of the exercise price in full, together with all applicable transfer taxes, if any.

(2) Payment shall take the form of (check applicable box):

in lawful money of the United States; or

if permitted the cancellation of such number of Warrant Shares as is necessary, in accordance with the formula set forth in subsection 2(c), to exercise this Warrant with respect to the maximum number of Warrant Shares purchasable pursuant to the cashless exercise procedure set forth in subsection 2(c).

(3) Please issue said Warrant Shares in the name of the undersigned or in such other name as is specified below:

The Warrant Shares shall be delivered to the following DWAC Account Number:

[SIGNATURE OF HOLDER]

Name of Investing Entity: _____

Signature of Authorized Signatory of Investing Entity: _____

Name of Authorized Signatory: _____

Title of Authorized Signatory: _____

Date: _____

ASSIGNMENT FORM

(To assign the foregoing Warrant, execute this form and supply required information. Do not use this form to purchase shares.)

FOR VALUE RECEIVED, the foregoing Warrant and all rights evidenced thereby are hereby assigned to

Name: _____
(Please Print)

Address: _____
(Please Print)

Phone Number: _____

Email Address: _____

Dated: _____, _____

Holder's Signature: _____

Holder's Address: _____

SECURITIES PURCHASE AGREEMENT

This Securities Purchase Agreement (this "Agreement") is dated as of _____, 2018, between MoSys, Inc., a Delaware corporation (the "Company"), and each purchaser identified on the signature pages hereto (each, including its successors and assigns, a "Purchaser" and collectively the "Purchasers").

WHEREAS, subject to the terms and conditions set forth in this Agreement and pursuant to an effective registration statement under the Securities Act of 1933, as amended (the "Securities Act"), the Company desires to issue and sell to each Purchaser, and each Purchaser, severally and not jointly, desires to purchase from the Company, securities of the Company as more fully described in this Agreement.

NOW, THEREFORE, IN CONSIDERATION of the mutual covenants contained in this Agreement, and for other good and valuable consideration the receipt and adequacy of which are hereby acknowledged, the Company and each Purchaser agree as follows:

ARTICLE I.
DEFINITIONS

1.1 Definitions. In addition to the terms defined elsewhere in this Agreement, for all purposes of this Agreement, the following terms have the meanings set forth in this Section 1.1:

"Acquiring Person" shall have the meaning ascribed to such term in Section 4.5.

"Action" shall have the meaning ascribed to such term in Section 3.1(j).

"Affiliate" means any Person that, directly or indirectly through one or more intermediaries, controls or is controlled by or is under common control with a Person as such terms are used in and construed under Rule 405 under the Securities Act.

"Board of Directors" means the board of directors of the Company.

"Business Day" means any day except any Saturday, any Sunday, any day which is a federal legal holiday in the United States or any day on which banking institutions in the State of New York are authorized or required by law or other governmental action to close.

"Closing Date" means the Trading Day on which all of the Transaction Documents have been executed and delivered by the applicable parties thereto, and all conditions precedent to (i) the Purchasers' obligations to pay the Subscription Amount and (ii) the Company's obligations to deliver the Securities, in each case, have been satisfied or waived, but in no event later than the second (2nd) Trading Day following the date hereof.

"Commission" means the United States Securities and Exchange Commission.

“Common Stock” means the common stock of the Company, par value \$0.001 per share, and any other class of securities into which such securities may hereafter be reclassified or changed.

“Common Stock Equivalents” means any securities of the Company or the Subsidiaries which would entitle the holder thereof to acquire at any time Common Stock, including, without limitation, any debt, preferred stock, right, option, warrant or other instrument that is at any time convertible into or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock.

“Common Units” means each Common Unit consisting of (a) one Share and (b) a Common Warrant to purchase ___ Common Warrant Share.

“Common Unit Purchase Price” equals \$ ___ per each Common Unit, subject to adjustment for reverse and forward stock splits, stock dividends, stock combinations and other similar transactions of the Common Stock that occur after the date of this Agreement.

“Common Unit Subscription Amount” means, as to each Purchaser, the aggregate amount to be paid for the Common Units hereunder as specified below such Purchaser’s name on the signature page of this Agreement and next to the heading “Common Unit Subscription Amount,” in United States dollars and in immediately available funds.

“Common Warrants” means, collectively, the Common Share purchase warrants delivered to the Purchasers at the Closing in accordance with Section 2.2(a) hereof, which Common Warrants shall be exercisable immediately and have a term of exercise equal to five (5) years, in the form of Exhibit A-1 attached hereto.

“Common Warrant Shares” means the Common Stock issuable upon exercise of the Common Warrants.

“Company Counsel” means Pillsbury Winthrop Shaw Pittman LLP, with offices located at 2550 Hanover Street, Palo Alto, California 94304-1115.

“Disclosure Schedules” means the Disclosure Schedules of the Company delivered concurrently herewith.

“Disclosure Time” means, (i) if this Agreement is signed on any day that is not a Trading Day or after 9:00 a.m. (New York City time) and before midnight (New York City time) on any Trading Day, 9:30 a.m. (New York City time) on the Trading Day immediately following the date hereof, unless otherwise instructed to an earlier time by the Placement Agent (ii) if this Agreement is signed between midnight (New York City time) and 9:29 a.m. (New York City time) on any Trading Day, no later than 9:30 a.m. (New York City time) on the date hereof, unless otherwise instructed to an earlier time by the Placement Agent.

“EGS” means Ellenoff Grossman & Schole LLP, with offices located at 1345 Avenue of the Americas, New York, New York 10105-0302.

“Evaluation Date” shall have the meaning ascribed to such term in Section 3.1(s).

“Exchange Act” means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

“Exempt Issuance” means the issuance of (a) shares of Common Stock or options to employees, officers or directors of the Company pursuant to any stock or option plan duly adopted for such purpose, by a majority of the non-employee members of the Board of Directors or a majority of the members of a committee of non-employee directors established for such purpose for services rendered to the Company, (b) securities upon the exercise or exchange of or conversion of any Securities issued hereunder and/or other securities exercisable or exchangeable for or convertible into shares of Common Stock issued and outstanding on the date of this Agreement, provided that such securities have not been amended since the date of this Agreement to increase the number of such securities or to decrease the exercise price, exchange price or conversion price of such securities (other than in connection with stock splits or combinations) or to extend the term of such securities provided further that the issuance of securities in exchange for, or payment of, debt owed by the Company under senior secured convertible notes due August 15, 2019 (the “Notes”) shall be an Exempt Issuance notwithstanding an amendment of the Notes in connection with such issuance, (c) securities issued pursuant to acquisitions or strategic transactions approved by a majority of the disinterested directors of the Company, provided that such securities are issued as “restricted securities” (as defined in Rule 144) and carry no registration rights that require or permit the filing of any registration statement in connection therewith during the prohibition period in Section 4.12(a) herein, and provided that any such issuance shall only be to a Person (or to the equityholders of a Person) which is, itself or through its subsidiaries, an operating company or an owner of an asset in a business synergistic with the business of the Company and shall provide to the Company additional benefits in addition to the investment of funds, but shall not include a transaction in which the Company is issuing securities primarily for the purpose of raising capital or to an entity whose primary business is investing in securities and (d) up to \$_____ of Units, including Shares, Pre-Funded Warrants, and Common Warrants issued to other purchasers pursuant to the Prospectus concurrently with the Closing at the Common Unit Purchase Price or Pre-Funded Unit Purchase Price.

“FCPA” means the Foreign Corrupt Practices Act of 1977, as amended.

“GAAP” shall have the meaning ascribed to such term in Section 3.1(h).

“Indebtedness” shall have the meaning ascribed to such term in Section 3.1(aa).

“Intellectual Property Rights” shall have the meaning ascribed to such term in Section 3.1(p).

“Liens” means a lien, charge, pledge, security interest, encumbrance, right of first refusal, preemptive right or other restriction.

“Lock-Up Agreement” means the Lock-Up Agreement, dated as of the date hereof, by and among the Company and the directors and officers, in the form of Exhibit C attached hereto.

“Material Adverse Effect” shall have the meaning assigned to such term in Section 3.1(b).

“Material Permits” shall have the meaning ascribed to such term in Section 3.1(n).

“Per Share Purchase Price” equals \$ ____, subject to adjustment for reverse and forward stock splits, stock dividends, stock combinations and other similar transactions of the Common Stock that occur after the date of this Agreement.

“Person” means an individual or corporation, partnership, trust, incorporated or unincorporated association, joint venture, limited liability company, joint stock company, government (or an agency or subdivision thereof) or other entity of any kind.

“Placement Agent” means Roth Capital Partners, LLC.

“Pre-Funded Units” means each Pre-Funded Unit consisting of (a) one Pre-Funded Warrant to purchase one Pre-Funded Warrant Share, and (b) a Common Warrant to purchase ____ Common Warrant Share.

“Pre-Funded Unit Purchase Price” equals \$ ____ per each Pre-Funded Unit, subject to adjustment for reverse and forward stock splits, stock dividends, stock combinations and other similar transactions of the Common Stock that occur after the date of this Agreement.

“Pre-Funded Unit Subscription Amount” means, as to each Purchaser, the aggregate amount to be paid for the Pre-Funded Units purchased hereunder as specified below such Purchaser’s name on the signature page of this Agreement and next to the heading “Pre-Funded Unit Subscription Amount,” in United States dollars and in immediately available funds.

“Pre-Funded Warrants” means, collectively, the Common Share purchase warrants delivered to the Purchasers at the Closing in accordance with Section 2.2(a) hereof, which Pre-Funded Warrants shall be exercisable immediately and shall expire when exercised in full, in the form of Exhibit A-2 attached hereto.

“Pre-Funded Warrant Shares” means the Common Shares issuable upon exercise of the Pre-Funded Warrants.

“Preliminary Prospectus” means the preliminary prospectus dated ____, 2018, filed with the Commission.

“Proceeding” means an action, claim, suit, investigation or proceeding (including, without limitation, an informal investigation or partial proceeding, such as a deposition), whether commenced or threatened.

“Prospectus” means the final prospectus filed for the Registration Statement.

“Purchaser Party” shall have the meaning ascribed to such term in Section 4.8.

“Registration Statement” means the effective registration statement with Commission file No. 333-_____ which registers the sale of the Shares, the Warrants, and the Warrant Shares to the Purchasers.

“Required Approvals” shall have the meaning ascribed to such term in Section 3.1(e).

“Rule 144” means Rule 144 promulgated by the Commission pursuant to the Securities Act, as such Rule may be amended or interpreted from time to time, or any similar rule or regulation hereafter adopted by the Commission having substantially the same purpose and effect as such Rule.

“Rule 424” means Rule 424 promulgated by the Commission pursuant to the Securities Act, as such Rule may be amended or interpreted from time to time, or any similar rule or regulation hereafter adopted by the Commission having substantially the same purpose and effect as such Rule.

“SEC Reports” shall have the meaning ascribed to such term in Section 3.1(h).

“Securities” means the Units, Shares, the Warrants and the Warrant Shares.

“Securities Act” means the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder.

“Shares” means the shares of Common Stock issued or issuable to each Purchaser pursuant to this Agreement.

“Short Sales” means all “short sales” as defined in Rule 200 of Regulation SHO under the Exchange Act (but shall not be deemed to include locating and/or borrowing shares of Common Stock).

“Subscription Amount” means the Common Unit Subscription Amount and/or the Pre-Funded Unit Subscription Amount, as applicable, in accordance with the terms of Section 2.1 of this Agreement.

“Subsidiary” means any subsidiary of the Company as set forth on Schedule 3.1(a), and shall, where applicable, also include any direct or indirect subsidiary of the Company formed or acquired after the date hereof.

“Trading Day” means a day on which the principal Trading Market is open for trading.

“Trading Market” means any of the following markets or exchanges on which the Common Stock is listed or quoted for trading on the date in question: the NYSE American, the Nasdaq Capital Market, the Nasdaq Global Market, the Nasdaq Global Select Market, or the New York Stock Exchange (or any successors to any of the foregoing).

“Transaction Documents” means this Agreement, the Warrants, all exhibits and schedules thereto and hereto and any other documents or agreements executed in connection with the transactions contemplated hereunder.

“Transfer Agent” means Equiniti Trust Company, the current transfer agent of the Company, with a mailing address of 1110 Centre Pointe Curve Suite 101, Mendota Heights, MN 55120, and any successor transfer agent of the Company.

“Units” means, collectively, the Common Units and the Pre-Funded Units.

“Variable Rate Transaction” shall have the meaning ascribed to such term in Section 4.12(b).

“Warrants” means, collectively, the Common Warrants and the Pre-Funded Warrants.

“Warrant Shares” means the shares of Common Stock issuable upon exercise of the Pre-Funded Warrants and the Common Warrants.

ARTICLE II. PURCHASE AND SALE

2.1 Closing. On the Closing Date, upon the terms and subject to the conditions set forth herein, substantially concurrent with the execution and delivery of this Agreement by the parties hereto, the Company agrees to sell, and the Purchasers, severally and not jointly, agree to purchase, up to an aggregate of \$_____ of Common Units as determined pursuant to Section 2.2(a); provided, however, that, solely to the extent a Purchaser determines that such Purchaser (together with such Purchaser’s Affiliates, and any Person acting as a group together with such purchaser or any of such Purchaser’s Affiliates) would beneficially own in excess of the Beneficial Ownership Limitation, in lieu of purchasing Common Units, such Purchaser may elect to purchase Pre-Funded Units at the Pre-Funded Unit Purchase Price in lieu of Common Units. The “Beneficial Ownership Limitation” shall be 4.99% (or, at the election of the Purchaser, 9.99%) of the number of Common Shares outstanding immediately after giving effect to the issuance of the Securities on the Closing Date. Unless otherwise directed by the Placement Agent, each Purchaser shall deliver, via wire transfer or a certified check, immediately available funds equal to its Subscription Amount pursuant to Section 2.2(b)(ii), and the Company shall deliver to each Purchaser its respective Shares and Common Warrants and/or Pre-Funded Warrants (as applicable to such Purchaser) and Common Warrants, as determined pursuant to Section 2.2(a), and the Company and each Purchaser shall deliver the other items set forth in Section 2.2 deliverable at the Closing. Upon satisfaction of the covenants and conditions set forth in Sections 2.2 and 2.3, the Closing shall occur at the offices of EGS or such other location as the parties shall mutually agree. Each Purchaser acknowledges that, concurrently with the Closing and pursuant to the Prospectus, the Company may sell up to \$_____ of additional Units to purchasers not party to this Purchase Agreement, and will issue to each such purchaser such additional Common Shares

and Common Warrants or Pre-Funded Warrants and Common Warrants in the same form and at the same Common Unit Purchase Price or Pre-Funded Unit Purchase Price. The Company covenants that, if the Purchaser delivers a Notice of Exercise (as defined in the Pre-Funded Warrant) no later than 12:00 p.m. (New York City time) on the Closing Date to exercise and Pre-Funded Warrants between the date hereof and the Closing Date, the Company shall deliver Pre-Funded Warrant Shares to the Purchaser on the Closing Date in connection with such Notice of Exercise. Unless otherwise directed by the Placement Agent, settlement of the Shares shall occur via "Delivery Versus Payment" ("DVP") (i.e., on the Closing Date, the Company shall issue the Shares registered in the Purchasers' names and addresses and released by the Transfer Agent directly to the account(s) at the Placement Agent identified by each Purchaser; upon receipt of such Shares, the Placement Agent shall promptly electronically deliver such Shares to the applicable Purchaser, and payment therefor shall be made by the Placement Agent (or its clearing firm) by wire transfer to the Company).

2.2 Deliveries.

(a) On or prior to the Closing Date, the Company shall deliver or cause to be delivered to each Purchaser the following:

- (i) this Agreement duly executed by the Company;
- (ii) a legal opinion of Company Counsel, substantially in the form of Exhibit B attached hereto;
- (iii) subject to the last sentence of Section 2.1, the Company shall have provided each Purchaser with the Company's wire instructions, on Company letterhead and executed by the Chief Executive Officer or Chief Financial Officer;
- (iv) subject to the last sentence of Section 2.1, a copy of the irrevocable instructions to the Transfer Agent instructing the Transfer Agent to deliver on an expedited basis via The Depository Trust Company Deposit or Withdrawal at Custodian system ("DWAC") Shares equal to such Purchaser's Common Unit Subscription Amount divided by the Common Unit Purchase Price, registered in the name of such Purchaser;
- (v) as to each Purchaser purchasing Pre-Funded Units, a Pre-Funded Warrant registered in the name of such Purchaser to purchase up to a number of Common Shares as set forth in the Pre-Funded Warrant, with an exercise price equal to \$0.001, subject to adjustment therein (such Pre-Funded Warrant certificate may be delivered within three Trading Days of the Closing Date).
- (vi) a Common Warrant registered in the name of such Purchaser to purchase up to a number of shares of Common Stock equal to 100% of such Purchaser's Shares and/or Warrant Shares underlying Pre-Funded Warrants, with an exercise price equal to \$____, subject to adjustment therein;
- (vii) the Lock-Up Agreements; and

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- (viii) the Preliminary Prospectus and Prospectus (which may be delivered in accordance with Rule 172 under the Securities Act).
 - (b) On or prior to the Closing Date, each Purchaser shall deliver or cause to be delivered to the Company the following:
 - (i) this Agreement duly executed by such Purchaser; and
 - (ii) such Purchaser's Subscription Amount, which shall be made available for "Delivery Versus Payment" settlement with the Company or its designee.

2.3 Closing Conditions.

- (a) The obligations of the Company hereunder in connection with the Closing are subject to the following conditions being met:
 - (i) the accuracy in all material respects (or, to the extent representations or warranties are qualified by materiality or Material Adverse Effect, in all respects) on the Closing Date of the representations and warranties of the Purchasers contained herein (unless as of a specific date therein in which case they shall be accurate as of such date);
 - (ii) all obligations, covenants and agreements of each Purchaser required to be performed at or prior to the Closing Date shall have been performed; and
 - (iii) the delivery by each Purchaser of the items set forth in Section 2.2(b) of this Agreement.
- (b) The respective obligations of the Purchasers hereunder in connection with the Closing are subject to the following conditions being met:
 - (i) the accuracy in all material respects (or, to the extent representations or warranties are qualified by materiality or Material Adverse Effect, in all respects) when made and on the Closing Date of the representations and warranties of the Company contained herein (unless as of a specific date therein in which case they shall be accurate as of such date);
 - (ii) all obligations, covenants and agreements of the Company required to be performed at or prior to the Closing Date shall have been performed;
 - (iii) the delivery by the Company of the items set forth in Section 2.2(a) of this Agreement;
 - (iv) there shall have been no Material Adverse Effect with respect to the Company since the date hereof; and

(v) from the date hereof to the Closing Date, trading in the Common Stock shall not have been suspended by the Commission or the Company's principal Trading Market, and, at any time prior to the Closing Date, trading in securities generally as reported by Bloomberg L.P. shall not have been suspended or limited, or minimum prices shall not have been established on securities whose trades are reported by such service, or on any Trading Market, nor shall a banking moratorium have been declared either by the United States or New York State authorities nor shall there have occurred any material outbreak or escalation of hostilities or other national or international calamity of such magnitude in its effect on, or any material adverse change in, any financial market which, in each case, in the reasonable judgment of such Purchaser, makes it impracticable or inadvisable to purchase the Securities at the Closing.

ARTICLE III.
REPRESENTATIONS AND WARRANTIES

3.1 Representations and Warranties of the Company. Except as set forth in the SEC Reports or the Disclosure Schedules, which Disclosure Schedules shall be deemed a part hereof and shall qualify any representation or otherwise made herein to the extent of the disclosure contained in the corresponding section of the Disclosure Schedules, the Company hereby makes the following representations and warranties to each Purchaser:

(a) Subsidiaries. All of the direct and indirect subsidiaries of the Company are set forth in the SEC Reports. The Company owns, directly or indirectly, all of the capital stock or other equity interests of each Subsidiary free and clear of any Liens, and all of the issued and outstanding shares of capital stock of each Subsidiary are validly issued and are fully paid, non-assessable and free of preemptive and similar rights to subscribe for or purchase securities. If the Company has no subsidiaries, all other references to the Subsidiaries or any of them in the Transaction Documents shall be disregarded.

(b) Organization and Qualification. The Company and each of the Subsidiaries is an entity duly incorporated or otherwise organized, validly existing and in good standing under the laws of the jurisdiction of its incorporation or organization, with the requisite power and authority to own and use its properties and assets and to carry on its business as currently conducted. Neither the Company nor any Subsidiary is in violation nor default of any of the provisions of its respective certificate or articles of incorporation, bylaws or other organizational or charter documents. Each of the Company and the Subsidiaries is duly qualified to conduct business and is in good standing as a foreign corporation or other entity in each jurisdiction in which the nature of the business conducted or property owned by it makes such qualification necessary, except where the failure to be so qualified or in good standing, as the case may be, could not have or reasonably be expected to result in: (i) a material adverse effect on the legality, validity or enforceability of any Transaction Document, (ii) a material adverse effect on the results of operations, assets, business, prospects or condition (financial or otherwise) of the Company and the Subsidiaries, taken as a whole, or (iii) a material adverse effect on the Company's ability to perform in any material respect on a timely basis its obligations under any Transaction Document (any of (i), (ii) or (iii), a "Material Adverse Effect") and no Proceeding has been instituted in any such jurisdiction revoking, limiting or curtailing or seeking to revoke, limit or curtail such power and authority or qualification.

(c) Authorization; Enforcement. The Company has the requisite corporate power and authority to enter into and to consummate the transactions contemplated by this Agreement and each of the other Transaction Documents and otherwise to carry out its obligations hereunder and thereunder. The execution and delivery of this Agreement and each of the other Transaction Documents by the Company and the consummation by it of the transactions contemplated hereby and thereby have been duly authorized by all necessary action on the part of the Company and no further action is required by the Company, the Board of Directors or the Company's stockholders in connection herewith or therewith other than in connection with the Required Approvals. This Agreement and each other Transaction Document to which it is a party has been (or upon delivery will have been) duly executed by the Company and, when delivered in accordance with the terms hereof and thereof, will constitute the valid and binding obligation of the Company enforceable against the Company in accordance with its terms, except (i) as limited by general equitable principles and applicable bankruptcy, insolvency, reorganization, moratorium and other laws of general application affecting enforcement of creditors' rights generally, (ii) as limited by laws relating to the availability of specific performance, injunctive relief or other equitable remedies and (iii) insofar as indemnification and contribution provisions may be limited by applicable law.

(d) No Conflicts. The execution, delivery and performance by the Company of this Agreement and the other Transaction Documents to which it is a party, the issuance and sale of the Securities and the consummation by it of the transactions contemplated hereby and thereby do not and will not (i) conflict with or violate any provision of the Company's or any Subsidiary's certificate or articles of incorporation, bylaws or other organizational or charter documents, or (ii) conflict with, or constitute a default (or an event that with notice or lapse of time or both would become a default) under, result in the creation of any Lien upon any of the properties or assets of the Company or any Subsidiary, or give to others any rights of termination, amendment, acceleration or cancellation (with or without notice, lapse of time or both) of, any agreement, credit facility, debt or other instrument (evidencing a Company or Subsidiary debt or otherwise) or other understanding to which the Company or any Subsidiary is a party or by which any property or asset of the Company or any Subsidiary is bound or affected, or (iii) subject to the Required Approvals, conflict with or result in a violation of any law, rule, regulation, order, judgment, injunction, decree or other restriction of any court or governmental authority to which the Company or a Subsidiary is subject (including federal and state securities laws and regulations), or by which any property or asset of the Company or a Subsidiary is bound or affected; except in the case of each of clauses (ii) and (iii), such as could not have or reasonably be expected to result in a Material Adverse Effect.

(e) Filings, Consents and Approvals. The Company is not required to obtain any consent, waiver, authorization or order of, give any notice to, or make any filing or registration with, any court or other federal, state, local or other governmental authority or other Person in connection with the execution, delivery and performance by the Company of the Transaction Documents, other than: (i) the filings required pursuant to Section 4.4 of this Agreement, (ii) the filing with the Commission of the Prospectus, (iii) application(s) to each applicable Trading Market for the listing of the Shares and Warrant Shares for trading thereon in the time and manner required thereby, and (iv) such filings as are required to be made under applicable state securities laws (collectively, the "Required Approvals").

(f) Issuance of the Securities; Registration. The Securities are duly authorized and, when issued and paid for in accordance with the applicable Transaction Documents, will be duly and validly issued, fully paid and nonassessable, free and clear of all Liens imposed by the Company. The Warrant Shares, when issued in accordance with the terms of the Warrants, will be validly issued, fully paid and nonassessable, free and clear of all Liens imposed by the Company. The Company has reserved from its duly authorized capital stock the maximum number of shares of Common Stock issuable pursuant to this Agreement and the Warrants. The Company has prepared and filed the Registration Statement in conformity with the requirements of the Securities Act, which became effective on _____, 2018 (the “Effective Date”), including the Prospectus, and such amendments and supplements thereto as may have been required to the date of this Agreement. The Registration Statement is effective under the Securities Act and no stop order preventing or suspending the effectiveness of the Registration Statement or suspending or preventing the use of the Preliminary Prospectus or the Prospectus has been issued by the Commission and no proceedings for that purpose have been instituted or, to the knowledge of the Company, are threatened by the Commission. The Company, if required by the rules and regulations of the Commission, shall file the Prospectus with the Commission pursuant to Rule 424(b). At the time the Registration Statement and any amendments thereto became effective, at the date of this Agreement and at the Closing Date, the Registration Statement and any amendments thereto conformed and will conform in all material respects to the requirements of the Securities Act and did not and will 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; and the Preliminary Prospectus the Prospectus and any amendments or supplements thereto, at time the Preliminary Prospectus and the Prospectus or any amendment or supplement thereto was issued and at the Closing Date, conformed and will conform in all material respects to the requirements of the Securities Act and did not and will not contain an untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading.

(g) Capitalization. The capitalization of the Company as of the date hereof is as set forth on Schedule 3.1(g), which Schedule 3.1(g) shall also include the number of shares of Common Stock owned beneficially, and of record, by Affiliates of the Company as of the date hereof. The Company has not issued any capital stock since its most recently filed periodic report under the Exchange Act, other than pursuant to the exercise of employee stock options under the Company’s stock option plans, the issuance of shares of Common Stock to employees pursuant to the Company’s employee stock purchase plans and pursuant to the conversion and/or exercise of Common Stock Equivalents outstanding as of the date of the most recently filed periodic report under the Exchange Act. No Person has any right of first refusal, preemptive right, right of participation, or any similar right to participate in the transactions contemplated by the Transaction Documents, other than

as set forth on Schedule 3.1(g). Except as a result of the purchase and sale of the Securities, there are no outstanding options, warrants, scrip rights to subscribe to, calls or commitments of any character whatsoever relating to, or securities, rights or obligations convertible into or exercisable or exchangeable for, or giving any Person any right to subscribe for or acquire, any shares of Common Stock or the capital stock of any Subsidiary, or contracts, commitments, understandings or arrangements by which the Company or any Subsidiary is or may become bound to issue additional shares of Common Stock or Common Stock Equivalents or capital stock of any Subsidiary. The issuance and sale of the Securities will not obligate the Company or any Subsidiary to issue shares of Common Stock or other securities to any Person (other than the Purchasers) and will not result in a right of any holder of Company securities to adjust the exercise, conversion, exchange or reset price under any of such securities. Except as set forth on Schedule 3.1(g), there are no outstanding securities or instruments of the Company or any Subsidiary that contain any redemption or similar provisions, and there are no contracts, commitments, understandings or arrangements by which the Company or any Subsidiary is or may become bound to redeem a security of the Company or such Subsidiary. The Company does not have any stock appreciation rights or "phantom stock" plans or agreements or any similar plan or agreement. All of the outstanding shares of capital stock of the Company are duly authorized, validly issued, fully paid and nonassessable, have been issued in compliance with all federal and state securities laws, and none of such outstanding shares was issued in violation of any preemptive rights or similar rights to subscribe for or purchase securities. No further approval or authorization of any stockholder, the Board of Directors or others is required for the issuance and sale of the Securities. There are no stockholder agreements, voting agreements or other similar agreements with respect to the Company's capital stock to which the Company is a party or, to the knowledge of the Company, between or among any of the Company's stockholders.

(h) SEC Reports; Financial Statements. The Company has filed all reports, schedules, forms, statements and other documents required to be filed by the Company under the Securities Act and the Exchange Act, including pursuant to Section 13(a) or 15(d) thereof, for the two years preceding the date hereof (or such shorter period as the Company was required by law or regulation to file such material) (the foregoing materials, including the exhibits thereto and documents incorporated by reference therein, together with the Preliminary Prospectus and the Prospectus, being collectively referred to herein as the "SEC Reports") on a timely basis or has received a valid extension of such time of filing and has filed any such SEC Reports prior to the expiration of any such extension. As of their respective dates, the SEC Reports complied in all material respects with the requirements of the Securities Act and the Exchange Act, as applicable, and none of the SEC Reports, when filed, contained any untrue statement of a material fact or omitted to state a material fact required to be stated therein or necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading. The Company has never been an issuer subject to Rule 144(i) under the Securities Act. The financial statements of the Company included in the SEC Reports comply in all material respects with applicable accounting requirements and the rules and regulations of the Commission with respect thereto as in effect at the time of filing. Such financial statements have been prepared in accordance with United States generally

accepted accounting principles applied on a consistent basis during the periods involved (“GAAP”), except as may be otherwise specified in such financial statements or the notes thereto and except that unaudited financial statements may not contain all footnotes required by GAAP, and fairly present in all material respects the financial position of the Company and its consolidated Subsidiaries as of and for the dates thereof and the results of operations and cash flows for the periods then ended, subject, in the case of unaudited statements, to normal, immaterial, year-end audit adjustments.

(i) Material Changes; Undisclosed Events, Liabilities or Developments. Since the date of the latest audited financial statements included within the SEC Reports, except as set forth on Schedule 3.1(i), (i) there has been no event, occurrence or development that has had or that could reasonably be expected to result in a Material Adverse Effect, (ii) the Company has not incurred any liabilities (contingent or otherwise) other than (A) trade payables and accrued expenses incurred in the ordinary course of business consistent with past practice and (B) liabilities not required to be reflected in the Company’s financial statements pursuant to GAAP or disclosed in filings made with the Commission, (iii) the Company has not altered its method of accounting, (iv) the Company has not declared or made any dividend or distribution of cash or other property to its stockholders or purchased, redeemed or made any agreements to purchase or redeem any shares of its capital stock and (v) the Company has not issued any equity securities to any officer, director or Affiliate, except pursuant to existing Company equity incentive plans. The Company does not have pending before the Commission any request for confidential treatment of information. Except for the issuance of the Securities contemplated by this Agreement or as set forth on Schedule 3.1(i), no event, liability, fact, circumstance, occurrence or development has occurred or exists or is reasonably expected to occur or exist with respect to the Company or its Subsidiaries or their respective businesses, prospects, properties, operations, assets or financial condition that would be required to be disclosed by the Company under applicable securities laws at the time this representation is made or deemed made that has not been publicly disclosed at least one Trading Day prior to the date that this representation is made.

(j) Litigation. Except as set forth on Schedule 3.1(i), there is no action, suit, inquiry, notice of violation, proceeding or investigation pending or, to the knowledge of the Company, threatened against or affecting the Company, any Subsidiary or any of their respective properties before or by any court, arbitrator, governmental or administrative agency or regulatory authority (federal, state, county, local or foreign) (collectively, an “Action”). None of the Actions set forth on Schedule 3.1(i) (i) adversely affects or challenges the legality, validity or enforceability of any of the Transaction Documents or the Securities or (ii) could, if there were an unfavorable decision, have or reasonably be expected to result in a Material Adverse Effect. Neither the Company nor any Subsidiary, nor any director or officer thereof, is or has been the subject of any Action involving a claim of violation of or liability under federal or state securities laws or a claim of breach of fiduciary duty. There has not been, and to the knowledge of the Company, there is not pending or contemplated, any investigation by the Commission involving the Company or any current or former director or officer of the Company. The Commission has not issued any stop order or other order suspending the effectiveness of any registration statement filed by the Company or any Subsidiary under the Exchange Act or the Securities Act.

(k) Labor Relations. No labor dispute exists or, to the knowledge of the Company, is imminent with respect to any of the employees of the Company, which could reasonably be expected to result in a Material Adverse Effect. None of the Company's or its Subsidiaries' employees is a member of a union that relates to such employee's relationship with the Company or such Subsidiary, and neither the Company nor any of its Subsidiaries is a party to a collective bargaining agreement, and the Company and its Subsidiaries believe that their relationships with their employees are good. To the knowledge of the Company, no executive officer of the Company or any Subsidiary, is, or is now expected to be, in violation of any material term of any employment contract, confidentiality, disclosure or proprietary information agreement or non-competition agreement, or any other contract or agreement or any restrictive covenant in favor of any third party, and the continued employment of each such executive officer does not subject the Company or any of its Subsidiaries to any liability with respect to any of the foregoing matters. The Company and its Subsidiaries are in compliance with all U.S. federal, state, local and foreign laws and regulations relating to employment and employment practices, terms and conditions of employment and wages and hours, except where the failure to be in compliance could not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect.

(l) Compliance. Neither the Company nor any Subsidiary: (i) is in default under or in violation of (and no event has occurred that has not been waived that, with notice or lapse of time or both, would result in a default by the Company or any Subsidiary under), nor has the Company or any Subsidiary received notice of a claim that it is in default under or that it is in violation of, any indenture, loan or credit agreement or any other agreement or instrument to which it is a party or by which it or any of its properties is bound (whether or not such default or violation has been waived), (ii) is in violation of any judgment, decree or order of any court, arbitrator or other governmental authority or (iii) is or has been in violation of any statute, rule, ordinance or regulation of any governmental authority, including without limitation all foreign, federal, state and local laws relating to taxes, environmental protection, occupational health and safety, product quality and safety and employment and labor matters, except in each case as could not have or reasonably be expected to result in a Material Adverse Effect.

(m) Environmental Laws. The Company and its Subsidiaries (i) are in compliance with all federal, state, local and foreign laws relating to pollution or protection of human health or the environment (including ambient air, surface water, groundwater, land surface or subsurface strata), including laws relating to emissions, discharges, releases or threatened releases of chemicals, pollutants, contaminants, or toxic or hazardous substances or wastes (collectively, "Hazardous Materials") into the environment, or otherwise relating to the manufacture, processing, distribution, use, treatment, storage, disposal, transport or handling of Hazardous Materials, as well as all authorizations, codes, decrees, demands, or demand letters, injunctions, judgments, licenses, notices or notice letters, orders, permits, plans or regulations, issued, entered, promulgated or approved thereunder ("Environmental Laws"); (ii) have received all permits licenses or other approvals required of them under applicable Environmental Laws to conduct their respective businesses; and (iii) are in compliance with all terms and conditions of any such permit, license or approval where in each clause (i), (ii) and (iii), the failure to so comply could be reasonably expected to have, individually or in the aggregate, a Material Adverse Effect.

(n) Regulatory Permits. The Company and the Subsidiaries possess all certificates, authorizations and permits issued by the appropriate federal, state, local or foreign regulatory authorities necessary to conduct their respective businesses as described in the SEC Reports, except where the failure to possess such permits could not reasonably be expected to result in a Material Adverse Effect ("Material Permits"), and neither the Company nor any Subsidiary has received any notice of proceedings relating to the revocation or modification of any Material Permit.

(o) Title to Assets. The Company and the Subsidiaries have good and marketable title in fee simple to all real property owned by them and good and marketable title in all personal property owned by them that is material to the business of the Company and the Subsidiaries, in each case free and clear of all Liens, except for (i) Liens as do not materially affect the value of such property and do not materially interfere with the use made and proposed to be made of such property by the Company and the Subsidiaries and (ii) Liens for the payment of federal, state or other taxes, for which appropriate reserves have been made therefor in accordance with GAAP and, the payment of which is neither delinquent nor subject to penalties. Any real property and facilities held under lease by the Company and the Subsidiaries are held by them under valid, subsisting and enforceable leases with which the Company and the Subsidiaries are in compliance.

(p) Intellectual Property. The Company and the Subsidiaries have, or have rights to use, all patents, patent applications, trademarks, trademark applications, service marks, trade names, trade secrets, inventions, copyrights, licenses and other intellectual property rights and similar rights necessary or required for use in connection with their respective businesses as described in the SEC Reports and which the failure to so have could have a Material Adverse Effect (collectively, the "Intellectual Property Rights"). None of, and neither the Company nor any Subsidiary has received a notice (written or otherwise) that any of, the Intellectual Property Rights has expired, terminated or been abandoned, or is expected to expire or terminate or be abandoned, within two (2) years from the date of this Agreement, except as could not have or reasonably be expected to result in a Material Adverse Effect. Neither the Company nor any Subsidiary has received, since the date of the latest audited financial statements included within the SEC Reports, a written notice of a claim or otherwise has any knowledge that the Intellectual Property Rights violate or infringe upon the rights of any Person, except as could not have or reasonably be expected to not have a Material Adverse Effect. To the knowledge of the Company, all such Intellectual Property Rights are enforceable and there is no existing infringement by another Person of any of the Intellectual Property Rights, except as could not have or reasonably be expected to result in a Material Adverse Effect. The Company and its Subsidiaries have taken reasonable security measures to protect the secrecy, confidentiality and value of all of their intellectual properties, except where failure to do so could not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect.

(q) Insurance. The Company and the Subsidiaries are insured by insurers of recognized financial responsibility against such losses and risks and in such amounts as are prudent and customary in the businesses in which the Company and the Subsidiaries are engaged, including, but not limited to, directors and officers insurance coverage at least equal to the aggregate Subscription Amount. Neither the Company nor any Subsidiary has any reason to believe that it will not be able to renew its existing insurance coverage as and when such coverage expires or to obtain similar coverage from similar insurers as may be necessary to continue its business without a significant increase in cost.

(r) Transactions With Affiliates and Employees. Except as set forth on Schedule 3.1(r), none of the officers or directors of the Company or any Subsidiary and, to the knowledge of the Company, none of the employees of the Company or any Subsidiary is presently a party to any transaction with the Company or any Subsidiary (other than for services as employees, officers and directors), including any contract, agreement or other arrangement providing for the furnishing of services to or by, providing for rental of real or personal property to or from, providing for the borrowing of money from or lending of money to or otherwise requiring payments to or from any officer, director or such employee or, to the knowledge of the Company, any entity in which any officer, director, or any such employee has a substantial interest or is an officer, director, trustee, stockholder, member or partner, in each case in excess of \$120,000 other than for (i) payment of salary or consulting fees for services rendered, (ii) reimbursement for expenses incurred on behalf of the Company and (iii) other employee benefits, including stock option agreements under any stock option plan of the Company.

(s) Sarbanes-Oxley; Internal Accounting Controls. The Company and the Subsidiaries are in compliance with any and all applicable requirements of the Sarbanes-Oxley Act of 2002 that are effective as of the date hereof, and any and all applicable rules and regulations promulgated by the Commission thereunder that are effective as of the date hereof and as of the Closing Date. The Company and the Subsidiaries maintain a system of internal accounting controls sufficient to provide reasonable assurance that: (i) transactions are executed in accordance with management's general or specific authorizations, (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with GAAP and to maintain asset accountability, (iii) access to assets is permitted only in accordance with management's general or specific authorization, and (iv) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences. The Company and the Subsidiaries have established disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the Company and the Subsidiaries and designed such disclosure controls and procedures to ensure that information required to be disclosed by the Company in the reports it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the Commission's rules and forms. The Company's certifying officers have evaluated the effectiveness of the disclosure controls and procedures of the Company and the Subsidiaries as of the end of the period covered by the most recently filed periodic report under the Exchange Act (such date, the "Evaluation Date"). The Company presented in its most recently filed periodic report under the Exchange Act the conclusions of the certifying officers about the effectiveness of the disclosure controls and procedures based on their evaluations as of the Evaluation Date. Since the Evaluation Date, there have been no changes in the internal control over financial reporting (as such term is defined in the Exchange Act) of the Company and its Subsidiaries that have materially affected, or is reasonably likely to materially affect, the internal control over financial reporting of the Company and its Subsidiaries.

(t) Certain Fees. Except as set forth in the Preliminary Prospectus or the Prospectus, no brokerage or finder's fees or commissions are or will be payable by the Company or any Subsidiary to any broker, financial advisor or consultant, finder, placement agent, investment banker, bank or other Person with respect to the transactions contemplated by the Transaction Documents. The Purchasers shall have no obligation with respect to any fees or with respect to any claims made by or on behalf of other Persons for fees of a type contemplated in this Section that may be due in connection with the transactions contemplated by the Transaction Documents.

(u) Investment Company. The Company is not, and is not an Affiliate of, and immediately after receipt of payment for the Securities, will not be or be an Affiliate of, an "investment company" within the meaning of the Investment Company Act of 1940, as amended. The Company shall conduct its business in a manner so that it will not become an "investment company" subject to registration under the Investment Company Act of 1940, as amended.

(v) Registration Rights. No Person has any right to cause the Company or any Subsidiary to effect the registration under the Securities Act of any securities of the Company or any Subsidiary.

(w) Listing and Maintenance Requirements. The Common Stock is registered pursuant to Section 12(b) or 12(g) of the Exchange Act, and the Company has taken no action designed to, or which to its knowledge is likely to have the effect of, terminating the registration of the Common Stock under the Exchange Act nor has the Company received any notification that the Commission is contemplating terminating such registration. The Company has not, in the 12 months preceding the date hereof, received notice from any Trading Market on which the Common Stock is or has been listed or quoted to the effect that the Company is not in compliance with the listing or maintenance requirements of such Trading Market, which noncompliance was not cured in a timely manner. Except as set forth in the Schedule 3.1(w), the Company is, and has no reason to believe that it will not in the foreseeable future continue to be, in compliance with all such listing and maintenance requirements. The Common Stock is currently eligible for electronic transfer through the Depository Trust Company or another established clearing corporation and the Company is current in payment of the fees to the Depository Trust Company (or such other established clearing corporation) in connection with such electronic transfer.

(x) Application of Takeover Protections. Subject to Purchaser's compliance with the Beneficial Ownership Limitation as defined in Section 2(e) of Warrants, the Company and the Board of Directors have taken all necessary action, if any, in order to render inapplicable any control share acquisition, business combination, poison pill (including any distribution under a rights agreement) or other similar anti-takeover provision under the Company's certificate of incorporation (or similar charter documents) or the laws of its state of incorporation that is or could become applicable to the Purchasers as a result of the Purchasers and the Company fulfilling their obligations or exercising their rights under the Transaction Documents, including without limitation as a result of the Company's issuance of the Securities and the Purchasers' ownership of the Securities.

(y) Disclosure. Except with respect to the material terms and conditions of the transactions contemplated by the Transaction Documents, or in connection with providing access to information requested by a Purchaser pursuant to Section 3.2(e), the Company confirms that neither it nor any other Person acting on its behalf has provided any of the Purchasers or their agents or counsel with any information that it believes constitutes or might constitute material, non-public information which is not otherwise disclosed in the Preliminary Prospectus or the Prospectus. The Company understands and confirms that the Purchasers will rely on the foregoing representation in effecting transactions in securities of the Company. All of the disclosure furnished by or on behalf of the Company to the Purchasers regarding the Company and its Subsidiaries, their respective businesses and the transactions contemplated hereby, including the Disclosure Schedules to this Agreement, is true and correct and does 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 light of the circumstances under which they were made, not misleading. The press releases disseminated by the Company during the twelve months preceding the date of this Agreement taken as a whole do not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary in order to make the statements therein, in light of the circumstances under which they were made and when made, not misleading. The Company acknowledges and agrees that no Purchaser makes or has made any representations or warranties with respect to the transactions contemplated hereby other than those specifically set forth in Section 3.2 hereof.

(z) No Integrated Offering. Assuming the accuracy of the Purchasers' representations and warranties set forth in Section 3.2, neither the Company, nor any of its Affiliates, nor any Person acting on its or their behalf has, directly or indirectly, made any offers or sales of any security or solicited any offers to buy any security, under circumstances that would cause this offering of the Securities to be integrated with prior offerings by the Company for purposes of any applicable shareholder approval provisions of any Trading Market on which any of the securities of the Company are listed or designated.

(aa) Solvency. Based on the consolidated financial condition of the Company as of the Closing Date, after giving effect to the receipt by the Company of the proceeds from the sale of the Securities hereunder, to the knowledge of the Company, (i) the fair saleable value of the Company's assets exceeds the amount that will be required to be paid on or in respect of the Company's existing debts and other liabilities (including known contingent liabilities) as they mature, (ii) the Company's assets do not constitute unreasonably small capital to carry on its business as now conducted and as proposed to be conducted including its capital needs taking into account the particular capital requirements of the business conducted by the Company, consolidated and projected capital requirements and capital availability thereof, and (iii) the current cash flow of the

Company, together with the proceeds the Company would receive, were it to liquidate all of its assets, after taking into account all anticipated uses of the cash, would be sufficient to pay all amounts on or in respect of its liabilities when such amounts are required to be paid. The Company does not intend to incur debts beyond its ability to pay such debts as they mature (taking into account the timing and amounts of cash to be payable on or in respect of its debt). The Company has no knowledge of any facts or circumstances which lead it to believe that it will file for reorganization or liquidation under the bankruptcy or reorganization laws of any jurisdiction within one year from the Closing Date. Schedule 3.1(aa) sets forth as of the date hereof all outstanding secured and unsecured Indebtedness of the Company or any Subsidiary, or for which the Company or any Subsidiary has commitments. For the purposes of this Agreement, “Indebtedness” means (x) any liabilities for borrowed money or amounts owed in excess of \$50,000 (other than trade accounts payable incurred in the ordinary course of business), (y) all guaranties, endorsements and other contingent obligations in respect of indebtedness of others, whether or not the same are or should be reflected in the Company’s consolidated balance sheet (or the notes thereto), except guaranties by endorsement of negotiable instruments for deposit or collection or similar transactions in the ordinary course of business; and (z) the present value of any lease payments in excess of \$50,000 due under leases required to be capitalized in accordance with GAAP. Neither the Company nor any Subsidiary is in default with respect to any Indebtedness.

(bb) Tax Status. Except for matters that would not, individually or in the aggregate, have or reasonably be expected to result in a Material Adverse Effect, the Company and its Subsidiaries each (i) has made or filed all United States federal, state and local income and all foreign income and franchise tax returns, reports and declarations required by any jurisdiction to which it is subject, (ii) has paid all taxes and other governmental assessments and charges that are material in amount, shown or determined to be due on such returns, reports and declarations and (iii) has set aside on its books provision reasonably adequate for the payment of all material taxes for periods subsequent to the periods to which such returns, reports or declarations apply. There are no unpaid taxes in any material amount claimed to be due by the taxing authority of any jurisdiction, and the officers of the Company or of any Subsidiary know of no basis for any such claim.

(cc) Foreign Corrupt Practices. Neither the Company nor any Subsidiary, nor to the knowledge of the Company or any Subsidiary, any agent or other person acting on behalf of the Company or any Subsidiary, has (i) directly or indirectly, used any funds for unlawful contributions, gifts, entertainment or other unlawful expenses related to foreign or domestic political activity, (ii) made any unlawful payment to foreign or domestic government officials or employees or to any foreign or domestic political parties or campaigns from corporate funds, (iii) failed to disclose fully any contribution made by the Company or any Subsidiary (or made by any person acting on its behalf of which the Company is aware) which is in violation of law, or (iv) violated in any material respect any provision of FCPA.

(dd) Accountants. The Company’s accounting firm is set forth in the SEC Reports. To the knowledge and belief of the Company, such accounting firm (i) is a registered public accounting firm as required by the Exchange Act and (ii) shall express its opinion with respect to the financial statements to be included in the Company’s Annual Report for the fiscal year ending December 31, 2018.

(ee) Acknowledgment Regarding Purchasers' Purchase of Securities. The Company acknowledges and agrees that each of the Purchasers is acting solely in the capacity of an arm's length purchaser with respect to the Transaction Documents and the transactions contemplated thereby. The Company further acknowledges that no Purchaser is acting as a financial advisor or fiduciary of the Company (or in any similar capacity) with respect to the Transaction Documents and the transactions contemplated thereby and any advice given by any Purchaser or any of their respective representatives or agents in connection with the Transaction Documents and the transactions contemplated thereby is merely incidental to the Purchasers' purchase of the Securities. The Company further represents to each Purchaser that the Company's decision to enter into this Agreement and the other Transaction Documents has been based solely on the independent evaluation of the transactions contemplated hereby by the Company and its representatives.

(ff) Acknowledgement Regarding Purchaser's Trading Activity. Anything in this Agreement or elsewhere herein to the contrary notwithstanding (except for Sections 3.2(f) and 4.14 hereof), it is understood and acknowledged by the Company that: (i) none of the Purchasers has been asked by the Company to agree, nor has any Purchaser agreed, to desist from purchasing or selling, long and/or short, securities of the Company, or "derivative" securities based on securities issued by the Company or to hold the Securities for any specified term; (ii) past or future open market or other transactions by any Purchaser, specifically including, without limitation, Short Sales or "derivative" transactions, before or after the closing of this or future private placement transactions, may negatively impact the market price of the Company's publicly-traded securities; (iii) any Purchaser, and counter-parties in "derivative" transactions to which any such Purchaser is a party, directly or indirectly, presently may have a "short" position in the Common Stock, and (iv) each Purchaser shall not be deemed to have any affiliation with or control over any arm's length counter-party in any "derivative" transaction. The Company further understands and acknowledges that (y) one or more Purchasers may engage in hedging activities at various times during the period that the Securities are outstanding, including, without limitation, during the periods that the value of the Warrant Shares deliverable with respect to Securities are being determined, and (z) such hedging activities (if any) could reduce the value of the existing stockholders' equity interests in the Company at and after the time that the hedging activities are being conducted. The Company acknowledges that such aforementioned hedging activities do not constitute a breach of any of the Transaction Documents.

(gg) Regulation M Compliance. The Company has not, and to its knowledge no one acting on its behalf has, (i) taken, directly or indirectly, any action designed to cause or to result in the stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of any of the Securities, (ii) sold, bid for, purchased, or, paid any compensation for soliciting purchases of, any of the Securities, or (iii) paid or agreed to pay to any Person any compensation for soliciting another to purchase any other securities of the Company, other than, in the case of clauses (ii) and (iii), compensation paid to the Company's placement agent in connection with the placement of the Securities.

(hh) [RESERVED]

(ii) Office of Foreign Assets Control. Neither the Company nor any Subsidiary nor, to the Company's knowledge, any director, officer, agent, employee or affiliate of the Company or any Subsidiary is currently subject to any U.S. sanctions administered by the Office of Foreign Assets Control of the U.S. Treasury Department ("OFAC").

(jj) U.S. Real Property Holding Corporation. The Company is not and has never been a U.S. real property holding corporation within the meaning of Section 897 of the Internal Revenue Code of 1986, as amended, and the Company shall so certify upon Purchaser's request.

(kk) Bank Holding Company Act. Neither the Company nor any of its Subsidiaries or Affiliates is subject to the Bank Holding Company Act of 1956, as amended (the "BHCA") and to regulation by the Board of Governors of the Federal Reserve System (the "Federal Reserve"). Neither the Company nor any of its Subsidiaries or Affiliates owns or controls, directly or indirectly, five percent (5%) or more of the outstanding shares of any class of voting securities or twenty-five percent or more of the total equity of a bank or any entity that is subject to the BHCA and to regulation by the Federal Reserve. Neither the Company nor any of its Subsidiaries or Affiliates exercises a controlling influence over the management or policies of a bank or any entity that is subject to the BHCA and to regulation by the Federal Reserve.

(ll) Money Laundering. The operations of the Company and its Subsidiaries are and have been conducted at all times in compliance with applicable financial record-keeping and reporting requirements of the Currency and Foreign Transactions Reporting Act of 1970, as amended, applicable money laundering statutes and applicable rules and regulations thereunder (collectively, the "Money Laundering Laws"), and no Action or Proceeding by or before any court or governmental agency, authority or body or any arbitrator involving the Company or any Subsidiary with respect to the Money Laundering Laws is pending or, to the knowledge of the Company or any Subsidiary, threatened.

3.2 Representations and Warranties of the Purchasers. Each Purchaser, for itself and for no other Purchaser, hereby represents and warrants as of the date hereof and as of the Closing Date to the Company as follows (unless as of a specific date therein, in which case they shall be accurate as of such date):

(a) Organization; Authority. Such Purchaser is either an individual or an entity duly incorporated or formed, validly existing and in good standing under the laws of the jurisdiction of its incorporation or formation with full right, corporate, partnership, limited liability company or similar power and authority to enter into and to consummate the transactions contemplated by the Transaction Documents and otherwise to carry out its obligations hereunder and thereunder. The execution and delivery of the Transaction Documents and performance by such Purchaser of the transactions contemplated by the Transaction Documents have been duly authorized by all necessary corporate, partnership, limited liability company or similar action, as applicable, on the part of such Purchaser. Each Transaction Document to which it is a party has been duly executed by such Purchaser, and

when delivered by such Purchaser in accordance with the terms hereof, will constitute the valid and legally binding obligation of such Purchaser, enforceable against it in accordance with its terms, except: (i) as limited by general equitable principles and applicable bankruptcy, insolvency, reorganization, moratorium and other laws of general application affecting enforcement of creditors' rights generally, (ii) as limited by laws relating to the availability of specific performance, injunctive relief or other equitable remedies and (iii) insofar as indemnification and contribution provisions may be limited by applicable law.

(b) Understandings or Arrangements. Such Purchaser is acquiring the Securities as principal for its own account and has no direct or indirect arrangement or understandings with any other persons to distribute or regarding the distribution of such Securities (this representation and warranty not limiting such Purchaser's right to sell the Securities pursuant to the Registration Statement or otherwise in compliance with applicable federal and state securities laws). Such Purchaser is acquiring the Securities hereunder in the ordinary course of its business.

(c) Purchaser Status. At the time such Purchaser was offered the Securities, it was, and as of the date hereof it is, and on each date on which it exercises any Warrants, it will be either: (i) an "accredited investor" as defined in Rule 501(a)(1), (a)(2), (a)(3), (a)(7) or (a)(8) under the Securities Act or (ii) a "qualified institutional buyer" as defined in Rule 144A(a) under the Securities Act.

(d) Experience of Such Purchaser. Such Purchaser, either alone or together with its representatives, has such knowledge, sophistication and experience in business and financial matters so as to be capable of evaluating the merits and risks of the prospective investment in the Securities, and has so evaluated the merits and risks of such investment. Such Purchaser is able to bear the economic risk of an investment in the Securities and, at the present time, is able to afford a complete loss of such investment.

(e) Access to Information. Such Purchaser acknowledges that it has had the opportunity to review the Transaction Documents (including all exhibits and schedules thereto) and the SEC Reports and has been afforded, (i) the opportunity to ask such questions as it has deemed necessary of, and to receive answers from, representatives of the Company concerning the terms and conditions of the offering of the Securities and the merits and risks of investing in the Securities; (ii) access to information about the Company and its financial condition, results of operations, business, properties, management and prospects sufficient to enable it to evaluate its investment; and (iii) the opportunity to obtain such additional information that the Company possesses or can acquire without unreasonable effort or expense that is necessary to make an informed investment decision with respect to the investment. Such Purchaser acknowledges and agrees that neither the Placement Agent nor any Affiliate of the Placement Agent has provided such Purchaser with any information or advice with respect to the Securities nor is such information or advice necessary or desired. Neither the Placement Agent nor any Affiliate has made or makes any representation as to the Company or the quality of the Securities and the Placement Agent and any Affiliate may have acquired non-public information with respect to the Company which such Purchaser agrees need not be provided to it. In connection with the issuance of the Securities to such Purchaser, neither the Placement Agent nor any of its Affiliates has acted as a financial advisor or fiduciary to such Purchaser.

(f) Certain Transactions and Confidentiality. Other than consummating the transactions contemplated hereunder, such Purchaser has not, nor has any Person acting on behalf of or pursuant to any understanding with such Purchaser, directly or indirectly executed any purchases or sales, including Short Sales, of the securities of the Company during the period commencing as of the time that such Purchaser first received a term sheet (written or oral) from the Company or any other Person representing the Company setting forth the material pricing terms of the transactions contemplated hereunder and ending immediately prior to the execution hereof. Notwithstanding the foregoing, in the case of a Purchaser that is a multi-managed investment vehicle whereby separate portfolio managers manage separate portions of such Purchaser's assets and the portfolio managers have no direct knowledge of the investment decisions made by the portfolio managers managing other portions of such Purchaser's assets, the representation set forth above shall only apply with respect to the portion of assets managed by the portfolio manager that made the investment decision to purchase the Securities covered by this Agreement. Other than to other Persons party to this Agreement or to such Purchaser's representatives, including, without limitation, its officers, directors, partners, legal and other advisors, employees, agents and Affiliates, such Purchaser has maintained the confidentiality of all disclosures made to it in connection with this transaction (including the existence and terms of this transaction). Notwithstanding the foregoing, for the avoidance of doubt, nothing contained herein shall constitute a representation or warranty, or preclude any actions, with respect to locating or borrowing shares in order to effect Short Sales or similar transactions in the future.

The Company acknowledges and agrees that the representations contained in this Section 3.2 shall not modify, amend or affect such Purchaser's right to rely on the Company's representations and warranties contained in this Agreement or any representations and warranties contained in any other Transaction Document or any other document or instrument executed and/or delivered in connection with this Agreement or the consummation of the transactions contemplated hereby. Notwithstanding the foregoing, for the avoidance of doubt, nothing contained herein shall constitute a representation or warranty, or preclude any actions, with respect to locating or borrowing shares in order to effect Short Sales or similar transactions in the future.

ARTICLE IV. **OTHER AGREEMENTS OF THE PARTIES**

4.1 Warrant Shares. If all or any portion of a Warrant is exercised at a time when there is an effective registration statement to cover the issuance or resale of the Warrant Shares or if the Warrant is exercised via cashless exercise, the Warrant Shares issued pursuant to any such exercise shall be issued free of all legends. If at any time following the date hereof the Registration Statement (or any subsequent registration statement registering the sale or resale of the Warrant Shares) is not effective or is not otherwise available for the sale or resale of the Warrant Shares, the Company shall immediately notify the holders of the Warrants in writing that such registration statement is not then effective and thereafter shall promptly notify such holders when the registration statement is effective again and available for the sale or resale of the Warrant Shares (it being understood and agreed that the foregoing shall not limit the ability of the Company to issue, or any Purchaser to sell, any of the Warrant Shares in compliance with applicable federal and state securities laws). The Company shall use best efforts to keep a registration statement (including the Registration Statement) registering the issuance or resale of the Warrant Shares effective during the term of the Warrants.

4.2 Furnishing of Information. Until the earliest of the time that (i) no Purchaser owns Securities or (ii) the Warrants have expired, the Company covenants to timely file (or obtain extensions in respect thereof and file within the applicable grace period) all reports required to be filed by the Company after the date hereof pursuant to the Exchange Act even if the Company is not then subject to the reporting requirements of the Exchange Act.

4.3 Integration. The Company shall not sell, offer for sale or solicit offers to buy or otherwise negotiate in respect of any security (as defined in Section 2 of the Securities Act) that would be integrated with the offer or sale of the Securities for purposes of the rules and regulations of any Trading Market such that it would require shareholder approval prior to the closing of such other transaction unless shareholder approval is obtained before the closing of such subsequent transaction.

4.4 Securities Laws Disclosure; Publicity. The Company shall (a) by the Disclosure Time issue a press release disclosing the material terms of the transactions contemplated hereby, and (b) file a Current Report on Form 8-K, including the Transaction Documents as exhibits thereto, with the Commission within the time required by the Exchange Act. From and after the issuance of such press release, the Company represents to the Purchasers that it shall have publicly disclosed all material, non-public information delivered to any of the Purchasers by the Company or any of its Subsidiaries, or any of their respective officers, directors, employees or agents in connection with the transactions contemplated by the Transaction Documents. In addition, effective upon the issuance of such press release, the Company acknowledges and agrees that any and all confidentiality or similar obligations under any agreement, whether written or oral, between the Company, any of its Subsidiaries or any of their respective officers, directors, agents, employees or Affiliates on the one hand, and any of the Purchasers or any of their Affiliates on the other hand, shall terminate. The Company and each Purchaser shall consult with each other in issuing any other press releases with respect to the transactions contemplated hereby, and neither the Company nor any Purchaser shall issue any such press release nor otherwise make any such public statement without the prior consent of the Company, with respect to any press release of any Purchaser, or without the prior consent of each Purchaser, with respect to any press release of the Company, which consent shall not unreasonably be withheld or delayed, except if such disclosure is required by law, in which case the disclosing party shall promptly provide the other party with prior notice of such public statement or communication. Notwithstanding the foregoing, the Company shall not publicly disclose the name of any Purchaser, or include the name of any Purchaser in any filing with the Commission or any regulatory agency or Trading Market, without the prior written consent of such Purchaser, except (a) as required by federal securities law in connection with the filing of final Transaction Documents with the Commission and (b) to the extent such disclosure is required by law or Trading Market regulations, in which case the Company shall provide the Purchasers with prior notice of such disclosure permitted under this clause (b).

4.5 Shareholder Rights Plan. Subject to Purchaser's compliance with the Beneficial Ownership Limitation as defined in Section 2(e) of Warrants, no claim will be made or enforced by the Company or, with the consent of the Company, any other Person, that any Purchaser is an "Acquiring Person" under any control share acquisition, business combination, poison pill (including any distribution under a rights agreement) or similar anti-takeover plan or arrangement in effect or hereafter adopted by the Company, or that any Purchaser could be deemed to trigger the provisions of any such plan or arrangement, by virtue of receiving Securities under the Transaction Documents or under any other agreement between the Company and the Purchasers.

4.6 Non-Public Information. Except with respect to the material terms and conditions of the transactions contemplated by the Transaction Documents, which shall be disclosed pursuant to Section 4.4, or in connection with providing access to information requested by a Purchaser pursuant to Section 3.2(e), the Company covenants and agrees that neither it, nor any other Person acting on its behalf will provide any Purchaser or its agents or counsel with any information that constitutes, or the Company reasonably believes constitutes, material non-public information, unless prior thereto such Purchaser shall have consented to the receipt of such information and agreed with the Company to keep such information confidential. The Company understands and confirms that each Purchaser shall be relying on the foregoing covenant in effecting transactions in securities of the Company. To the extent that the Company delivers any material, non-public information to a Purchaser without such Purchaser's consent, the Company hereby covenants and agrees that such Purchaser shall not have any duty of confidentiality to the Company, any of its Subsidiaries, or any of their respective officers, directors, agents, employees or Affiliates, or a duty to the Company, any of its Subsidiaries or any of their respective officers, directors, agents, employees or Affiliates not to trade on the basis of, such material, non-public information, provided that the Purchaser shall remain subject to applicable law. To the extent that any notice provided pursuant to any Transaction Document constitutes, or contains, material, non-public information regarding the Company or any Subsidiaries, the Company shall simultaneously file such notice with the Commission pursuant to a Current Report on Form 8-K. The Company understands and confirms that each Purchaser shall be relying on the foregoing covenant in effecting transactions in securities of the Company.

4.7 Use of Proceeds. Except as set forth in the Preliminary Prospectus and the Prospectus, the Company shall use the net proceeds from the sale of the Securities hereunder for working capital purposes and shall not use such proceeds: (a) for the satisfaction of any portion of the Company's debt (other than payment of trade payables in the ordinary course of the Company's business and prior practices), (b) for the redemption of any Common Stock or Common Stock Equivalents, (c) for the settlement of any outstanding litigation or (d) in violation of FCPA or OFAC regulations.

4.8 Indemnification of Purchasers. Subject to the provisions of this Section 4.8, the Company will indemnify and hold each Purchaser and its directors, officers, shareholders, members, partners, employees and agents (and any other Persons with a functionally equivalent role of a Person holding such titles notwithstanding a lack of such title or any other title), each Person who controls such Purchaser (within the meaning of Section 15 of the Securities Act and Section 20 of the Exchange Act), and the directors, officers, shareholders, agents, members, partners or employees (and any other Persons with a functionally equivalent role of a Person holding such titles notwithstanding a lack of such title or any other title) of such controlling persons

(each, a “Purchaser Party”) harmless from any and all losses, liabilities, obligations, claims, contingencies, damages, costs and expenses, including all judgments, amounts paid in settlements, court costs and reasonable attorneys’ fees and costs of investigation that any such Purchaser Party may suffer or incur as a result of or relating to (a) any breach of any of the representations, warranties, covenants or agreements made by the Company in this Agreement or in the other Transaction Documents or (b) any action instituted against the Purchaser Parties in any capacity, or any of them or their respective Affiliates, by any stockholder of the Company who is not an Affiliate of such Purchaser Party, with respect to any of the transactions contemplated by the Transaction Documents (unless such action is based upon a breach of such Purchaser Party’s representations, warranties or covenants under the Transaction Documents or any agreements or understandings such Purchaser Party may have with any such stockholder or any violations by such Purchaser Party of state or federal securities laws or any conduct by such Purchaser Party which is finally judicially determined to constitute fraud, gross negligence, willful misconduct or malfeasance). If any action shall be brought against any Purchaser Party in respect of which indemnity may be sought pursuant to this Agreement, such Purchaser Party shall promptly notify the Company in writing, and the Company shall have the right to assume the defense thereof with counsel of its own choosing reasonably acceptable to the Purchaser Party. Any Purchaser Party shall have the right to employ separate counsel in any such action and participate in the defense thereof, but the fees and expenses of such counsel shall be at the expense of such Purchaser Party except to the extent that (x) the employment thereof has been specifically authorized by the Company in writing, (y) the Company has failed after a reasonable period of time to assume such defense and to employ counsel or (z) in such action there is, in the reasonable opinion of counsel, a material conflict on any material issue between the position of the Company and the position of such Purchaser Party, in which case the Company shall be responsible for the reasonable fees and expenses of no more than one such separate counsel. The Company will not be liable to any Purchaser Party under this Agreement (1) for any settlement by a Purchaser Party effected without the Company’s prior written consent, which shall not be unreasonably withheld or delayed; or (2) to the extent, but only to the extent that a loss, claim, damage or liability is attributable to any Purchaser Party’s breach of any of the representations, warranties, covenants or agreements made by such Purchaser Party in this Agreement or in the other Transaction Documents. The indemnification required by this Section 4.8 shall be made by periodic payments of the amount thereof during the course of the investigation or defense, as and when bills are received or are incurred. The indemnity agreements contained herein shall be in addition to any cause of action or similar right of any Purchaser Party against the Company or others and any liabilities the Company may be subject to pursuant to law.

4.9 Reservation of Common Stock. As of the date hereof, the Company has reserved and the Company shall continue to reserve and keep available at all times, free of preemptive rights, a sufficient number of shares of Common Stock for the purpose of enabling the Company to issue Shares pursuant to this Agreement and Warrant Shares pursuant to any exercise of the Warrants.

4.10 Listing of Common Stock. The Company hereby agrees to use best efforts to maintain the listing or quotation of the Common Stock on the Trading Market on which it is currently listed, and concurrently with the Closing, the Company shall apply to list or quote all of the Shares and Warrant Shares on such Trading Market and promptly secure the listing of all of the Shares and Warrant Shares on such Trading Market. The Company further agrees, if the Company applies to have the Common Stock traded on any other Trading Market, it will then

include in such application all of the Shares and Warrant Shares, and will take such other action as is necessary to cause all of the Shares and Warrant Shares to be listed or quoted on such other Trading Market as promptly as possible. The Company will then take all action reasonably necessary to continue the listing and trading of its Common Stock on a Trading Market and will comply in all respects with the Company's reporting, filing and other obligations under the bylaws or rules of the Trading Market. The Company agrees to maintain the eligibility of the Common Stock for electronic transfer through the Depository Trust Company or another established clearing corporation, including, without limitation, by timely payment of fees to the Depository Trust Company or such other established clearing corporation in connection with such electronic transfer.

4.11 [Reserved]

4.12 Subsequent Equity Sales.

(a) From the date hereof until ninety (90) days after the Closing Date, neither the Company nor any Subsidiary shall issue, enter into any agreement to issue or announce the issuance or proposed issuance of any shares of Common Stock or Common Stock Equivalents.

(b) From the date hereof until such time as no Purchaser holds any of the Warrants, the Company shall be prohibited from effecting or entering into an agreement to effect any issuance by the Company or any of its Subsidiaries of Common Stock or Common Stock Equivalents (or a combination of units thereof) involving a Variable Rate Transaction. "Variable Rate Transaction" means a transaction in which the Company (i) issues or sells any debt or equity securities that are convertible into, exchangeable or exercisable for, or include the right to receive additional shares of Common Stock either (A) at a conversion price, exercise price or exchange rate or other price that is based upon and/or varies with the trading prices of or quotations for the shares of Common Stock at any time after the initial issuance of such debt or equity securities, or (B) with a conversion, exercise or exchange price that is subject to being reset at some future date after the initial issuance of such debt or equity security or upon the occurrence of specified or contingent events directly or indirectly related to the business of the Company or the market for the Common Stock or (ii) enters into, or effects a transaction under, any agreement, including, but not limited to, an equity line of credit, whereby the Company may issue securities at a future determined price; provided that this clause (ii) shall not be deemed to apply to a standard at-the-market offering program in which the Company registers shares of Common Stock to be offered and sold from time to time at then current market prices, or a discount therefrom not to exceed 10%, pursuant to such registration statement. Any Purchaser shall be entitled to obtain injunctive relief against the Company to preclude any such issuance, which remedy shall be in addition to any right to collect damages.

(c) Notwithstanding the foregoing, this Section 4.12 shall not apply in respect of an Exempt Issuance, except that no Variable Rate Transaction shall be an Exempt Issuance.

4.13 Equal Treatment of Purchasers. No consideration (including any modification of any Transaction Document) shall be offered or paid to any Person to amend or consent to a waiver or modification of any provision of the Transaction Documents unless the same consideration is also offered to all of the parties to the Transaction Documents. For clarification purposes, this provision constitutes a separate right granted to each Purchaser by the Company and negotiated separately by each Purchaser, and is intended for the Company to treat the Purchasers as a class and shall not in any way be construed as the Purchasers acting in concert or as a group with respect to the purchase, disposition or voting of Securities or otherwise.

4.14 Certain Transactions and Confidentiality. Each Purchaser, severally and not jointly with the other Purchasers, covenants that neither it nor any Affiliate acting on its behalf or pursuant to any understanding with it will execute any purchases or sales, including Short Sales of any of the Company's securities during the period commencing with the execution of this Agreement and ending at such time that the transactions contemplated by this Agreement are first publicly announced pursuant to the initial press release as described in Section 4.4. Each Purchaser, severally and not jointly with the other Purchasers, covenants that until such time as the transactions contemplated by this Agreement are publicly disclosed by the Company pursuant to the initial press release as described in Section 4.4, such Purchaser will maintain the confidentiality of the existence and terms of this transaction and the information included in the Disclosure Schedules. Notwithstanding the foregoing and notwithstanding anything contained in this Agreement to the contrary, the Company expressly acknowledges and agrees that (i) no Purchaser makes any representation, warranty or covenant hereby that it will not engage in effecting transactions in any securities of the Company after the time that the transactions contemplated by this Agreement are first publicly announced pursuant to the initial press release as described in Section 4.4, (ii) no Purchaser shall be restricted or prohibited from effecting any transactions in any securities of the Company in accordance with applicable securities laws from and after the time that the transactions contemplated by this Agreement are first publicly announced pursuant to the initial press release as described in Section 4.4 and (iii) no Purchaser shall have any duty of confidentiality or duty not to trade in the securities of the Company to the Company or its Subsidiaries after the issuance of the initial press release as described in Section 4.4. Notwithstanding the foregoing, in the case of a Purchaser that is a multi-managed investment vehicle whereby separate portfolio managers manage separate portions of such Purchaser's assets and the portfolio managers have no direct knowledge of the investment decisions made by the portfolio managers managing other portions of such Purchaser's assets, the covenant set forth above shall only apply with respect to the portion of assets managed by the portfolio manager that made the investment decision to purchase the Securities covered by this Agreement.

4.15 Exercise Procedures. The form of Notice of Exercise included in the Warrants set forth the totality of the procedures required of the Purchasers in order to exercise the Warrants. No additional legal opinion, other information or instructions shall be required of the Purchasers to exercise their Warrants. Without limiting the preceding sentences, no ink-original Notice of Exercise shall be required, nor shall any medallion guarantee (or other type of guarantee or notarization) of any Notice of Exercise form be required in order to exercise the Warrants. The Company shall honor exercises of the Warrants and shall deliver Warrant Shares in accordance with the terms, conditions and time periods set forth in the Transaction Documents.

4.16 No Change of Control. Purchaser agrees that it will not purchase Securities or acquire shares of common stock of the Company, including currently exercisable rights to acquire such stock if that will cause Purchaser, or any group of which Purchaser is a part, have beneficial ownership of more than 19.9% of the number of shares of common stock of the Company outstanding as of the date of this Agreement. For purposes of this section 4.16, the existence of a "group" and "beneficial ownership" shall be determined in accordance with the provisions of SEC Rule 13d-3 and Rule 13d-5.

ARTICLE V.
MISCELLANEOUS

5.1 Termination. This Agreement may be terminated by any Purchaser, as to such Purchaser's obligations hereunder only and without any effect whatsoever on the obligations between the Company and the other Purchasers, by written notice to the other parties, if the Closing has not been consummated on or before the fifth (5th) Trading Day following the date hereof; provided, however, that no such termination will affect the right of any party to sue for any breach by any other party (or parties).

5.2 Fees and Expenses. Except as expressly set forth in the Transaction Documents to the contrary, each party shall pay the fees and expenses of its advisers, counsel, accountants and other experts, if any, and all other expenses incurred by such party incident to the negotiation, preparation, execution, delivery and performance of this Agreement. The Company shall pay all Transfer Agent fees (including, without limitation, any fees required for same-day processing of any instruction letter delivered by the Company and any exercise notice delivered by a Purchaser), stamp taxes and other taxes and duties levied in connection with the delivery of any Securities to the Purchasers.

5.3 Entire Agreement. The Transaction Documents, together with the exhibits and schedules thereto, the Preliminary Prospectus and the Prospectus, contain the entire understanding of the parties with respect to the subject matter hereof and thereof and supersede all prior agreements and understandings, oral or written, with respect to such matters, which the parties acknowledge have been merged into such documents, exhibits and schedules.

5.4 Notices. Any and all notices or other communications or deliveries required or permitted to be provided hereunder shall be in writing and shall be deemed given and effective on the earliest of: (a) the time of transmission, if such notice or communication is delivered via facsimile at the facsimile number or email attachment at the email address as set forth on the signature pages attached hereto at or prior to 5:30 p.m. (New York City time) on a Trading Day, (b) the next Trading Day after the date of transmission, if such notice or communication is delivered via email attachment at the email address as set forth on the signature pages attached hereto on a day that is not a Trading Day or later than 5:30 p.m. (New York City time) on any Trading Day, (c) the second (2nd) Trading Day following the date of mailing, if sent by U.S. nationally recognized overnight courier service or (d) upon actual receipt by the party to whom such notice is required to be given. The address for such notices and communications shall be as set forth on the signature pages attached hereto. To the extent that any notice provided pursuant to any Transaction Document constitutes, or contains, material, non-public information regarding the Company or any Subsidiaries, the Company shall simultaneously file such notice with the Commission pursuant to a Current Report on Form 8-K.

5.5 Amendments; Waivers. No provision of this Agreement may be waived, modified, supplemented or amended except in a written instrument signed, in the case of an amendment, by the Company and Purchasers which purchased at least 50.1% in interest of the Shares based on the initial Subscription Amounts hereunder or, in the case of a waiver, by the party against whom enforcement of any such waived provision is sought, provided that if any amendment, modification or waiver disproportionately and adversely impacts a Purchaser (or group of Purchasers), the

consent of such disproportionately impacted Purchaser (or group of Purchasers) shall also be required. No waiver of any default with respect to any provision, condition or requirement of this Agreement shall be deemed to be a continuing waiver in the future or a waiver of any subsequent default or a waiver of any other provision, condition or requirement hereof, nor shall any delay or omission of any party to exercise any right hereunder in any manner impair the exercise of any such right. Any proposed amendment or waiver that disproportionately, materially and adversely affects the rights and obligations of any Purchaser relative to the comparable rights and obligations of the other Purchasers shall require the prior written consent of such adversely affected Purchaser. Any amendment effected in accordance with this Section 5.5 shall be binding upon each Purchaser and holder of Securities and the Company.

5.6 Headings. The headings herein are for convenience only, do not constitute a part of this Agreement and shall not be deemed to limit or affect any of the provisions hereof.

5.7 Successors and Assigns. This Agreement shall be binding upon and inure to the benefit of the parties and their successors and permitted assigns. The Company may not assign this Agreement or any rights or obligations hereunder without the prior written consent of each Purchaser (other than by merger). Any Purchaser may assign any or all of its rights under this Agreement to any Person to whom such Purchaser assigns or transfers any Securities, provided that such transferee agrees in writing to be bound, with respect to the transferred Securities, by the provisions of the Transaction Documents that apply to the "Purchasers."

5.8 No Third-Party Beneficiaries. The Placement Agent shall be the third party beneficiary of the representations and warranties of the Company in Section 3.1 and the representations and warranties of the Purchasers in Section 3.2. This Agreement is intended for the benefit of the parties hereto and their respective successors and permitted assigns and is not for the benefit of, nor may any provision hereof be enforced by, any other Person, except as otherwise set forth in Section 4.8 and this Section 5.8.

5.9 Governing Law. All questions concerning the construction, validity, enforcement and interpretation of the Transaction Documents shall be governed by and construed and enforced in accordance with the internal laws of the State of New York, without regard to the principles of conflicts of law thereof. Each party agrees that all legal Proceedings concerning the interpretations, enforcement and defense of the transactions contemplated by this Agreement and any other Transaction Documents (whether brought against a party hereto or its respective affiliates, directors, officers, shareholders, partners, members, employees or agents) shall be commenced exclusively in the state and federal courts sitting in the City of New York. Each party hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting in the City of New York, Borough of Manhattan for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein (including with respect to the enforcement of any of the Transaction Documents), and hereby irrevocably waives, and agrees not to assert in any Action or Proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such Action or Proceeding is improper or is an inconvenient venue for such Proceeding. Each party hereby irrevocably waives personal service of process and consents to process being served in any such Action or Proceeding by mailing a copy thereof via registered or certified mail or overnight delivery (with evidence of delivery) to such party at the address in effect for notices to it under this Agreement and agrees that such service

shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any other manner permitted by law. If any party shall commence an Action or Proceeding to enforce any provisions of the Transaction Documents, then, in addition to the obligations of the Company under Section 4.8, the prevailing party in such Action or Proceeding shall be reimbursed by the non-prevailing party for its reasonable attorneys' fees and other costs and expenses incurred with the investigation, preparation and prosecution of such Action or Proceeding.

5.10 Survival. The representations and warranties contained herein shall survive the Closing and the delivery of the Securities.

5.11 Execution. This Agreement may be executed in two or more counterparts, all of which when taken together shall be considered one and the same agreement and shall become effective when counterparts have been signed by each party and delivered to each other party, it being understood that the parties need not sign the same counterpart. In the event that any signature is delivered by facsimile transmission or by e-mail delivery of a ".pdf" format data file, such signature shall create a valid and binding obligation of the party executing (or on whose behalf such signature is executed) with the same force and effect as if such facsimile or ".pdf" signature page were an original thereof.

5.12 Severability. If any term, provision, covenant or restriction of this Agreement is held by a court of competent jurisdiction to be invalid, illegal, void or unenforceable, the remainder of the terms, provisions, covenants and restrictions set forth herein shall remain in full force and effect and shall in no way be affected, impaired or invalidated, and the parties hereto shall use their commercially reasonable efforts to find and employ an alternative means to achieve the same or substantially the same result as that contemplated by such term, provision, covenant or restriction. It is hereby stipulated and declared to be the intention of the parties that they would have executed the remaining terms, provisions, covenants and restrictions without including any of such that may be hereafter declared invalid, illegal, void or unenforceable.

5.13 Rescission and Withdrawal Right. Notwithstanding anything to the contrary contained in (and without limiting any similar provisions of) any of the other Transaction Documents, whenever any Purchaser exercises a right, election, demand or option under a Transaction Document and the Company does not timely perform its related obligations within the periods therein provided, then such Purchaser may rescind or withdraw, in its sole discretion from time to time upon written notice to the Company, any relevant notice, demand or election in whole or in part without prejudice to its future actions and rights; provided, however, that in the case of a rescission of an exercise of a Warrant, the applicable Purchaser shall be required to return any shares of Common Stock subject to any such rescinded exercise notice concurrently with the return to such Purchaser of the aggregate exercise price paid to the Company for such shares and the restoration of such Purchaser's right to acquire such shares pursuant to such Purchaser's Warrant (including, issuance of a replacement warrant certificate evidencing such restored right).

5.14 Replacement of Securities. If any certificate or instrument evidencing any Securities is mutilated, lost, stolen or destroyed, the Company shall issue or cause to be issued in exchange and substitution for and upon cancellation thereof (in the case of mutilation), or in lieu of and substitution therefor, a new certificate or instrument, but only upon receipt of evidence reasonably satisfactory to the Company of such loss, theft or destruction. The applicant for a new certificate or instrument under such circumstances shall also pay any reasonable third-party costs (including customary indemnity) associated with the issuance of such replacement Securities.

5.15 Remedies. In addition to being entitled to exercise all rights provided herein or granted by law, including recovery of damages, each of the Purchasers and the Company will be entitled to specific performance under the Transaction Documents. The parties agree that monetary damages may not be adequate compensation for any loss incurred by reason of any breach of obligations contained in the Transaction Documents and hereby agree to waive and not to assert in any Action for specific performance of any such obligation the defense that a remedy at law would be adequate.

5.16 Payment Set Aside. To the extent that the Company makes a payment or payments to any Purchaser pursuant to any Transaction Document or a Purchaser enforces or exercises its rights thereunder, and such payment or payments or the proceeds of such enforcement or exercise or any part thereof are subsequently invalidated, declared to be fraudulent or preferential, set aside, recovered from, disgorged by or are required to be refunded, repaid or otherwise restored to the Company, a trustee, receiver or any other Person under any law (including, without limitation, any bankruptcy law, state or federal law, common law or equitable cause of action), then to the extent of any such restoration the obligation or part thereof originally intended to be satisfied shall be revived and continued in full force and effect as if such payment had not been made or such enforcement or setoff had not occurred.

5.17 Independent Nature of Purchasers' Obligations and Rights. The obligations of each Purchaser under any Transaction Document are several and not joint with the obligations of any other Purchaser, and no Purchaser shall be responsible in any way for the performance or non-performance of the obligations of any other Purchaser under any Transaction Document. Nothing contained herein or in any other Transaction Document, and no action taken by any Purchaser pursuant hereto or thereto, shall be deemed to constitute the Purchasers as a partnership, an association, a joint venture or any other kind of entity, or create a presumption that the Purchasers are in any way acting in concert or as a group with respect to such obligations or the transactions contemplated by the Transaction Documents. Each Purchaser shall be entitled to independently protect and enforce its rights including, without limitation, the rights arising out of this Agreement or out of the other Transaction Documents, and it shall not be necessary for any other Purchaser to be joined as an additional party in any Proceeding for such purpose. Each Purchaser has been represented by its own separate legal counsel in its review and negotiation of the Transaction Documents. For reasons of administrative convenience only, each Purchaser and its respective counsel have chosen to communicate with the Company through EGS. EGS does not represent any of the Purchasers and only represents the Placement Agent. The Company has elected to provide all Purchasers with the same terms and Transaction Documents for the convenience of the Company and not because it was required or requested to do so by any of the Purchasers. It is expressly understood and agreed that each provision contained in this Agreement and in each other Transaction Document is between the Company and a Purchaser, solely, and not between the Company and the Purchasers collectively and not between and among the Purchasers.

5.18 Liquidated Damages. The Company's obligations to pay any partial liquidated damages or other amounts owing under the Transaction Documents is a continuing obligation of the Company and shall not terminate until all unpaid partial liquidated damages and other amounts have been paid notwithstanding the fact that the instrument or security pursuant to which such partial liquidated damages or other amounts are due and payable shall have been canceled.

5.19 Saturdays, Sundays, Holidays, etc. If the last or appointed day for the taking of any action or the expiration of any right required or granted herein shall not be a Business Day, then such action may be taken or such right may be exercised on the next succeeding Business Day.

5.20 Construction. The parties agree that each of them and/or their respective counsel have reviewed and had an opportunity to revise the Transaction Documents and, therefore, the normal rule of construction to the effect that any ambiguities are to be resolved against the drafting party shall not be employed in the interpretation of the Transaction Documents or any amendments thereto. In addition, each and every reference to share prices and shares of Common Stock in any Transaction Document shall be subject to adjustment for reverse and forward stock splits, stock dividends, stock combinations and other similar transactions of the Common Stock that occur after the date of this Agreement.

5.21 **WAIVER OF JURY TRIAL. IN ANY ACTION, SUIT, OR PROCEEDING IN ANY JURISDICTION BROUGHT BY ANY PARTY AGAINST ANY OTHER PARTY, THE PARTIES EACH KNOWINGLY AND INTENTIONALLY, TO THE GREATEST EXTENT PERMITTED BY APPLICABLE LAW, HEREBY ABSOLUTELY, UNCONDITIONALLY, IRREVOCABLY AND EXPRESSLY WAIVES FOREVER TRIAL BY JURY.**

(Signature Pages Follow)

IN WITNESS WHEREOF, the parties hereto have caused this Securities Purchase Agreement to be duly executed by their respective authorized signatories as of the date first indicated above.

MOSYS, INC.

Address for Notice:

By: _____

Name:

Title:

E-Mail:

With a copy to (which shall not constitute notice):

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK
SIGNATURE PAGE FOR PURCHASER FOLLOWS]

[PURCHASER SIGNATURE PAGES TO MOSY SECURITIES PURCHASE AGREEMENT]

IN WITNESS WHEREOF, the undersigned have caused this Securities Purchase Agreement to be duly executed by their respective authorized signatories as of the date first indicated above.

Name of Purchaser: _____

Signature of Authorized Signatory of Purchaser: _____

Name of Authorized Signatory: _____

Title of Authorized Signatory: _____

Email Address of Authorized Signatory: _____

Facsimile Number of Authorized Signatory: _____

Address for Notice to Purchaser:

Address for Delivery of Warrants to Purchaser (if not same as address for notice):

DWAC for Shares:

Common Unit Subscription Amount: \$ _____

Common Units: _____

Shares: _____

Common Warrant Shares: _____

Pre-Funded Unit Subscription Amount: \$ _____

Pre-Funded Units: _____

Pre-Funded Warrant Shares: _____

Common Warrants: _____

EIN Number: _____

Notwithstanding anything contained in this Agreement to the contrary, by checking this box (i) the obligations of the above-signed to purchase the securities set forth in this Agreement to be purchased from the Company by the above-signed, and the obligations of the Company to sell such securities to the above-signed, shall be unconditional and all conditions to Closing shall be disregarded, (ii) the Closing shall occur on the third (3rd) Trading Day following the date of this Agreement and (iii) any condition to Closing contemplated by this Agreement (but prior to being disregarded by clause (i) above) that required delivery by the Company or the above-signed of any agreement, instrument, certificate or the like or purchase price (as applicable) shall no longer be a condition and shall instead be an unconditional obligation of the Company or the above-signed (as applicable) to deliver such agreement, instrument, certificate or the like or purchase price (as applicable) to such other party on the Closing Date.

[SIGNATURE PAGES CONTINUE]

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in this Amendment No. 2 to the Registration Statement on Form S-1 of our report dated March 12, 2018, relating to the consolidated financial statements, which appears in the Annual Report on Form 10-K of MoSys, Inc. for the year ended December 31, 2017. We also consent to the reference of our firm under the heading "Experts" in such Registration Statement.

/s/ BPM LLP

San Jose, California
September 26, 2018